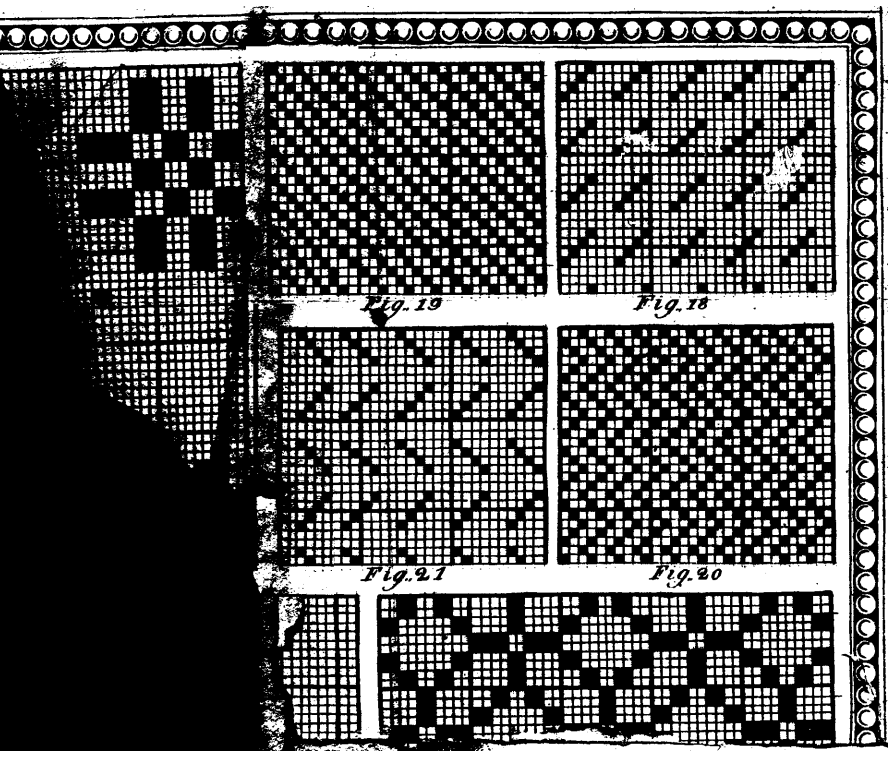


THE

MANUFACTURER, WEAVER AND WARPER'S *ASSISTANT,*

CONTAINING

A NEW AND CORRECT SET OF

TABLES, DRAFTS, CORDINGS,

ARITHMETICAL RULES AND EXAMPLES,

Adapted to the present State of the

COTTON AND LINEN MANUFACTURE.

BY ALEXANDER PEDDIE.

FOURTH EDITION, MUCH IMPROVED AND ENLARGED.

Illustrated with Engravings.

GLASGOW:

Printed by E. Khull & Co. 5, Saltmarket:

FOR W. SOMMERVILLE, A. FULLARTON, J. BLACKIE & CO.

BOOKSELLERS.

1814.

pages missing

Entered in Stationers' Hall.

Breadths	4/4						4/4			
Depths.	10 Inches.						11 Inches.			
H. per Hank.										
Camb.	Oz.	Dr.	Sp.	H.	C.	Th.	Sp.	H.	C.	Th.
6	8	0	0	3	1	105	0	4	0	80
7	6	14	0	4	1	18	0	5	0	8
8	6	0	0	5	0	50	0	5	1	56
9	5	5	0	5	1	83	0	6	0	104
10	4	13	0	6	0	116	0	7	0	32
11	4	6	0	7	0	29	0	7	1	80
12	4	0	0	7	1	61	0	8	1	8
13	3	11	0	8	0	94	0	9	0	56
14	3	7	0	9	0	7	0	9	1	104
15	3	3	0	9	1	40	0	10	1	32
16	3	0	0	10	0	72	0	11	0	80
17	2	14	0	10	1	105	0	12	0	8
18	2	11	0	11	1	18	0	12	1	56
19	2	8	0	12	0	50	0	13	0	104
20	2	6	0	12	1	83	0	14	0	32
21	2	4	0	13	0	116	0	14	1	80
22	2	3	0	14	0	29	0	15	1	8
23	2	1	0	14	1	61	0	16	0	56
24	2	0	0	15	0	94	0	16	1	104

Note. If a heddle is wanted a little heavy, take the weight for a sett coarser—and if for very light work, take the weight for a sett or two finer than the Table directs.

Breadths	5/4						5/4			
Depths	10 Inches.						11 Inches.			
H. per Hank.										
Camb.	Oz.	Dr.	Sp.	H.	C.	Th.	Sp.	H.	C.	Th.
6	8	0	0	4	1	88	0	5	0	84
7	6	14	0	5	1	37	0	6	0	52
8	6	0	0	6	0	107	0	7	0	22
9	5	5	0	7	0	56	0	7	1	110
10	4	13	0	8	0	7	0	8	1	80
11	4	6	0	8	1	76	0	9	1	48
12	4	0	0	9	1	26	0	10	1	17
13	3	11	0	10	0	96	0	11	0	105
14	3	7	0	11	0	46	0	12	0	75
15	3	3	0	11	1	105	0	13	0	43
16	3	0	0	12	1	66	0	14	0	12
17	2	14	0	13	1	15	0	14	1	100
18	2	11	0	14	0	85	0	15	1	70
19	2	8	0	15	0	34	0	16	1	38
20	2	6	0	15	1	105	0	17	1	8
21	2	4	0	16	1	54	0	18	0	96
22	2	3	0	17	1	2	0	19	0	62
23	2	1	0	18	0	72	0	20	0	32
24	2	0	0	19	0	21	0	21	0	0

Breadths				6/4				6/4		
Depths				10 Inches.				11 Inches.		
H. per Hank.										
Camb.	Oz.	Dr.	Sp	H.	C.	Th.	Sp.	H.	C.	Th.
6	8	0	0	5	1	70	0	6	0	89
7	6	14	0	6	1	57	0	7	0	99
8	6	0	0	7	1	44	0	8	0	103
9	5	5	0	8	1	31	0	9	0	118
10	4	13	0	9	1	18	0	10	1	8
11	4	6	0	10	1	5	0	11	1	17
12	4	0	0	11	0	112	0	12	1	27
13	3	11	0	12	0	98	0	13	1	36
14	3	7	0	13	0	85	0	14	1	46
15	3	3	0	14	0	72	0	15	1	56
16	3	0	0	15	0	59	0	16	1	65
17	2	14	0	16	0	46	0	17	1	75
18	2	11	0	17	0	33	0	18	1	84
19	2	8	0	18	0	20	0	19	1	94
20	2	6	0	19	0	7	0	20	1	104
21	2	4	0	19	1	114	0	21	1	113
22	2	3	0	20	1	101	0	23	0	3
23	2	1	0	21	1	88	1	0	0	12
24	2	0	0	22	1	74	1	1	0	22

Breadths				4/4				4/4		
Depths.				12 Inches.				13 Inches.		
H. per Hank.										
Camb.	Oz.	Dr.	Sp.	H.	C.	Th.	Sp.	H.	C.	Th.
6	8	0	0	4	1	54	0	5	0	29
7	6	14	0	5	1	0	0	5	1	110
8	6	0	0	6	0	61	0	6	1	71
9	5	5	0	7	0	7	0	7	1	32
10	4	13	0	7	1	73	0	8	0	113
11	4	6	0	8	1	19	0	9	0	74
12	4	0	0	9	0	84	0	10	0	35
13	3	11	0	10	0	30	0	10	1	116
14	3	7	0	10	1	95	0	11	1	77
15	3	3	0	11	1	41	0	12	1	38
16	3	0	0	12	0	106	0	13	1	0
17	2	14	0	13	0	52	0	14	1	80
18	2	11	0	14	0	17	0	15	1	41
19	2	8	0	14	1	83	0	16	1	2
20	2	6	0	15	1	28	0	17	0	83
21	2	4	0	16	0	94	0	18	0	44
22	2	3	0	17	0	39	0	19	0	5
23	2	1	0	17	1	105	0	20	0	86
24	2	0	0	18	1	50	0	21	0	47

Breadths.				5/4			5/4			
Depths.				12 Inches.			13 Inches			
H. per Hank.										
Camb.	Oz.	Dr.	Sp.	H.	C.	Th.	Sp.	H.	C.	Th.
6	8	0	0	5	1	80	0	6	0	76
7	6	14	0	6	1	67	0	7	0	82
8	6	0	0	7	1	54	0	8	0	88
9	5	5	0	8	1	41	0	9	0	94
10	4	13	0	9	1	28	0	10	0	100
11	4	6	0	10	1	15	0	11	0	106
12	4	0	0	11	1	2	0	12	0	112
13	3	11	0	12	0	109	0	13	0	118
14	3	7	0	13	0	96	0	14	1	4
15	3	3	0	14	0	83	0	15	1	10
16	3	0	0	15	0	70	0	16	1	16
17	2	14	0	16	0	57	0	17	1	22
18	2	11	0	17	0	44	0	18	1	28
19	2	8	0	18	0	31	0	19	1	34
20	2	6	0	19	0	18	0	20	1	40
21	2	4	0	20	0	6	0	21	1	46
22	2	3	0	20	1	112	0	22	1	52
23	2	1	0	21	1	99	0	23	1	58
24	2	0	0	22	1	86	1	0	1	64

Breadths.				6/4			6/4			
Depths.				12 Inches.			13 Inches.			
H. per Hank.										
Camb.	Oz.	Dr.	Sp.	H.	C.	Th.	Sp.	H.	C.	Th.
6	8	0	0	6	1	108	0	7	1	7
7	6	14	0	8	0	20	0	8	1	61
8	6	0	0	9	0	52	0	9	1	115
9	5	5	0	10	0	84	0	11	0	49
10	4	13	0	11	0	116	0	12	0	103
11	4	6	0	12	1	28	0	13	1	37
12	4	0	0	13	1	60	0	14	1	91
13	3	11	0	14	1	92	0	16	0	25
14	3	7	0	16	0	4	0	17	0	79
15	3	3	0	17	0	36	0	18	1	18
16	3	0	0	18	0	68	0	19	1	67
17	2	14	0	19	0	100	0	21	0	1
18	2	11	0	20	1	12	0	22	0	5
19	2	8	0	21	1	44	0	23	0	109
20	2	6	0	22	1	76	1	0	1	43
21	2	4	0	23	1	108	1	1	1	97
22	2	3	1	1	0	20	1	3	0	31
23	2	1	1	2	0	52	1	4	0	85
24	2	0	1	3	0	84	1	5	1	19

Explanation of the Second Table.

The following table shews how many porters and splits it will require to make cloth stand any breadth when weaved, from 3-4ths to 6-4ths, and from 6 hundred to 24 hundreds. Each page is divided into 11 columns, the first column contains the hundreds of the reed, the other 10 columns contain the porters and splits at the breadths marked on the head of the columns. H. Reed, stands for the hundreds of the reed. P. and S. for the porters and splits on the breadths.

EXAMPLE.

Suppose a 16 hundred made to stand 5-4ths when weaved, look into the first column for 16 hundreds and in the same line under 5-4ths, you will find 104 porters and 8 splits, which is the warp required for the breadth.

Note. By adding the porters and splits of any two sets together, and then halving them, gives the porters and splits required for the half sets betwixt them to make them stand the breadths when weaved. And if the cloth is stout made it will require, at an average, nearly 20 splits more warp to make it stand the breadth full.

Breadths.	$\frac{3}{4}$		$\frac{13}{16}$		$\frac{7}{8}$		$\frac{15}{16}$		$\frac{4}{4}$	
H. Reed.	P.	S.	P.	S.	P.	S.	P.	S.	P.	S.
6	23	12	25	11	27	11	29	10	31	10
7	27	11	29	17	32	3	34	9	36	15
8	31	10	34	3	36	15	39	7	42	0
9	35	8	38	8	41	6	44	5	47	5
10	39	7	42	14	45	18	49	4	52	10
11	43	6	46	19	50	10	54	2	57	15
12	47	5	51	5	55	2	59	1	63	0
13	51	3	55	10	59	14	63	19	68	5
14	55	2	59	16	64	6	68	18	73	10
15	59	1	64	1	68	18	73	16	78	15
16	63	0	68	7	73	10	78	15	84	0
17	66	18	72	13	78	1	83	9	89	5
18	70	17	76	18	82	13	88	11	94	10
19	74	16	81	4	87	5	93	10	99	15
20	78	15	85	9	91	17	98	8	105	0
21	83	0	90	0	96	10	103	12	110	5
22	86	12	94	5	101	0	108	7	115	10
23	90	11	98	11	105	12	113	6	120	15
24	94	10	102	17	110	2	118	4	126	0

Breadths.	17/16		9/8		5/4		11/8		6/4	
H. Reed.	P.	S.	P.	S.	P.	S.	P.	S.	P.	S.
6	33	8	35	6	39	3	42	19	46	16
7	38	19	41	4	45	13	50	2	54	12
8	44	11	47	2	52	4	57	6	62	8
9	50	2	52	19	58	14	64	9	70	4
10	55	13	58	17	65	5	71	12	78	0
11	61	5	64	15	71	15	78	15	85	16
12	66	16	70	13	78	6	85	19	93	12
13	72	7	76	10	84	16	93	2	101	8
14	77	19	82	8	91	7	100	5	109	4
15	83	10	88	6	97	17	107	8	117	0
16	89	2	94	4	104	8	114	12	124	16
17	94	13	100	1	110	18	121	15	132	12
18	100	4	105	19	117	9	128	18	140	8
19	105	16	111	17	123	19	136	1	148	4
20	111	7	117	15	130	10	143	5	156	0
21	117	10	124	0	137	0	151	0	163	16
22	122	8	129	8	143	9	158	8	171	12
23	128	0	135	5	150	0	165	7	179	8
24	133	11	141	3	156	10	172	11	189	4

Explanation of the Third Table.

The following Table shews how many splits is upon any breadth (the reed being on 37 inches.) Each page is divided into 6 columns; the first column contains the hundreds of the reed; the other 5 columns contain the number of splits upon the breadths, marked on the head of the columns.

EXAMPLE.

Suppose a 16 hundred 11-8ths, look in the first column for 16 hundreds, and in the same line under 11-8ths you will find 2200 splits, which is the splits on that breadth.

Breadths.	3/4	13/16	7/8	15/16	4/4
H. Ree	S.	S.	S.	S.	S.
6	450	487	525	562	600
7	525	568	612	656	700
8	600	650	700	750	800
9	675	731	787	843	900
10	750	812	875	937	1000
11	825	893	962	1031	1100
12	900	975	1050	1125	1200
13	975	1056	1137	1218	1300
14	1050	1137	1225	1312	1400
15	1125	1218	1312	1406	1500
16	1200	1300	1400	1500	1600
17	1275	1381	1487	1593	1700
18	1350	1462	1574	1686	1800
19	1425	1543	1662	1780	1900
20	1500	1624	1750	1874	2000
21	1575	1705	1837	1968	2100
22	1650	1786	1924	2062	2200
23	1725	1868	2012	2156	2300
24	1800	1950	2100	2250	2400

Breadths.	17/16	9/8	5/4	11/8	6/4
H. Reed.	S.	S.	S.	S.	S.
6	637	675	750	825	900
7	743	787	875	962	1050
8	850	900	1000	1100	1200
9	956	1012	1125	1237	1350
10	1062	1125	1250	1376	1500
11	1168	1237	1375	1512	1650
12	1275	1350	1500	1650	1800
13	1381	1462	1625	1787	1950
14	1487	1575	1750	1925	2100
15	1593	1687	1875	2062	2250
16	1700	1800	2000	2200	2400
17	1806	1912	2125	2337	2550
18	1912	2024	2250	2474	2700
19	2018	2137	2375	2612	2850
20	2124	2250	2500	2750	3000
21	2230	2362	2625	2887	3150
22	2336	2474	2750	3024	3300
23	2443	2587	2875	3162	3450
24	2550	2700	3000	3300	3600

Note. By adding the splits of any two sets at any breadth together, and then halving them, gives the splits of the half set betwixt them, upon the breadth.

Explanation of the Fourth Table.

The following Table shews how much Yarn it will take to be the warp of any web, beginning at 5 splits, and advancing by 5 splits to 20 splits, or one porter: then advancing by 1 porter to 70 porters, or 14 hundred; then advancing by 1 hundred to 30 hundreds. Each page is divided into 2 parts, and each part into 5 columns; the first column of each part contains the Ells in the length of the web; the second column is the spyndles; the third, nnmbers; the fourth, skeens; the fifth, threads.—Upon the head of the columns are Ells; Sp. for Spynddles; No. for Numbers; Sk. for Skeens; Th. for Threads.

The present mode of counting Cotton Yarn is this:

54 Inches, 80 Threads, 7 Skeens, 18 Numbers } make { 1 Thread, 1 Skeen, 1 Number, 1 Spyndle.

In counting the warp of a web, it is divided into hundreds, porters, and splits, thus,

20 Splits, 5 Porters } make { 1 Porter, 1 Hundred.

In calculating yarn for the warp of a web, one yard and a quarter, or 45 inches in yarn, is allowed for one yard of cloth.

Webs made of Cotton Yarn.

10	Mill Ells	Gives	12 of Cloth
5	ditto		6 ditto
2½	ditto		3 ditto
1¼	ditto		1½ ditto

Suppose you are to make a web of any certain length and breadth, look on the head of the pages for the warp what will make the breadth, then look in the first column for the ells to be in the length of the web, and in the same line of the other columns, you will find how much yarn it will require for the warp of the web.

EXAMPLE.

Suppose you are to make your web 140 ells long, having 58 porters warp, look in the first colum. for 140 ells, and in the same line under 58 porters, you will find 29 spyndles, which is the yarn it takes for the warp of the web.

If there are odd ells in the length of the web, first take for the tens in the length of the web, and then for the odd ells. Suppose the fore-mentioned

web to be 143 ells long, in the same line with 140 ells, you will find 29 spyndles, and in the same line with 3 ells, you will find 11 No. 1 skeen, 24 threads, which added together make 29 spyndles, 11 Nos. 1 skeen, 24 threads, which is the yarn 143 ells require for warp.

If there are more than 160 ells in the length of your web, add any two numbers together that will make out the number of ells.

If there are more than 30 hundred warp in your web, add any two numbers together that will make out the warp.

Table of Cotton and Linen Yarn.

Cotton Yarn No.	Sk.	Th.		Linen Yarn
0	2	50		
0	5	20	is equal to	1 Cut
4	3	40		1 Heer
9	0	0		1 asp
13	0	0		½ Spyndle
				1 Spyndle

Note. When Cotton yarn is of a good quality, one fourth of a spyndle will give 71 porters warp, or thereabout; but in calculating the following Table 70 is the standard, which is 2 porters of allowance for waste in reeling, dying, boiling, winding, warping, &c. &c.

5 Splits. Ells.	Sp.	No.	Sk.	Th.	10 Splits. Ells.	Sp.	No.	Sk.	Th.
1	0	0	0	9	1	0	0	0	18
2	0	0	0	18	2	0	0	0	36
3	0	0	0	27	3	0	0	0	54
4	0	0	0	36	4	0	0	0	72
5	0	0	0	45	5	0	0	1	10
6	0	0	0	54	6	0	0	1	28
7	0	0	0	63	7	0	0	1	46
8	0	0	0	72	8	0	0	1	64
9	0	0	1	1	9	0	0	2	2
10	0	0	1	10	10	0	0	2	20
11	0	0	1	19	11	0	0	2	38
12	0	0	1	28	12	0	0	2	56
13	0	0	1	37	13	0	0	2	74
14	0	0	1	46	14	0	0	3	12
15	0	0	1	55	15	0	0	3	30
16	0	0	1	64	16	0	0	3	48
17	0	0	1	73	17	0	0	3	66
18	0	0	2	2	18	0	0	4	4
19	0	0	2	11	19	0	0	4	22
20	0	0	2	20	20	0	0	4	40
30	0	0	3	30	30	0	0	6	60
40	0	0	4	40	40	0	1	2	0
50	0	0	5	50	50	0	1	4	20
60	0	0	6	60	60	0	1	6	40
70	0	1	0	70	70	0	2	1	60
80	0	1	2	0	80	0	2	4	0
90	0	1	3	10	90	0	2	6	20
100	0	1	4	20	100	0	3	1	40
110	0	1	5	30	110	0	3	3	60
120	0	1	6	40	120	0	3	6	0
130	0	2	0	50	130	0	4	1	20
140	0	2	1	60	140	0	4	3	40
150	0	2	2	70	150	0	4	5	60
160	0	2	4	0	160	0	5	1	0

Ells.	15 Splits. Sp.	No.	Sk.	Th.	Ells.	1 Porter. Sp.	No.	Sk.	Th.
1	0	0	0	27	1	0	0	0	36
2	0	0	0	54	2	0	0	0	72
3	0	0	1	1	3	0	0	1	28
4	0	0	1	28	4	0	0	1	64
5	0	0	1	55	5	0	0	2	20
6	0	0	2	2	6	0	0	2	56
7	0	0	2	29	7	0	0	3	12
8	0	0	2	56	8	0	0	3	48
9	0	0	3	3	9	0	0	4	4
10	0	0	3	30	10	0	0	4	40
11	0	0	3	57	11	0	0	4	76
12	0	0	4	4	12	0	0	5	32
13	0	0	4	31	13	0	0	5	68
14	0	0	4	58	14	0	0	6	24
15	0	0	5	5	15	0	0	6	60
16	0	0	5	32	16	0	1	0	16
17	0	0	5	59	17	0	1	0	52
18	0	0	6	6	18	0	1	1	8
19	0	0	6	33	19	0	1	1	44
20	0	0	6	60	20	0	1	2	0
30	0	1	3	10	30	0	1	6	40
40	0	1	6	40	40	0	2	4	0
50	0	2	2	70	50	0	3	1	40
60	0	2	6	20	60	0	3	6	0
70	0	3	2	50	70	0	4	3	40
80	0	3	6	0	80	0	5	1	0
90	0	4	2	30	90	0	5	5	40
100	0	4	5	60	100	0	6	3	0
110	0	5	2	10	110	0	7	0	40
120	0	5	5	40	120	0	7	5	0
130	0	6	1	70	130	0	8	2	40
140	0	6	5	20	140	0	9	0	0
150	0	7	1	50	150	0	9	4	40
160	0	7	5	0	160	0	10	2	0

Ells.	2 Porters. Sp.	No.	Sk.	Th.	Ells.	3 Porters. Sp.	No.	Sk.	Th.
1	0	0	0	72	1	0	0	1	28
2	0	0	1	64	2	0	0	2	56
3	0	0	2	56	3	0	0	4	4
4	0	0	3	48	4	0	0	5	32
5	0	0	4	40	5	0	0	6	60
6	0	0	5	32	6	0	1	1	8
7	0	0	6	24	7	0	1	2	36
8	0	1	0	16	8	0	1	3	64
9	0	1	1	8	9	0	1	5	12
10	0	1	2	9	10	0	1	6	40
11	0	1	2	72	11	0	2	0	68
12	0	1	3	64	12	0	2	2	16
13	0	1	4	56	13	0	2	3	44
14	0	1	5	48	14	0	2	4	72
15	0	1	6	40	15	0	2	5	20
16	0	2	0	32	16	0	3	0	48
17	0	2	1	24	17	0	3	1	76
18	0	2	2	16	18	0	3	3	24
19	0	2	3	8	19	0	3	4	52
20	0	2	4	0	20	0	3	6	0
30	0	3	6	0	30	0	5	5	40
40	0	5	1	0	40	0	7	5	0
50	0	6	3	0	50	0	9	4	40
60	0	7	5	0	60	0	11	4	0
70	0	9	0	0	70	0	13	3	40
80	0	10	2	0	80	0	15	3	0
90	0	11	4	0	90	0	17	2	40
100	0	12	6	0	100	1	1	2	0
110	0	14	1	0	110	1	3	1	40
120	0	15	3	0	120	1	5	1	0
130	0	16	5	0	130	1	7	0	40
140	1	0	0	0	140	1	9	0	0
150	1	1	2	0	150	1	10	6	40
160	1	2	4	0	160	1	12	6	0

4 Porters.					100				
Ells.	Sp.	No.	Sk.	Th.	Ells.	Sp.	No.	Sk.	Th.
1	0	0	1	64	1	0	0	2	20
2	0	0	3	48	2	0	0	4	40
3	0	0	5	32	3	0	0	6	60
4	0	1	0	16	4	0	1	2	0
5	0	1	2	0	5	0	1	4	20
6	0	1	3	64	6	0	1	6	40
7	0	1	5	48	7	0	2	1	60
8	0	2	0	32	8	0	2	4	0
9	0	2	2	16	9	0	2	6	20
10	0	2	4	0	10	0	3	1	40
11	0	2	5	64	11	0	3	3	60
12	0	3	0	48	12	0	3	6	0
13	0	3	2	32	13	0	4	1	20
14	0	3	4	16	14	0	4	3	40
15	0	3	6	0	15	0	4	5	60
16	0	4	0	64	16	0	5	1	0
17	0	4	2	48	17	0	5	3	20
18	0	4	4	32	18	0	5	5	40
19	0	4	6	16	19	0	6	0	60
20	0	5	1	0	20	0	6	3	0
30	0	7	5	0	30	0	9	4	40
40	0	10	2	0	40	0	12	6	0
50	0	12	6	0	50	0	16	0	40
60	0	15	3	0	60	1	1	2	0
70	1	0	0	0	70	1	4	3	40
80	1	2	4	0	80	1	7	5	20
90	1	5	1	0	90	1	10	6	40
100	1	7	5	0	100	1	14	1	0
110	1	10	2	0	110	1	17	2	40
120	1	12	6	0	120	2	2	4	0
130	1	15	3	0	130	2	5	5	40
140	2	0	0	0	140	2	9	0	0
150	2	2	4	0	150	2	12	1	40
160	2	4	8	0	160	2	15	3	0

6 Porters.					7 Porters.				
Ells.	Sp.	No.	Sk.	Th.	Ells.	Sp.	No.	Sk.	Th.
1	0	0	2	56	1	0	0	3	12
2	0	0	5	32	2	0	0	6	24
3	0	1	1	8	3	0	1	2	36
4	0	1	3	64	4	0	1	5	48
5	0	1	6	40	5	0	2	1	60
6	0	2	2	16	6	0	2	4	72
7	0	2	4	72	7	0	3	1	4
8	0	3	0	48	8	0	3	4	16
9	0	3	3	24	9	0	4	0	28
10	0	3	6	0	10	0	4	3	40
11	0	4	1	56	11	0	4	6	52
12	0	4	4	32	12	0	5	2	64
13	0	5	0	8	13	0	5	5	76
14	0	5	2	64	14	0	6	2	8
15	0	5	5	40	15	0	6	5	20
16	0	6	1	16	16	0	7	1	32
17	0	6	3	72	17	0	7	4	44
18	0	6	6	48	18	0	8	0	56
19	0	7	2	24	19	0	8	3	68
20	0	7	5	0	20	0	9	0	0
30	0	11	4	0	30	0	13	3	40
40	0	15	3	0	40	1	0	0	0
50	1	1	2	0	50	1	4	3	40
60	1	5	1	0	60	1	9	0	0
70	1	9	0	0	70	1	13	3	40
80	1	12	6	0	80	2	0	0	0
90	1	16	5	0	90	2	4	3	40
100	2	2	4	0	100	2	9	0	0
110	2	6	3	0	110	2	13	3	40
120	2	10	2	0	120	3	0	0	0
130	2	14	1	0	130	3	4	3	40
140	3	0	0	0	140	3	9	0	0
150	3	3	6	0	150	3	13	3	40
160	3	7	5	0	160	4	0	0	0

8 Porters.					9 Porters.				
Ells.	Sp.	No.	Sk.	Th.	Ells.	Sp.	No.	Sk.	Th.
1	0	0	3	48	1	0	0	4	4
2	0	1	0	16	2	0	1	1	8
3	0	1	3	64	3	0	1	5	12
4	0	2	0	32	4	0	2	2	16
5	0	2	4	0	5	0	2	6	20
6	0	3	0	48	6	0	3	3	24
7	0	3	4	16	7	0	4	0	28
8	0	4	0	64	8	0	4	4	32
9	0	4	4	32	9	0	5	1	36
10	0	5	1	0	10	0	5	5	40
11	0	5	4	48	11	0	6	2	44
12	0	6	1	16	12	0	6	6	48
13	0	6	4	64	13	0	7	3	52
14	0	7	1	34	14	0	8	0	56
15	0	7	5	0	15	0	8	4	60
16	0	8	1	48	16	0	9	1	64
17	0	8	5	16	17	0	9	5	68
18	0	9	1	64	18	0	10	2	72
19	0	9	5	32	19	0	10	6	76
20	0	10	2	0	20	0	11	4	0
30	0	15	3	0	30	0	17	2	40
40	1	2	4	0	40	1	5	1	0
50	1	7	5	0	50	1	10	6	40
60	1	12	6	0	60	1	16	5	0
70	2	0	0	0	70	2	4	3	40
80	2	5	1	0	80	2	10	2	0
90	2	10	2	0	90	2	16	0	40
100	2	15	3	0	100	3	3	6	0
110	3	2	4	0	110	3	9	4	40
120	3	7	5	0	120	3	15	3	0
130	3	12	6	0	130	4	3	1	40
140	4	0	0	0	140	4	9	0	0
150	4	5	1	0	150	4	14	5	40
160	4	10	2	0	160	5	2	4	0

200.					11 Porters.				
Ells.	Sp.	No.	Sk.	Th.	Ells.	Sp.	No.	Sk.	Th.
1	0	0	4	40	1	0	0	4	76
2	0	1	2	0	2	0	1	2	72
3	0	1	6	40	3	0	2	0	68
4	0	2	4	0	4	0	2	5	64
5	0	3	1	40	5	0	3	3	60
6	0	3	6	0	6	0	4	1	56
7	0	4	3	40	7	0	4	6	52
8	0	5	1	0	8	0	5	4	48
9	0	5	5	40	9	0	6	2	44
10	0	6	3	0	10	0	7	0	40
11	0	7	0	40	11	0	7	5	36
12	0	7	5	0	12	0	8	3	32
13	0	8	2	40	13	0	9	1	28
14	0	9	0	0	14	0	9	6	24
15	0	9	4	40	15	0	10	4	20
16	0	10	2	0	16	0	11	2	16
17	0	10	6	40	17	0	12	0	12
18	0	11	4	0	18	0	12	5	8
19	0	12	1	40	19	0	13	3	4
20	0	12	6	0	20	0	14	1	0
30	1	1	2	0	30	1	3	1	40
40	1	7	5	0	40	1	10	2	0
50	1	14	1	0	50	1	17	2	40
60	2	2	4	0	60	2	6	3	0
70	2	9	0	0	70	2	13	3	40
80	2	15	3	0	80	3	2	4	0
90	3	3	6	0	90	3	9	4	40
100	3	10	2	0	100	3	16	5	0
110	3	16	5	0	110	4	5	5	40
120	4	5	1	0	120	4	12	6	0
130	4	11	4	0	130	5	1	6	40
140	5	0	0	0	140	5	9	0	0
150	5	6	3	0	150	5	16	0	40
160	5	12	6	0	160	6	5	1	0

Ells.	12 Porters. Sp.	No.	Sk.	Th.	Ells	13 Porters. Sp.	No.	Sk.	Th.
1	0	0	5	32	1	0	0	5	68
2	0	1	3	64	2		1	4	56
3	0	2	2	16	3	0	2	3	44
4	0	3	0	48	4	0	3	2	32
5	0	3	6	0	5	0	4	1	20
6	0	4	4	32	6	0	5	0	8
7	0	5	2	64	7	0	5	5	76
8	0	6	1	16	8	0	6	4	64
9	0	6	6	48	9	0	7	3	52
10	0	7	5	0	10	0	8	2	40
11	0	8	3	32	11	0	9	1	28
12	0	9	1	64	12	0	10	0	16
13	0	10	0	16	13	0	10	6	4
14	0	10	5	48	14	0	11	4	72
15	0	11	4	0	15	0	12	3	60
16	0	12	2	32	16	0	13	2	48
17	0	13	0	64	17	0	14	1	36
18	0	13	6	16	18	0	15	0	24
19	0	14	4	48	19	0	15	6	12
20	0	15	3	0	20	0	16	5	0
30	1	5	1	0	30	1	7	0	40
40	1	12	6	0	40	1	15	3	0
50	2	2	4	0	50	2	5	5	40
60	2	10	2	0	60	2	14	1	0
70	3	0	0	0	70	3	4	3	40
80	3	7	5	0	80	3	12	6	0
90	3	15	3	0	90	4	3	1	40
100	4	5	1	0	100	4	11	4	0
110	4	12	6	0	110	5	1	6	40
120	5	2	4	0	120	5	10	2	0
130	5	10	2	0	130	6	0	4	40
140	6	0	0	0	140	6	9	0	0
150	6	7	5	0	150	6	17	2	40
160	6	15	3	0	160	7	7	5	0

Ells.	14 Porters. Sp.	No.	Sk.	Th.	Ells.	300. Sp.	No.	Sk.	Th.
1	0	0	6	24	1	0	0	6	60
2	0	1	5	48	2	0	1	6	40
3	0	2	4	72	3	0	2	6	20
4	0	3	4	16	4	0	3	6	0
5	0	4	3	40	5	0	4	5	60
6	0	5	2	64	6	0	5	5	40
7	0	6	2	8	7	0	6	5	20
8	0	7	1	32	8	0	7	5	0
9	0	8	0	56	9	0	8	4	60
10	0	9	0	0	10	0	9	4	40
11	0	9	6	24	11	0	10	4	20
12	0	10	5	48	12	0	11	4	0
13	0	11	4	72	13	0	12	3	60
14	0	12	4	16	14	0	13	3	40
15	0	13	3	40	15	0	14	3	20
16	0	14	2	64	16	0	15	3	0
17	0	15	2	8	17	0	16	2	60
18	0	16	1	32	18	0	17	2	40
19	0	17	0	56	19	1	0	2	20
20	1	0	0	0	20	1	1	2	0
30	1	9	0	0	30	1	10	6	40
40	2	0	0	0	40	2	2	4	0
50	2	9	0	0	50	2	12	1	40
60	3	0	0	0	60	3	3	6	0
70	3	9	0	0	70	3	13	3	40
80	4	0	0	0	80	4	5	1	0
90	4	9	0	0	90	4	14	5	40
100	5	0	0	0	100	5	6	3	0
110	5	9	0	0	110	5	16	0	40
120	6	0	0	0	120	6	7	5	0
130	6	9	0	0	130	6	17	2	40
140	7	0	0	0	140	7	9	0	0
150	7	9	0	0	150	8	0	4	40
160	8	0	0	0	160	8	10	2	0

Ells.	16 Porters. Sp.	No.	Sk.	Th.	Ells.	17 Porters. Sp.	No	Sk.	Th.
1	0	1	0	16	1	0	1	0	52
2	0	2	0	32	2	0	2	1	24
3	0	3	0	48	3	0	3	1	76
4	0	4	0	64	4	0	4	2	48
5	0	5	1	0	5	0	5	3	20
6	0	6	1	16	6	0	6	2	72
7	0	7	1	32	7	0	7	4	44
8	0	8	1	48	8	0	8	5	16
9	0	9	1	64	9	0	9	5	68
10	0	10	2	0	10	0	10	6	40
11	0	11	2	16	11	0	12	0	12
12	0	12	2	32	12	0	13	0	64
13	0	13	2	48	13	0	14	1	36
14	0	14	2	64	14	0	15	2	8
15	0	15	3	0	15	0	16	2	60
16	0	16	3	16	16	0	17	3	32
17	0	17	3	32	17	1	0	4	4
18	1	0	3	48	18	1	1	4	56
19	1	1	3	64	19	1	2	5	28
20	1	2	4	0	20	1	3	6	0
30	1	12	6	0	30	1	14	5	40
40	2	5	1	0	40	2	7	5	0
50	2	15	3	0	50	3	0	4	40
60	3	7	5	0	60	3	11	4	0
70	4	0	0	0	70	4	4	3	40
80	4	10	2	0	80	4	15	3	0
90	5	2	4	0	90	5	8	2	40
100	5	12	6	0	100	6	1	2	0
110	6	5	1	0	110	6	12	1	40
120	6	15	3	0	120	7	5	1	0
130	7	7	5	0	130	7	16	0	40
140	8	0	0	0	140	8	9	0	0
150	8	10	2	0	150	9	1	6	40
160	9	2	4	0	160	9	12	6	0

Ells.	18 Porters. Sp.	No.	Sk.	Th.	Ells.	19 Porters. Sp.	No.	Sk	Th.
1	0	1	1	8	1	0	1	1	44
2	0	2	2	16	2	0	2	3	8
3	0	3	3	24	3	0	3	4	52
4	0	4	4	32	4	0	4	6	16
5	0	5	5	40	5	0	6	0	60
6	0	6	6	48	6	0	7	2	24
7	0	8	0	56	7	0	8	3	68
8	0	9	1	64	8	0	9	5	32
9	0	10	2	72	9	0	10	6	76
10	0	11	4	0	10	0	12	1	40
11	0	12	5	8	11	0	13	3	4
12	0	13	6	16	12	0	14	4	48
13	0	15	0	24	13	0	15	6	12
14	0	16	1	32	14	0	17	0	56
15	0	17	2	40	15	1	0	2	20
16	1	0	3	48	16	1	1	3	64
17	1	1	4	56	17	1	2	5	28
18	1	2	5	64	18	1	3	6	72
19	1	3	6	72	19	1	5	1	60
20	1	5	1	0	20	1	6	3	0
30	1	16	5	0	30	2	0	4	40
40	2	10	2	0	40	2	12	6	0
50	3	3	6	0	50	3	7	0	40
60	3	15	3	0	60	4	1	2	0
70	4	9	0	0	70	4	13	3	40
80	5	2	4	0	80	5	7	5	0
90	5	14	1	0	90	6	1	6	40
100	6	7	5	0	100	6	14	1	0
110	7	1	2	0	110	7	8	2	40
120	7	12	6	0	120	8	2	4	0
130	8	6	3	0	130	8	14	5	40
140	9	0	0	0	140	9	9	0	0
150	9	11	4	0	150	10	3	1	40
160	10	5	1	0	160	10	15	3	0

400					21 Porters.				
Ells.	Sp	No.	Sk	Th.	Ells.	Sp.	No.	Sk.	Th.
1	0	1	2	0	1	0	1	2	36
2	0	2	4	0	2	0	2	4	72
3	0	3	6	0	3	0	4	0	28
4	0	5	1	0	4	0	5	2	64
5	0	6	3	0	5	0	6	5	20
6	0	7	5	0	6	0	8	0	56
7	0	9	0	0	7	0	9	3	12
8	0	10	2	0	8	0	10	5	48
9	0	11	4	0	9	0	12	1	4
10	0	12	6	0	10	0	13	3	40
11	0	14	1	0	11	0	14	5	76
12	0	15	3	0	12	0	16	1	32
13	0	16	5	0	13	0	17	3	68
14	1	0	0	0	14	1	0	6	24
15	1	1	2	0	15	1	2	1	60
16	1	2	4	0	16	1	3	4	16
17	1	3	6	0	17	1	4	6	52
18	1	5	1	0	18	1	6	2	8
19	1	6	3	0	19	1	7	4	44
20	1	7	5	0	20	1	9	0	0
30	2	2	4	0	30	2	4	3	40
40	2	15	3	0	40	3	0	0	0
50	3	10	2	0	50	3	13	3	40
60	4	5	1	0	60	4	9	0	0
70	5	0	0	0	70	5	4	3	40
80	5	12	6	0	80	6	0	0	0
90	6	7	5	0	90	6	13	3	40
100	7	2	4	0	100	7	9	0	0
110	7	15	3	0	110	8	4	3	40
120	8	10	2	0	120	9	0	0	0
130	9	5	1	0	130	9	13	3	40
140	10	0	0	0	140	10	9	0	0
150	10	12	6	0	150	11	4	3	40
160	11	7	5	0	160	12	0	0	0

22 Porters.					23 Porters.				
Ells.	Sp.	No.	Sk.	Th.	Ells.	Sp.	No.	Sk.	Th.
1	0	1	2	72	1	0	1	3	28
2	0	2	5	64	2	0	2	6	56
3	0	4	1	56	3	0	4	3	4
4	0	5	4	48	4	0	5	6	32
5	0	7	0	40	5	0	7	2	60
6	0	8	3	32	6	0	8	6	8
7	0	9	6	24	7	0	10	2	36
8	0	11	2	16	8	0	11	5	64
9	0	12	5	8	9	0	13	2	12
10	0	14	1	0	10	0	14	5	40
11	0	15	3	72	11	0	16	1	68
12	0	16	6	64	12	0	17	5	16
13	1	0	2	56	13	1	1	1	44
14	1	1	5	48	14	1	2	4	72
15	1	3	1	40	15	1	4	1	20
16	1	4	4	32	16	1	5	4	48
17	1	6	0	24	17	1	7	0	76
18	1	7	3	16	18	1	8	4	24
19	1	8	6	8	19	1	10	0	52
20	1	10	2	0	20	1	11	4	0
30	2	6	3	0	30	2	8	2	40
40	3	2	4	0	40	3	5	1	0
50	3	16	5	0	50	4	1	6	40
60	4	12	6	0	60	4	16	5	0
70	5	9	0	0	70	5	13	3	40
80	6	5	1	0	80	6	10	2	0
90	7	1	2	0	90	7	7	0	40
100	7	15	3	0	100	8	3	6	0
110	8	11	4	0	110	9	0	4	40
120	9	7	5	0	120	9	15	3	0
130	10	3	6	0	130	10	12	1	40
140	11	0	0	0	140	11	9	0	0
150	11	14	1	0	150	12	5	5	40
160	12	10	2	0	160	13	2	4	0

Ells.	24 Porters. Sp.	No.	Sk.	Th.	Ells.	500 Sp.	No.	Sk.	Th.
1	0	1	3	64	1	0	1	4	20
2	0	3	0	48	2	0	3	1	40
3	0	4	4	32	3	0	4	5	60
4	0	6	1	16	4	0	6	3	0
5	0	7	5	0	5	0	8	0	20
6	0	9	1	64	6	0	9	4	40
7	0	10	5	48	7	0	11	1	60
8	0	12	2	32	8	0	12	6	0
9	0	13	6	16	9	0	14	3	20
10	0	15	3	0	10	0	16	0	40
11	0	16	6	64	11	0	17	4	60
12	1	0	3	48	12	1	1	2	0
13	1	2	0	32	13	1	2	6	20
14	1	3	4	16	14	1	4	3	40
15	1	5	1	0	15	1	6	0	60
16	1	6	4	64	16	1	7	5	0
17	1	8	1	48	17	1	9	2	20
18	1	9	5	32	18	1	10	6	40
19	1	11	2	16	19	1	12	3	60
20	1	12	6	0	20	1	14	1	0
30	2	10	2	0	30	2	12	1	40
40	3	7	5	0	40	3	10	2	0
50	4	5	1	0	50	4	8	2	40
60	5	2	4	0	60	5	6	3	0
70	6	0	0	0	70	6	4	3	40
80	6	15	3	0	80	7	2	4	0
90	7	12	6	0	90	8	0	4	40
100	8	10	2	0	100	8	16	5	0
110	9	7	5	0	110	9	14	5	40
120	10	5	1	0	120	10	12	6	0
130	11	2	4	0	130	11	10	6	40
140	12	0	0	0	140	12	9	0	0
150	12	15	3	0	150	13	7	0	40
160	13	12	6	0	160	14	5	1	0

Ells.	26 Porters. Sp.	No.	Sk.	Th.	Ells.	27 Porters. Sp.	No.	Sk.	Th.
1	0	1	4	56	1	0	1	5	12
2	0	3	2	32	2	0	3	3	24
3	0	5	0	8	3	0	5	1	36
4	0	6	4	64	4	0	6	6	48
5	0	8	2	40	5	0	8	4	60
6	0	10	0	16	6	0	10	2	72
7	0	11	4	72	7	0	12	1	4
8	0	13	2	48	8	0	13	6	16
9	0	15	0	24	9	0	15	4	28
10	0	16	5	0	10	0	17	2	40
11	1	0	2	56	11	1	1	0	52
12	1	2	0	32	12	1	2	5	64
13	1	3	5	8	13	1	4	3	76
14	1	5	2	64	14	1	6	2	8
15	1	7	0	40	15	1	8	0	20
16	1	8	5	16	16	1	9	5	32
17	1	10	2	72	17	1	11	3	44
18	1	12	0	48	18	1	13	1	56
19	1	13	5	24	19	1	14	6	68
20	1	15	3	0	20	1	16	5	0
30	2	14	1	0	30	2	16	0	40
40	3	12	6	0	40	3	15	3	0
50	4	11	4	0	50	4	14	5	40
60	5	10	2	0	60	5	14	1	0
70	6	9	0	0	70	6	13	3	40
80	7	7	5	0	80	7	12	6	0
90	8	6	3	0	90	8	12	1	40
100	9	5	1	0	100	9	11	4	0
110	10	3	6	0	110	10	10	6	40
120	11	2	4	0	120	11	10	2	0
130	12	1	2	0	130	12	9	4	40
140	13	0	0	0	140	13	9	0	0
150	13	16	5	0	150	14	8	2	40
160	14	15	3	0	160	15	7	5	0

Ells.	28 Porters. Sp.	No.	Sk.	Th.	Ells	29 Porters. Sp.	No.	Sk,	Th.
1	0	1	5	48	1	0	1	6	4
2	0	3	4	16	2	0	3	5	8
3	0	5	2	64	3	0	5	4	12
4	0	7	1	32	4	0	7	3	16
5	0	9	0	0	5	0	9	2	20
6	0	10	5	48	6	0	11	1	24
7	0	12	4	16	7	0	13	0	28
8	0	14	2	64	8	0	14	6	32
9	0	16	1	32	9	0	16	5	36
10	1	0	0	0	10	1	0	4	40
11	1	1	5	48	11	1	2	3	44
12	1	3	4	16	12	1	4	2	48
13	1	5	2	64	13	1	6	1	52
14	1	7	1	32	14	1	8	0	56
15	1	9	0	0	15	1	9	6	60
16	1	10	5	48	16	1	11	5	64
17	1	12	4	16	17	1	13	4	68
18	1	14	2	64	18	1	15	3	72
19	1	16	1	32	19	1	17	2	76
20	2	0	0	0	20	2	1	2	0
30	3	0	0	0	30	3	1	6	40
40	4	0	0	0	40	4	2	4	0
50	5	0	0	0	50	5	3	1	40
60	6	0	0	0	60	6	3	6	0
70	7	0	0	0	70	7	4	3	40
80	8	0	0	0	80	8	5	1	0
90	9	0	0	0	90	9	5	5	40
100	10	0	0	0	100	10	6	3	0
110	11	0	0	0	110	11	7	0	40
120	12	0	0	0	120	12	7	5	0
130	13	0	0	0	130	13	8	2	40
140	14	0	0	0	140	14	9	0	0
150	15	0	0	0	150	15	9	4	40
160	16	0	0	0	160	16	10	2	0

Ells.	600. Sp.	No.	Sk.	Th.	Ells	31 Porters. Sp.	No.	Sk	Th.
1	0	1	6	40	1	0	1	6	76
2	0	3	6	0	2	0	3	6	72
3	0	5	5	40	3	0	5	6	68
4	0	7	5	0	4	0	7	6	64
5	0	9	4	40	5	0	9	6	60
6	0	11	4	0	6	0	11	6	56
7	0	13	3	40	7	0	13	6	52
8	0	15	3	0	8	0	15	6	48
9	0	17	2	40	9	0	17	6	44
10	1	1	2	0	10	1	1	6	40
11	1	3	1	40	11	1	3	6	36
12	1	5	1	0	12	1	5	6	32
13	1	7	0	40	13	1	7	6	28
14	1	9	0	0	14	1	9	6	24
15	1	10	6	40	15	1	11	6	20
16	1	12	6	0	16	1	13	6	16
17	1	14	5	40	17	1	15	6	12
18	1	16	5	0	18	1	17	6	8
19	2	0	4	40	19	2	1	6	4
20	2	2	4	0	20	2	3	6	0
30	3	3	6	0	30	3	5	5	40
40	4	5	1	0	40	4	7	5	0
50	5	6	3	0	50	5	9	4	40
60	6	7	5	0	60	6	11	4	0
70	7	9	0	0	70	7	13	3	40
80	8	10	2	0	80	8	15	3	0
90	9	11	4	0	90	9	17	2	40
100	10	12	6	0	100	11	1	2	0
110	11	14	1	0	110	12	3	1	40
120	12	15	3	0	120	13	5	1	0
130	13	16	5	0	130	14	7	0	40
140	15	0	0	0	140	15	9	0	0
150	16	1	2	0	150	16	10	6	40
160	17	2	4	0	160	17	12	6	0

Ells.	32 Porters. Sp.	No.	Sk.	Th.	Ells.	33 Porters. Sp.	No	Sk.	Th.
1	0	2	0	32	1	0	2	0	68
2	0	4	0	64	2	0	4	1	56
3	0	6	1	16	3	0	6	2	44
4	0	8	1	48	4	0	8	3	32
5	0	10	2	0	5	0	10	4	20
6	0	12	2	32	6	0	12	5	8
7	0	14	2	64	7	0	14	5	76
8	0	16	3	16	8	0	16	6	64
9	1	0	3	48	9	1	1	0	52
10	1	2	4	0	10	1	3	1	40
11	1	4	4	32	11	1	5	2	28
12	1	6	4	64	12	1	7	3	16
13	1	8	5	16	13	1	9	4	4
14	1	10	5	48	14	1	11	4	72
15	1	12	6	0	15	1	13	5	60
16	1	14	6	32	16	1	15	6	48
17	1	16	6	64	17	2	0	0	86
18	2	1	0	16	18	2	2	1	24
19	2	3	0	48	19	2	4	2	12
20	2	5	1	0	20	2	6	3	0
30	3	7	5	0	30	3	9	4	40
40	4	10	2	0	40	4	12	6	0
50	5	12	6	0	50	5	16	0	40
60	6	15	3	0	60	7	1	2	0
70	8	0	0	0	70	8	4	3	40
80	9	2	4	0	80	9	7	5	0
90	10	5	1	0	90	10	10	6	40
100	11	7	5	0	100	11	14	1	0
110	12	10	2	0	110	12	17	2	40
120	13	12	6	0	120	14	2	4	0
130	14	15	3	0	130	15	5	5	40
140	16	0	0	0	140	16	9	0	0
150	17	2	4	0	150	17	12	1	40
160	18	5	1	0	160	18	15	3	0

Ells.	34 Porters. Sp.	No.	Sk	Th.	Ells.	700 Sp.	No	Sk	Th.
1	0	2	1	24	1	0	2	1	60
2	0	4	2	48	2	0	4	3	40
3	0	6	3	72	3	0	6	5	20
4	0	8	5	16	4	0	9	0	0
5	0	10	6	4	5	0	11	1	60
6	0	13	0	64	6	0	13	3	40
7	0	15	2	8	7	0	15	5	20
8	0	17	3	32	8	1	0	0	0
9	1	1	4	56	9	1	2	1	60
10	1	3	6	0	10	1	4	3	40
11	1	6	0	24	11	1	6	5	20
12	1	8	1	48	12	1	9	0	0
13	1	10	2	72	13	1	11	1	60
14	1	12	4	16	14	1	13	3	40
15	1	14	5	40	15	1	15	5	20
16	1	16	6	64	16	2	0	0	0
17	2	1	1	8	17	2	2	1	60
18	2	3	2	32	18	2	4	3	40
19	2	5	3	56	19	2	6	5	20
20	2	7	5	0	20	2	9	0	0
30	3	11	4	0	30	3	13	3	40
40	4	15	3	0	40	5	0	0	0
50	6	1	2	0	50	6	4	3	40
60	7	5	1	0	60	7	9	0	0
70	8	9	0	0	70	8	13	3	40
80	9	12	6	0	80	10	0	0	0
90	10	16	5	0	90	11	4	3	40
100	12	2	4	0	100	12	9	0	0
110	13	6	3	0	110	13	13	3	40
120	14	10	2	0	120	15	0	0	0
130	15	14	1	0	130	16	4	3	40
140	17	0	0	0	140	17	9	0	0
150	18	3	6	0	150	18	13	3	40
160	19	7	5	0	160	20	0	0	0

Ells.	36 Porters. Sp.	No.	Sk.	Th.	Ells.	37 Porters. Sp.	No.	Sk.	Th.
1	0	2	2	16	1	0	2	2	52
2	0	4	4	32	2	0	4	5	24
3	0	6	6	48	3	0	7	0	76
4	0	9	1	64	4	0	9	3	48
5	0	11	4	0	5	0	11	6	20
6	0	13	6	16	6	0	14	1	72
7	0	16	1	32	7	0	16	4	44
8	1	0	3	48	8	1	1	0	16
9	1	2	5	64	9	1	3	2	68
10	1	5	1	0	10	1	5	5	40
11	1	7	3	16	11	1	8	1	12
12	1	9	5	32	12	1	10	3	64
13	1	12	0	48	13	1	12	6	36
14	1	14	2	64	14	1	15	2	8
15	1	16	5	0	15	0	17	4	60
16	2	1	0	16	16	2	2	0	32
17	2	3	2	32	17	2	4	3	4
18	2	5	4	48	18	2	6	5	56
19	2	7	6	64	19	2	9	1	28
20	2	10	2	0	20	2	11	4	0
30	3	15	3	0	30	3	17	2	40
40	5	2	4	0	40	5	5	1	0
50	6	7	5	0	50	6	10	6	40
60	7	12	6	0	60	7	16	5	0
70	9	0	0	0	70	9	4	3	40
80	10	5	1	0	80	10	10	2	0
90	11	10	2	0	90	11	16	0	40
100	12	15	3	0	100	13	3	6	0
110	14	2	4	0	110	14	9	4	40
120	15	7	5	0	120	15	15	3	0
130	16	12	6	0	130	17	3	1	40
140	18	0	0	0	140	18	9	0	0
150	19	5	1	0	150	19	14	5	40
160	20	10	2	0	160	21	2	4	0

Ells.	38 Porters. Sp.	No.	Sk.	Th.	Ells.	39 Porters. Sp.	No	Sk.	Th.
1	0	2	3	8	1	0	2	3	44
2	0	4	6	16	2	0	5	0	8
3	0	7	2	24	3	0	7	3	52
4	0	9	5	32	4	0	10	0	16
5	0	12	1	40	5	0	12	3	60
6	0	14	4	48	6	0	15	0	24
7	0	17	0	56	7	0	17	3	68
8	1	1	3	64	8	1	2	0	32
9	1	3	6	72	9	1	4	3	76
10	1	6	3	0	10	1	7	0	40
11	1	8	6	8	11	1	9	4	4
12	1	11	2	16	12	1	12	0	48
13	1	13	5	24	13	1	14	4	12
14	1	16	1	32	14	1	17	0	56
15	2	0	4	40	15	2	1	4	20
16	2	3	0	48	16	2	4	0	64
17	2	5	3	56	17	2	6	4	28
18	2	7	6	64	18	2	9	0	72
19	2	10	2	72	19	2	11	4	36
20	2	12	6	0	20	2	14	1	0
30	4	1	2	0	30	4	3	1	40
40	5	7	5	0	40	5	10	2	0
50	6	14	1	0	50	6	17	2	40
60	8	2	4	0	60	8	6	3	0
70	9	9	0	0	70	9	13	3	40
80	10	15	3	0	80	11	2	4	0
90	12	3	6	0	90	12	9	4	40
100	13	10	2	0	100	13	16	5	0
110	14	16	5	0	110	15	5	5	40
120	16	5	1	0	120	16	12	6	0
130	17	11	4	0	130	18	1	6	40
140	19	0	0	0	140	19	9	0	0
150	20	6	3	0	150	20	16	0	40
160	21	12	6	0	160	22	5	1	0

	800				41 Porters.				
Ells.	Sp.	No.	Sk.	Th.	Ells.	Sp.	No.	Sk.	Th.
1	0	2	4	0	1	0	2	4	36
2	0	5	1	0	2	0	5	1	72
3	0	7	5	0	3	0	7	6	28
4	0	10	2	0	4	0	10	3	64
5	0	12	6	0	5	0	13	1	20
6	0	15	3	0	6	0	15	5	56
7	1	0	0	0	7	1	0	3	12
8	1	2	4	0	8	1	3	0	48
9	1	5	1	0	9	1	5	5	4
10	1	7	5	0	10	1	8	2	40
11	1	10	2	0	11	1	10	6	76
12	1	12	6	0	12	1	13	4	32
13	1	15	3	0	13	1	16	1	68
14	2	0	0	0	14	2	0	6	24
15	2	2	4	0	15	2	3	3	60
16	2	5	1	0	16	2	6	1	16
17	2	7	5	0	17	2	8	5	52
18	2	10	2	0	18	2	11	3	8
19	2	12	6	0	19	2	14	0	44
20	2	15	3	0	20	2	16	5	0
30	4	5	1	0	30	4	7	0	40
40	5	12	6	0	40	5	15	3	0
50	7	2	4	0	50	7	5	5	40
60	8	10	2	0	60	8	14	1	0
70	10	0	0	0	70	10	4	3	40
80	11	7	5	0	80	11	12	6	0
90	12	15	3	0	90	13	3	1	40
100	14	5	1	0	100	14	11	4	0
110	15	12	6	0	110	16	1	6	40
120	17	2	4	0	120	17	10	2	0
130	18	10	2	0	130	19	0	4	40
140	20	0	0	0	140	20	9	0	0
150	21	7	5	0	150	21	17	2	40
160	22	15	3	0	160	23	7	5	0

	42 Porters.				43 Porters.				
Ells.	Sp.	No.	Sk.	Th.	Ells.	Sp.	No.	Sk.	Th.
1	0	2	0	72	1	0	2	5	28
2	0	5	2	64	2	0	5	3	56
3	0	8	0	56	3	0	8	2	4
4	0	10	5	48	4	0	11	0	32
5	0	13	3	40	5	0	13	5	60
6	0	16	1	32	6	0	16	4	8
7	1	0	6	24	7	1	1	2	36
8	1	3	4	16	8	1	4	0	64
9	1	6	2	8	9	1	6	6	12
10	1	9	0	0	10	1	9	4	40
11	1	11	4	72	11	1	12	2	68
12	1	14	2	64	12	1	15	1	16
13	1	17	0	56	13	1	17	6	44
14	2	1	5	48	14	2	2	4	72
15	2	4	3	40	15	2	5	3	20
16	2	7	1	32	16	2	8	1	48
17	2	9	6	24	17	2	10	6	76
18	2	12	4	16	18	2	13	5	24
19	2	15	2	8	19	2	16	3	52
20	3	0	0	0	20	3	1	2	0
30	4	9	0	0	30	4	10	6	40
40	6	0	0	0	40	6	2	4	0
50	7	9	0	0	50	7	12	1	40
60	9	0	0	0	60	9	3	6	0
70	10	9	0	0	70	10	13	3	40
80	12	0	0	0	80	12	5	1	0
90	13	9	0	0	90	13	14	5	40
100	15	0	0	0	100	15	6	3	0
110	16	9	0	0	110	16	16	0	40
120	18	0	0	0	120	18	7	5	0
130	19	9	0	0	130	19	17	2	40
140	21	0	0	0	140	21	9	0	0
150	22	9	0	0	150	23	0	4	40
160	24	0	0	0	160	24	10	2	0

44 Porters.					900				
Ells.	Sp.	No.	Sk.	Th.	Ells.	Sp.	No.	Sk.	Th.
1	0	2	5	64	1	0	2	6	20
2	0	5	4	48	2	0	5	5	40
3	0	8	3	32	3	0	8	4	60
4	0	11	2	16	4	0	11	4	0
5	0	14	1	0	5	0	14	3	20
6	0	16	6	64	6	0	17	2	40
7	1	1	5	48	7	1	2	1	60
8	1	4	4	32	8	1	5	1	0
9	1	7	3	16	9	1	8	0	20
10	1	10	2	0	10	1	10	6	40
11	1	13	0	64	11	1	13	5	60
12	1	15	6	48	12	1	16	5	0
13	2	0	5	32	13	2	1	4	20
14	2	3	4	16	14	2	4	3	40
15	2	6	3	0	15	2	7	2	60
16	2	9	1	64	16	2	10	2	0
17	2	12	0	48	17	2	13	1	20
18	2	14	6	32	18	2	16	0	40
19	2	17	5	16	19	3	0	6	60
20	3	2	4	0	20	3	3	6	0
30	4	12	6	0	30	4	14	5	40
40	6	5	1	0	40	6	7	5	0
50	7	15	3	0	50	8	0	4	40
60	9	7	5	0	60	9	11	4	0
70	11	0	0	0	70	11	4	3	40
80	12	10	2	0	80	12	15	3	0
90	14	2	4	0	90	14	8	2	40
100	15	12	6	0	100	16	1	2	0
110	17	5	1	0	110	17	12	1	40
120	18	15	3	0	120	19	5	1	0
130	20	7	5	0	130	20	16	0	40
140	22	0	0	0	140	22	9	0	0
150	23	10	2	0	150	24	1	6	40
160	25	2	4	0	160	25	12	6	0

46 Porters.					47 Porters.				
Ells.	Sp.	No.	Sk.	Th.	Ells.	Sp.	No.	Sk.	Th.
1	0	2	6	56	1	0	3	0	12
2	0	5	6	32	2	0	6	0	24
3	0	8	6	8	3	0	9	0	36
4	0	11	5	64	4	0	12	0	48
5	0	14	5	40	5	0	15	0	60
6	0	17	5	16	6	1	0	0	72
7	1	2	4	72	7	1	3	1	4
8	1	5	4	48	8	1	6	1	16
9	1	8	4	24	9	1	9	1	28
10	1	11	4	0	10	1	12	1	40
11	1	14	3	56	11	1	15	1	52
12	1	17	3	32	12	2	0	1	64
13	2	2	3	8	13	2	3	1	76
14	2	5	2	64	14	2	6	2	8
15	2	8	2	40	15	2	9	2	20
16	2	11	2	16	16	2	12	2	32
17	2	14	1	72	17	2	15	2	44
18	2	17	1	48	18	3	0	2	56
19	3	2	1	24	19	3	3	2	68
20	3	5	1	0	20	3	6	3	0
30	4	16	5	0	30	5	0	4	40
40	6	10	2	0	40	6	12	6	0
50	8	3	6	0	50	8	7	0	40
60	9	15	3	0	60	10	1	2	0
70	11	9	0	0	70	11	13	3	40
80	13	2	4	0	80	13	7	5	0
90	14	14	1	0	90	15	1	6	40
100	16	7	5	0	100	16	14	1	0
110	18	1	2	0	110	18	8	2	40
120	19	12	6	0	120	20	2	4	0
130	21	6	3	0	130	21	14	5	40
140	23	0	0	0	140	23	9	0	0
150	24	11	4	0	150	25	3	1	40
160	26	5	1	0	160	26	15	3	0

48 Porters.					49 Porters.				
Ells.	Sp.	No.	Sk.	Th.	Ells.	Sp.	No.	Sk.	Th.
1	0	3	0	48	1	0	3	1	4
2	0	6	1	16	2	0	6	2	8
3	0	9	1	64	3	0	9	3	12
4	0	12	2	32	4	0	12	4	16
5	0	15	3	0	5	0	15	5	20
6	1	0	3	48	6	1	0	6	24
7	1	3	4	16	7	1	4	0	28
8	1	6	4	64	8	1	7	1	32
9	1	9	5	32	9	1	10	2	36
10	1	12	6	0	10	1	13	3	40
11	1	15	6	48	11	1	16	4	44
12	2	1	0	16	12	2	1	5	48
13	2	4	0	64	13	2	4	6	52
14	2	7	1	83	14	2	8	0	56
15	2	10	2	0	15	2	11	1	60
16	2	13	2	48	16	6	14	2	64
17	2	16	3	16	17	2	17	3	68
18	3	1	3	64	18	3	2	4	72
19	3	4	4	32	19	3	5	5	76
20	3	7	5	0	20	3	9	0	0
30	5	2	4	0	30	5	4	3	40
40	6	15	3	0	40	7	0	0	0
50	8	10	2	0	50	8	13	3	40
60	10	5	1	0	60	10	9	0	0
70	12	0	0	0	70	12	4	3	40
80	13	12	6	0	80	14	0	0	0
90	15	7	5	0	90	15	13	3	40
100	17	2	4	0	100	17	9	0	0
110	18	15	3	0	110	19	4	3	40
120	20	10	2	0	120	21	0	0	0
130	22	5	1	0	130	22	13	3	40
140	24	0	0	0	140	24	9	0	0
150	25	12	6	0	150	26	4	3	40
160	27	7	5	0	160	28	0	0	0

1000					51 Porters.				
Ells.	Sp.	No.	Sk.	Th.	Ells.	Sp.	No.	Sk.	Th.
1	0	3	1	40	1	0	3	1	76
2	0	6	3	0	2	0	6	3	72
3	0	9	4	40	3	0	9	5	68
4	0	12	6	0	4	0	13	0	64
5	0	16	0	40	5	0	16	2	60
6	1	1	2	0	6	1	1	4	56
7	1	1	3	40	7	1	4	6	52
8	1	7	5	0	8	1	8	1	48
9	1	10	6	40	9	1	11	3	44
10	1	14	1	0	10	1	14	5	40
11	1	17	2	40	11	2	0	0	36
12	2	2	4	0	12	2	3	2	32
13	2	5	5	40	13	2	6	4	28
14	2	9	0	0	14	2	9	6	24
15	2	12	1	40	15	2	13	1	20
16	2	15	3	0	16	2	16	3	16
17	3	0	4	40	17	3	1	5	12
18	3	3	6	0	18	3	5	0	8
19	3	7	0	40	19	3	8	2	4
20	3	10	2	0	20	3	11	4	0
30	5	6	3	0	30	5	8	2	40
40	7	2	4	0	40	7	5	1	0
50	8	16	5	0	50	9	1	6	40
60	10	12	6	0	60	10	16	5	0
70	12	9	0	0	70	12	13	3	40
80	14	5	1	0	80	14	10	2	0
90	16	1	2	0	90	16	7	0	40
100	17	15	3	0	100	18	3	6	0
110	19	11	4	0	110	20	0	4	40
120	21	7	5	0	120	21	15	3	0
130	23	3	6	0	130	23	12	1	40
140	25	0	0	0	140	25	9	0	0
150	26	14	1	0	150	27	5	5	40
160	28	10	2	0	160	29	2	4	0

Ells.	52 Porters. Sp.	No.	Sk.	Th.	Ells.	53 Porters. Sp.	No.	Sk.	Th.
1	0	3	2	32	1	0	3	2	68
2	0	6	4	64	2	0	6	5	56
3	0	10	0	16	3	0	10	1	44
4	0	13	2	48	4	0	13	4	32
5	0	16	5	0	5	0	17	0	20
6	1	2	0	32	6	1	2	3	8
7	1	5	2	64	7	1	5	5	76
8	1	8	5	16	8	1	9	1	64
9	1	12	0	48	9	1	12	4	52
10	1	15	3	0	10	1	16	0	40
11	2	0	5	32	11	2	1	3	28
12	2	4	0	64	12	2	4	6	16
13	2	7	3	16	13	2	8	2	4
14	2	10	5	48	14	2	11	4	72
15	2	14	1	0	15	2	15	0	60
16	2	17	3	32	16	3	0	3	48
17	3	2	5	64	17	3	3	6	36
18	3	6	1	16	18	3	7	2	24
19	3	9	3	48	19	3	10	5	12
20	3	12	6	0	20	3	14	1	0
30	5	10	2	0	30	5	12	1	40
40	7	7	5	0	40	7	10	2	0
50	9	5	1	0	50	9	8	2	40
60	11	2	4	0	60	11	6	3	0
70	13	0	0	0	70	13	4	3	40
80	14	15	3	0	80	15	2	4	0
90	16	12	6	0	90	17	0	4	40
100	18	10	2	0	100	18	16	5	0
110	20	7	5	0	110	20	14	5	40
120	22	5	1	0	120	22	12	6	0
130	24	2	4	0	130	24	10	6	40
140	26	0	0	0	140	26	9	0	0
150	27	15	3	0	150	28	7	0	40
160	29	12	6	0	160	30	5	1	0

Ells.	54 Porters. Sp.	No.	Sk.	Th.	Ells.	1100 Sp.	No.	Sk.	Th.
1	0	3	3	24	1	0	3	3	60
2	0	6	6	48	2	0	7	0	40
3	0	10	2	72	3	0	10	4	20
4	0	13	6	16	4	0	14	1	0
5	0	17	2	40	5	0	17	4	60
6	1	2	5	64	6	1	3	1	40
7	1	6	2	8	7	1	6	5	20
8	1	9	5	32	8	1	10	2	0
9	1	13	1	56	9	1	13	5	60
10	1	16	5	0	10	1	17	2	40
11	2	2	1	24	11	2	2	6	20
12	2	5	4	48	12	2	6	3	0
13	2	9	0	72	13	2	9	6	60
14	2	12	4	16	14	2	13	3	40
15	2	16	0	40	15	2	17	0	20
16	3	1	3	64	16	3	2	4	0
17	3	5	0	8	17	3	6	0	60
18	3	8	3	32	18	3	9	4	40
19	3	11	6	56	19	3	13	1	20
20	3	15	3	0	20	3	16	5	0
30	5	14	1	0	30	5	16	0	40
40	7	12	6	0	40	7	15	3	0
50	9	11	4	0	50	9	14	5	40
60	11	10	2	0	60	11	14	1	0
70	13	9	0	0	70	13	13	3	40
80	15	7	5	0	80	15	12	6	0
90	17	6	3	0	90	17	12	1	40
100	19	5	1	0	100	19	11	4	0
110	21	3	6	0	110	21	10	6	40
120	23	2	4	0	120	23	10	2	0
130	25	1	2	0	130	25	9	4	40
140	27	0	0	0	140	27	9	0	0
150	28	16	5	0	150	29	8	2	40
160	30	15	3	0	160	31	7	5	0

56 Porters.					57 Porters.				
Ells.	Sp.	No.	Sk.	Th.	Ells.	Sp.	No.	Sk.	Th.
1	0	3	4	16	1	0	3	4	52
2	0	7	1	32	2	0	7	2	24
3	0	10	5	48	3	0	10	6	76
4	0	14	2	64	4	0	14	4	48
5	1	0	0	0	5	1	0	2	20
6	1	3	4	16	6	1	3	6	72
7	1	7	1	32	7	1	7	4	44
8	1	10	5	48	8	1	11	2	16
9	1	14	2	64	9	1	14	6	68
10	2	0	0	0	10	2	0	4	40
11	2	3	4	16	11	2	4	2	12
12	2	7	1	32	12	2	7	6	64
13	2	10	5	48	13	2	11	4	36
14	2	14	2	64	14	2	15	2	8
15	3	0	0	0	15	3	0	6	60
16	3	3	4	16	16	3	4	4	32
17	3	7	1	32	17	3	8	2	4
18	3	10	5	48	18	3	11	6	56
19	3	14	2	64	19	3	15	4	28
20	4	0	0	0	20	4	1	2	0
30	6	0	0	0	30	6	1	6	40
40	8	0	0	0	40	8	2	4	0
50	10	0	0	0	50	10	3	1	40
60	12	0	0	0	60	12	3	6	0
70	14	0	0	0	70	14	4	3	40
80	16	0	0	0	80	16	5	1	0
90	18	0	0	0	90	18	5	5	40
100	20	0	0	0	100	20	6	3	0
110	22	0	0	0	110	22	7	0	40
120	24	0	0	0	120	24	7	5	0
130	26	0	0	0	130	26	8	2	40
140	28	0	0	0	140	28	9	0	0
150	30	0	0	0	150	30	9	4	40
160	32	0	0	0	160	32	10	2	0

58 Porters.					59 Porters.				
Ells.	Sp.	No.	Sk.	Th.	Ells.	Sp.	No	Sk.	Th.
1	0	3	5	8	1	0	3	5	44
2	0	7	3	16	2	0	7	4	8
3	0	11	1	24	3	0	11	2	52
4	0	14	6	32	4	0	15	1	16
5	1	0	4	40	5	1	0	6	60
6	1	4	2	48	6	1	4	5	24
7	1	8	0	56	7	1	8	3	68
8	1	11	5	64	8	1	12	2	32
9	1	15	3	72	9	1	16	0	76
10	2	1	2	0	10	2	1	6	40
11	2	5	0	8	11	2	5	5	4
12	2	8	5	16	12	2	9	3	48
13	2	12	3	24	13	2	13	2	12
14	2	16	1	32	14	2	17	0	56
15	3	1	6	40	15	3	2	6	20
16	3	5	4	48	16	3	6	4	64
17	3	9	2	56	17	3	10	3	28
18	3	13	0	64	18	3	14	1	72
19	3	16	5	72	19	4	0	0	36
20	4	2	4	0	20	4	3	6	0
30	6	3	6	0	30	6	5	5	40
40	8	5	1	0	40	8	7	5	0
50	10	6	3	0	50	10	9	4	40
60	12	7	5	0	60	12	11	4	0
70	14	9	0	0	70	14	13	3	40
80	16	10	2	0	80	16	15	3	0
90	18	11	4	0	90	18	17	2	40
100	20	12	6	0	100	21	1	2	0
110	22	14	1	0	110	23	3	1	40
120	24	15	3	0	120	25	5	1	0
130	26	16	5	0	130	27	7	0	40
140	29	0	0	0	140	29	9	0	0
150	31	1	2	0	150	31	10	6	40
160	33	2	4	0	160	33	12	6	0

1200					61 Porters.				
Ells.	Sp.	No.	Sk.	Th.	Ells.	Sp.	No.	Sk.	Th.
1	0	3	6	0	1	0	3	6	36
2	0	7	5	0	2	0	7	5	72
3	0	11	4	0	3	0	11	5	28
4	0	15	3	0	4	0	15	4	64
5	1	1	2	0	5	1	1	4	20
6	1	5	1	0	6	1	5	3	56
7	1	9	0	0	7	1	9	3	12
8	1	12	6	0	8	1	13	2	48
9	1	16	5	0	9	1	17	2	4
10	2	2	4	0	10	2	3	1	40
11	2	6	3	0	11	2	7	0	76
12	2	10	2	0	12	2	11	0	32
13	2	14	1	0	13	2	14	6	68
14	3	0	0	0	14	3	0	6	24
15	3	3	6	0	15	3	4	5	60
16	3	7	5	0	16	3	8	5	16
17	3	11	4	0	17	3	12	4	52
18	3	15	3	0	18	3	16	4	8
19	4	1	2	0	19	4	2	3	44
20	4	5	1	0	20	4	6	3	0
30	6	7	5	0	30	6	9	4	40
40	8	10	2	0	40	8	12	6	0
50	10	12	6	0	50	10	6	0	40
60	12	15	3	0	60	13	1	2	0
70	15	0	0	0	70	15	4	3	40
80	17	2	4	0	80	17	7	5	0
90	19	5	1	0	90	19	10	6	40
100	21	7	5	0	100	21	14	1	0
110	23	10	2	0	110	23	17	2	40
120	25	12	6	0	120	26	2	4	0
130	27	15	3	0	130	28	5	5	40
140	30	0	0	0	140	30	9	0	0
150	32	2	4	0	150	32	12	1	40
160	34	5	1	0	160	34	15	3	0

62 Porters.					63 Porters.				
Ells.	Sp.	No.	Sk.	Th.	Ells.	Sp.	No.	Sk.	Th.
1	0	3	6	72	1	0	4	0	28
2	0	7	6	64	2	0	8	0	56
3	0	11	6	56	3	0	12	1	4
4	0	15	6	48	4	0	16	1	32
5	1	1	6	40	5	1	2	1	60
6	1	5	6	32	6	1	6	2	8
7	1	9	6	24	7	1	10	2	36
8	1	13	6	16	8	1	14	2	64
9	1	17	6	8	9	2	0	3	12
10	2	3	6	0	10	2	4	3	40
11	2	7	5	72	11	2	8	3	68
12	2	11	5	64	12	2	12	4	16
13	2	15	5	56	13	2	16	4	44
14	3	1	5	48	14	3	2	4	72
15	3	5	5	40	15	3	6	5	20
16	3	9	5	32	16	3	10	5	48
17	3	13	5	24	17	3	14	5	76
18	3	17	5	16	18	4	0	6	24
19	4	3	5	8	19	4	4	6	52
20	4	7	5	0	20	3	9	0	0
30	6	11	4	0	30	6	13	3	40
40	8	15	3	0	40	9	0	0	0
50	11	1	2	0	50	11	4	3	40
60	13	5	1	0	60	13	9	0	0
70	15	9	0	0	70	15	3	3	40
80	17	12	6	0	80	18	0	0	0
90	19	16	5	0	90	20	4	3	40
100	22	2	4	0	100	22	9	0	0
110	24	6	3	0	110	24	13	3	40
120	26	10	2	0	120	27	0	0	0
130	28	14	1	0	130	29	4	3	40
140	31	0	0	0	140	31	9	0	0
150	33	3	6	0	150	33	13	3	40
160	35	7	5	0	160	36	0	0	0

64 Porters.					1300				
Ells.	Sp.	No.	Sk.	Th.	Ells.	Sp.	No.	Sk.	Th.
1	0	4	0	64	1	0	4	1	20
2	0	8	1	48	2	0	8	2	40
3	0	12	2	32	3	0	12	3	60
4	0	16	3	16	4	0	16	5	0
5	1	2	4	0	5	1	2	6	20
6	1	6	4	64	6	1	7	0	40
7	1	10	5	48	7	1	11	1	60
8	1	14	6	32	8	1	15	3	0
9	2	1	0	16	9	2	1	4	20
10	2	5	1	0	10	2	5	5	40
11	2	9	1	64	11	2	9	6	60
12	2	13	2	48	12	2	14	1	0
13	2	17	3	32	13	3	0	2	20
14	3	3	4	16	14	3	4	3	40
15	3	7	5	0	15	3	8	4	60
16	3	11	5	64	16	3	12	6	0
17	3	15	6	48	17	3	17	0	20
18	4	2	0	32	18	4	3	1	40
19	4	6	1	16	19	4	7	2	60
20	4	10	2	0	20	4	11	4	0
30	6	15	3	0	30	6	17	2	40
40	9	2	4	0	40	9	5	1	0
50	11	7	5	0	50	11	10	6	40
60	13	12	6	0	60	13	16	5	0
70	16	0	0	0	70	16	4	3	40
80	18	5	1	0	80	18	10	2	0
90	20	10	2	0	90	20	16	0	40
100	22	15	3	0	100	23	3	6	0
110	25	2	4	0	110	25	9	4	40
120	27	7	5	0	120	27	15	3	0
130	29	12	6	0	130	30	3	1	40
140	32	0	0	0	140	32	9	0	0
150	34	5	1	0	150	34	14	5	40
160	36	10	2	0	160	37	2	4	0

66 Porters.					67 Porters.				
Ells.	Sp.	No.	Sk.	Th.	Ells.	Sp.	No.	Sk	Th.
1	0	4	1	56	1	0	4	2	12
2	0	8	3	32	2	0	8	4	24
3	0	12	5	8	3	0	12	6	36
4	0	16	6	64	4	0	17	1	48
5	1	3	1	40	5	1	3	3	60
6	1	7	3	16	6	1	7	5	72
7	1	11	4	73	7	1	12	1	4
8	1	15	6	48	8	1	16	3	16
9	2	2	1	24	9	2	2	5	28
10	2	6	3	0	10	2	7	0	40
11	2	10	4	56	11	2	11	2	52
12	2	14	6	32	12	2	15	4	64
13	3	1	1	8	13	3	1	6	76
14	3	5	2	64	14	3	6	2	8
15	3	9	4	40	15	3	10	4	20
16	3	13	6	16	16	3	14	6	32
17	4	0	0	72	17	4	1	1	44
18	4	4	2	48	18	4	5	3	56
19	4	8	4	24	19	4	9	5	68
20	4	12	6	0	20	4	14	1	0
30	7	1	2	0	30	7	3	1	40
40	9	7	5	0	40	9	10	2	0
50	11	14	1	0	50	11	17	2	40
60	14	2	4	0	60	14	6	3	0
70	16	9	0	0	70	16	13	3	40
80	18	15	3	0	80	19	2	4	0
90	21	3	6	0	90	21	9	4	40
100	23	10	2	0	100	23	16	5	0
110	25	16	5	0	110	26	5	5	40
120	28	5	1	0	120	28	12	6	0
130	30	11	4	0	130	31	1	6	40
140	33	0	0	0	140	33	9	0	0
150	35	6	3	0	150	35	16	0	40
160	37	12	6	0	160	38	5	1	0

	68 Porters.					69 Porters.				
Ells.	Sp.	No.	Sk.	Th.		Ells.	Sp.	No.	Sk.	Th.
1	0	4	2	48		1	0	4	3	4
2	0	8	5	16		2	0	8	6	8
3	0	13	0	64		3	0	13	2	12
4	0	17	3	32		4	0	17	5	16
5	1	3	6	0		5	1	4	1	20
6	1	8	1	48		6	1	8	4	24
7	1	12	4	16		7	1	13	0	28
8	1	16	6	64		8	1	17	3	32
9	2	3	2	32		9	2	3	6	36
10	2	7	5	0		10	2	8	2	40
11	2	12	0	48		11	2	12	5	44
12	2	16	3	16		12	2	17	1	48
13	3	2	5	64		13	3	3	4	52
14	3	7	1	32		14	3	8	0	56
15	3	11	4	0		15	3	12	3	60
16	3	15	6	48		16	3	16	6	64
17	4	2	2	16		17	4	3	2	68
18	4	6	4	64		18	4	7	5	72
19	4	11	0	32		19	4	12	1	76
20	4	15	3	0		20	4	16	5	0
30	7	5	1	0		30	7	7	0	40
40	9	12	6	0		40	9	15	3	0
50	12	2	4	0		50	12	5	5	40
60	14	10	2	0		60	14	14	1	0
70	17	0	0	0		70	17	4	3	40
80	19	7	5	0		80	19	12	6	0
90	21	15	3	0		90	22	3	1	40
100	24	5	1	0		100	24	11	4	0
110	26	12	6	0		110	27	1	6	40
120	29	2	4	0		120	29	10	2	0
130	31	10	2	0		130	32	0	4	40
140	34	0	0	0		140	34	9	0	0
150	36	7	5	0		150	36	17	2	40
160	38	15	3	0		160	39	7	5	0

	1400					1500				
Ells.	Sp.	No.	Sk.	Th.		Ells.	Sp.	No.	Sk.	Th.
1	0	4	3	40		1	0	4	5	60
2	0	9	0	0		2	0	9	4	40
3	0	13	3	40		3	0	14	3	20
4	1	0	0	0		4	1	1	2	0
5	1	4	3	40		5	1	6	0	60
6	1	9	0	0		6	1	10	6	40
7	1	13	3	40		7	1	15	5	20
8	2	0	0	0		8	2	2	4	0
9	2	4	3	40		9	2	7	2	60
10	2	9	0	0		10	2	12	1	40
11	2	13	3	40		11	2	17	0	20
12	3	0	0	0		12	3	3	6	0
13	3	4	3	40		13	3	8	4	60
14	3	9	0	0		14	3	13	3	40
15	3	13	3	40		15	4	0	2	20
16	4	0	0	0		16	4	5	1	0
17	4	4	3	40		17	4	9	6	60
18	4	9	0	0		18	4	14	5	40
19	4	13	3	40		19	5	1	4	20
20	5	0	0	0		20	5	6	3	0
30	7	9	0	0		30	8	0	4	40
40	10	0	0	0		40	10	12	6	0
50	12	9	0	0		50	13	7	0	40
60	15	0	0	0		60	16	1	2	0
70	17	9	0	0		70	18	13	3	40
80	20	0	0	0		80	21	7	5	0
90	22	9	0	0		90	24	1	6	40
100	25	0	0	0		100	26	14	1	0
110	27	9	0	0		110	29	8	2	40
120	30	0	0	0		120	32	2	4	0
130	32	9	0	0		130	34	14	5	40
140	35	0	0	0		140	37	9	0	0
150	37	9	0	0		150	40	3	1	40
160	40	0	0	0		160	42	15	3	0

1600					1700				
Ells.	Sp.	No.	Sk.	Th.	Ells.	Sp.	No.	Sk.	Th.
1	0	5	1	0	1	0	5	3	20
2	0	10	2	0	2	0	10	6	40
3	0	15	3	0	3	0	16	2	60
4	1	2	4	0	4	1	3	6	0
5	1	7	5	0	5	1	9	2	20
6	1	12	6	0	6	1	14	5	40
7	2	0	0	0	7	2	2	1	60
8	2	5	1	0	8	2	7	5	0
9	2	10	2	0	9	2	13	1	20
10	2	15	3	0	10	3	0	4	40
11	3	2	4	0	11	3	6	0	60
12	3	7	5	0	12	3	11	4	0
13	3	12	6	0	13	3	17	0	20
14	4	0	0	0	14	4	4	3	40
15	4	5	1	0	15	4	9	6	60
16	4	10	2	0	16	4	15	3	0
17	4	15	3	0	17	5	2	6	20
18	5	2	4	0	18	5	8	2	40
19	5	7	5	0	19	5	13	5	60
20	5	12	6	0	20	6	1	2	0
30	8	10	2	0	30	9	1	6	40
40	11	7	5	0	40	12	2	4	0
50	14	5	1	0	50	15	3	1	40
60	17	2	4	0	60	18	3	6	0
70	20	0	0	0	70	21	4	3	40
80	22	15	3	0	80	24	5	1	0
90	25	12	6	0	90	27	5	5	40
100	28	10	2	0	100	30	6	3	0
110	31	7	5	0	110	33	7	0	40
120	34	5	1	0	120	36	7	5	0
130	37	2	4	0	130	39	8	2	40
140	40	0	0	0	140	42	9	0	0
150	42	15	3	0	150	45	9	4	40
160	45	12	6	0	160	48	10	2	0

1800					1900				
Ells.	Sp.	No.	Sk.	Th.	Ells.	Sp.	No	Sk.	Th.
1	0	5	5	40	1	0	6	0	60
2	0	11	4	0	2	0	12	1	40
3	0	17	2	40	3	1	0	2	20
4	1	5	1	0	4	1	6	3	0
5	1	10	6	40	5	1	12	3	60
6	1	16	5	0	6	2	0	4	40
7	2	4	3	40	7	2	6	5	20
8	2	10	2	0	8	2	12	6	0
9	2	16	0	40	9	3	0	6	60
10	3	3	6	0	10	3	7	0	40
11	3	9	4	40	11	3	13	1	20
12	3	15	3	0	12	4	1	2	0
13	4	3	1	40	13	4	7	2	60
14	4	9	0	0	14	4	13	3	40
15	4	14	5	40	15	5	1	4	20
16	5	2	4	0	16	5	7	5	0
17	5	8	2	40	17	5	13	5	60
18	5	14	1	0	18	6	1	6	40
19	6	1	6	40	19	6	8	0	20
20	6	7	5	0	20	6	14	1	0
30	9	11	4	0	30	10	3	1	40
40	12	15	3	0	40	13	10	2	0
50	16	1	2	0	50	16	17	2	40
60	19	5	1	0	60	20	6	3	0
70	22	9	0	0	70	23	13	3	40
80	25	12	6	0	80	27	2	4	0
90	28	16	5	0	90	30	9	4	40
100	32	2	4	0	100	33	16	5	0
110	35	6	3	0	110	37	5	5	40
120	38	10	2	0	120	40	12	6	0
130	41	14	1	0	130	44	1	6	40
140	45	0	0	0	140	47	9	0	0
150	48	3	6	0	150	50	16	0	40
160	51	7	5	0	160	54	5	1	0

Ells.	2000 Sp.	No.	Sk.	Th.	Ells.	2100 Sp.	No.	Sk.	Th.
1	0	6	3	0	1	0	6	5	20
2	0	12	6	0	2	0	13	3	40
3	1	1	2	0	3	1	2	1	60
4	1	7	5	0	4	1	9	0	0
5	1	14	1	0	5	1	15	5	20
6	2	2	4	0	6	2	4	3	40
7	2	9	0	0	7	2	11	1	60
8	2	15	3	0	8	3	0	0	0
9	3	3	6	0	9	3	6	5	20
10	3	10	2	0	10	3	13	3	40
11	3	16	5	0	11	4	2	1	60
12	4	5	1	0	12	4	9	0	0
13	4	11	4	0	13	4	15	5	20
14	5	0	0	0	14	5	4	3	40
15	5	6	3	0	15	5	11	1	60
16	5	12	6	0	16	6	0	0	0
17	6	1	2	0	17	6	6	5	20
18	6	7	5	0	18	6	13	3	40
19	6	14	1	0	19	7	2	1	60
20	7	2	4	0	20	7	9	0	0
30	10	12	6	0	30	11	4	3	40
40	14	5	1	0	40	15	0	0	0
50	17	15	3	0	50	18	13	3	40
60	21	7	5	0	60	22	9	0	0
70	25	0	0	0	70	26	4	3	40
80	28	10	2	0	80	30	0	0	0
90	32	2	4	0	90	33	13	3	40
100	35	12	6	0	100	37	9	0	0
110	39	5	1	0	110	41	4	3	40
120	42	15	3	0	120	45	0	0	0
130	46	7	5	0	130	48	13	3	40
140	50	0	0	0	140	52	9	0	0
150	53	10	2	0	150	56	4	3	40
160	57	2	4	0	160	60	0	0	0

Ells.	2200 Sp.	No.	Sk.	Th.	Ells.	2300 Sp.	No.	Sk.	Th.
1	0	7	0	40	1	0	7	2	60
2	0	14	1	0	2	0	14	5	40
3	1	3	1	40	3	1	4	1	20
4	1	10	2	0	4	1	11	4	0
5	1	17	2	40	5	2	0	6	60
6	2	6	3	0	6	2	8	2	40
7	2	13	3	40	7	2	15	5	20
8	3	2	4	0	8	3	5	1	0
9	3	9	4	40	9	3	12	3	60
10	3	16	5	0	10	4	1	6	40
11	4	5	5	40	11	4	9	2	20
12	4	12	6	0	12	4	16	5	0
13	5	1	6	40	13	5	6	0	60
14	5	9	0	0	14	5	13	3	40
15	5	16	0	40	15	6	2	6	20
16	6	5	1	0	16	6	10	2	0
17	6	12	1	40	17	6	17	4	60
18	7	1	2	0	18	7	7	0	40
19	7	8	2	40	19	7	14	3	20
20	7	15	3	0	20	8	3	6	0
30	11	14	1	0	30	12	5	5	40
40	15	12	6	0	40	16	7	5	0
50	19	11	4	0	50	20	9	4	40
60	23	10	2	0	60	24	11	4	0
70	27	9	0	0	70	28	13	3	40
80	31	7	5	0	80	32	15	3	0
90	35	6	3	0	90	36	17	2	40
100	39	5	1	0	100	41	1	2	0
110	43	3	6	0	110	45	3	1	40
120	47	2	4	0	120	49	5	1	0
130	51	1	2	0	130	53	7	0	40
140	55	0	0	0	140	57	9	0	0
150	58	16	5	0	150	61	10	6	40
160	62	15	3	0	160	65	12	6	0

2400					2500				
Ells.	Sp.	No.	Sk.	Th.	Ells.	Sp.	No.	Sk.	Th.
1	0	7	5	0	1	0	8	0	20
2	0	15	3	0	2	0	16	0	40
3	1	5	1	0	3	1	6	0	60
4	1	12	6	0	4	1	14	1	0
5	2	2	4	0	5	2	4	1	20
6	2	10	2	0	6	2	12	1	40
7	3	0	0	0	7	3	2	1	60
8	3	7	5	0	8	3	10	2	0
9	3	15	3	0	9	4	0	2	20
10	4	5	1	0	10	4	8	2	40
11	4	12	6	0	11	4	16	2	60
12	5	2	4	0	12	5	6	3	0
13	5	10	2	0	13	5	14	3	20
14	6	0	0	0	14	6	4	3	40
15	6	7	5	0	15	6	12	3	60
16	6	5	3	0	16	7	2	4	0
17	7	5	1	0	17	7	10	4	20
18	7	12	6	0	18	8	0	4	40
19	8	2	4	0	19	8	8	4	60
20	8	10	2	0	20	8	16	5	0
30	12	15	3	0	30	13	7	0	40
40	17	2	4	0	40	17	15	3	0
50	21	7	5	0	50	22	5	5	40
60	25	12	6	0	60	26	14	1	0
70	30	0	0	0	70	31	4	3	40
80	34	5	1	0	80	35	12	6	0
90	38	10	2	0	90	40	3	1	40
100	42	15	3	0	100	44	11	4	0
110	47	2	4	0	110	49	1	6	40
120	51	7	5	0	120	53	10	2	0
130	55	12	6	0	130	58	0	4	40
140	60	0	0	0	140	62	9	0	0
150	64	5	1	0	150	66	17	2	40
160	68	10	2	0	160	71	7	5	0

2600					2700				
Ells.	Sp.	No.	Sk.	Th.	Ells.	Sp.	No.	Sk	Th.
1	0	8	2	40	1	0	8	4	60
2	0	16	5	0	2	0	17	2	40
3	1	7	0	40	3	1	8	0	20
4	1	15	3	0	4	1	16	5	0
5	2	5	5	40	5	2	7	2	60
6	2	14	1	0	6	2	16	0	40
7	3	4	3	40	7	3	6	5	20
8	3	12	6	0	8	3	15	3	0
9	4	3	1	40	9	4	6	0	60
10	4	11	4	0	10	4	14	5	40
11	5	1	6	40	11	5	5	3	20
12	5	10	2	0	12	5	14	1	0
13	6	0	4	40	13	6	4	5	60
14	6	9	0	0	14	6	13	3	40
15	6	17	2	40	15	7	4	1	20
16	7	7	5	0	16	7	12	6	0
17	7	16	0	40	17	8	3	3	60
18	8	6	3	0	18	8	12	1	40
19	8	14	5	40	19	9	2	6	20
20	9	5	1	0	20	9	11	4	0
30	13	16	5	0	30	14	8	2	40
40	18	10	2	0	40	19	5	1	0
50	23	3	6	0	50	24	1	6	40
60	27	15	3	0	60	28	16	5	0
70	32	9	0	0	70	33	13	3	40
80	37	2	4	0	80	38	10	2	0
90	41	14	1	0	90	43	7	0	40
100	46	7	5	0	100	48	3	6	0
110	51	1	2	0	110	53	0	4	40
120	55	12	6	0	120	57	15	3	0
130	60	6	3	0	130	62	12	1	40
140	65	0	0	0	140	67	9	0	0
150	69	11	4	0	150	72	5	5	40
160	74	5	1	0	160	77	2	4	0

2800					2900				
Ells.	Sp.	No.	Sk.	Th.	Ells.	Sp.	No.	Sk.	Th.
1	0	9	0	0	1	0	9	2	20
2	1	0	0	0	2	1	0	4	40
3	1	9	0	0	3	1	9	6	60
4	2	0	0	0	4	2	1	2	0
5	2	9	0	0	5	2	10	4	20
6	3	0	0	0	6	3	1	6	40
7	3	9	0	0	7	3	11	1	60
8	4	0	0	0	8	4	2	4	0
9	4	9	0	0	9	4	11	6	20
10	5	0	0	0	10	5	3	1	40
11	5	9	0	0	11	5	12	3	60
12	6	0	0	0	12	6	3	6	0
13	6	9	0	0	13	6	13	1	20
14	7	0	0	0	14	7	4	3	40
15	7	9	0	0	15	7	13	5	60
16	8	0	0	0	16	8	5	1	0
17	8	9	0	0	17	8	14	3	20
18	9	0	0	0	18	9	5	5	40
19	9	9	0	0	19	9	15	0	60
20	10	0	0	0	20	10	6	3	0
30	15	0	0	0	30	15	9	4	40
40	20	0	0	0	40	20	12	6	0
50	25	0	0	0	50	25	16	0	40
60	30	0	0	0	60	31	1	2	0
70	35	0	0	0	70	36	4	3	40
80	40	0	0	0	80	41	7	5	0
90	45	0	0	0	90	46	10	6	40
100	50	0	0	0	100	51	14	1	0
110	55	0	0	0	110	56	17	2	40
120	60	0	0	0	120	62	2	4	0
130	65	0	0	0	130	67	5	5	40
140	70	0	0	0	140	72	9	0	0
150	75	0	0	0	150	77	12	1	40
160	80	0	0	0	160	82	15	3	0

3000				
Ells.	Sp.	No.	Sk.	Th.
1	0	9	2	40
2	1	1	4	0
3	1	10	6	40
4	2	2	4	0
5	2	12	1	40
6	3	3	6	0
7	3	13	3	40
8	4	5	1	0
9	4	14	5	40
10	5	6	3	0
11	5	16	0	40
12	6	7	5	0
13	6	17	2	40
14	7	9	0	0
15	8	0	4	40
16	8	10	2	0
17	9	1	6	40
18	9	11	4	0
19	10	3	1	40
20	10	12	6	0
30	16	1	2	0
40	21	7	5	0
50	26	14	1	0
60	32	2	4	0
70	37	9	0	0
80	42	15	3	0
90	48	3	6	0
100	53	10	2	0
110	58	16	5	0
120	64	5	1	0
130	69	11	4	0
140	75	0	0	0
150	80	6	3	0
160	85	12	6	0

Explanation of the following Eighteen Tables.

The following Tables shew how to Camb or Set different kinds of Cotton Cloth, (the reed being on 37 inches.) On the head of the columns is marked the name of the cloth; each page is divided into six parts, and each part into three columns; the first column of each part contains the hundreds of the reed; the second, the number of the warp; and the third, the number of the weft. On the head of the columns *H. reed* stands for the hundreds of the reed, *No. wp.* the number of the warp, *No. weft*, the number of the weft.

EXAMPLE.

Suppose you are to make a 1300 Cambric—look on the head of the parts for Cambric, then look in the first column under Cambric and you will find 13 hundreds; and in the same line of the other columns you will find the number of the warp to be 45, and the weft 49, &c.

Note. As Cambing Tables cannot be made to please every manufacturer, (as they differ so much in setting,) and suit every purpose, the following Tables are constructed so as to make a good fabric of cloth, each of its kind, and may be varied as it is found necessary in the course of the market.

By adding the numbers for any two sets together and then halving them, gives you the No. of yarn aequired for the half set betwixt the sets, &c.

Shirting.			*Cambric.*			*Jaconets.*		
H. reed	No. wp.	No. weft.	H. reed	No. wp.	No. weft.	H. reed	No. wp.	No. weft.
8	12	13	12	38	42	8	33	43
9	15	16	13	45	49	9	41	55
10	18	20	14	51	57	10	51	68
11	23	24	15	49	66	11	62	82
12	27	29	16	68	75	12	74	98
13	32	34	17	76	84	13	87	115
14	37	39	18	85	94	14	100	133
15	43	45	19	95	105	15	115	152
16	48	51	20	106	117	16	131	173
			21	116	129			
			22	128	141			
			23	104	154			
			24	152	168			

Cossea.			*Sheeting.*			*Weft Stripe.*		
H. reed	No. wp.	No. weft.	H. reed	No wp.	No. weft.	H. reed	No. wp.	No. weft.
9	34	35	6	9	7	9	20	16
10	41	43	7	12	10	10	24	19
11	50	52	8	16	13	11	29	23
12	58	62	9	20	16	12	35	28
			10	24	20			
			11	29	25			
			12	35	29			

Note. The Sheeting is weaved in a three leaf tweel, three in the split.

Tweel Shawl. H. reed	No. wp.	No. weft.	*Check Gingham* H. reed	No. wp.	No. weft.	*Strip Gingham.* H. reed	No. wp.	No. weft.
10	23	26	10	26	30	10	20	30
11	28	31	11	31	36	11	25	37
12	33	37	12	37	43	12	29	44
13	40	48	13	44	50	13	34	52
14	46	50	14	51	58	14	40	60
15	53	57	15	58	66	15	46	69
16	60	65	16	66	76	16	52	78

Callico. H. reed	No. wp.	No. weft.	*Check.* H. reed	No. wp.	No. weft.	*Umbrella Cloth.* H. reed	No. wp.	No. weft.
7	13	14	8	15	11	10	24	30
8	17	18	9	19	13	11	28	37
9	21	23	10	23	16	12	34	44
10	26	28	11	28	20	13	40	52
11	32	34	12	33	23	14	46	60

Note. The borders of the Umbrella Cloth (if any) may be made of a coarse number, or put in double.

Tweeling & Plain Curtain Cloth. H. reed	No. wp.	No. weft.	*Lawn Ground.* H. reed	No. wp.	No. weft.	*Plain Gauze.* H. reed	No. wp.	No. weft.
9	15	15	8	45	50	7	57	52
10	19	19	9	57	63	8	63	68
11	23	23	10	70	78	9	80	87
12	27	27	11	85	95	10	99	107
13	32	32	12	102	112	11	120	130
14	37	37	13	120	132	12	142	154
			14	138	153			
			15	158	176			
			16	180	200			

Pullicate. H. reed	No. wp.	No. weft.	*Mull.* H. reed	No. wp.	No. weft.	*Book.* H. reed	No. wp.	No. weft.
8	24	24	8	55	62	8	65	72
9	31	31	9	70	78	9	82	91
10	38	38	10	86	97	10	101	112
11	46	46	11	104	117	11	122	136
12	55	55	12	124	140	12	144	162
13	64	64	13	145	169	13	171	190
14	74	74	14	168	190	14	189	200
			15	193	218			

Note. The colour of the Tweeling and Plain, is Weaved three in the split, and the white two, if a three leaf Tweel; the colour four, and the white two, if four leaf Satin Tweel; and of Pullicates there are so many different kinds, viz. Common, French, Madeiras, Superfine, &c. that there is only one subjoined, viz. Common, which may be varied from, to the different fabrics, as their wefts are made considerably smaller.

Explanation of the Twenty-third Table.

The following Table shews how much warp any number of bouts will give run with any number of runners, advancing by one runner from 5 to 124 runners. Each page is divided into 7 parts, and each part, except the first, into 2 columns—on the head of the pages is marked the number of runners. Run. stands for runners: B. for Bouts; P. for Porters, and S. for Splits.

EXAMPLE I.

Suppose 15 bouts run with 81 runners, how much warp will be in the web? Look on the head of the pages for 81 runners, then look below, and in the same line with 15 bouts you will find 60 porters and 15 splits, which is the warp in the web.

EXAMPLE II.

Suppose a web having 72 porters warp to be run with 96 runners, how many bouts will be required to produce the warp? Look on the head of the pages for 96 runners, then look below, and in the same line with 72 porters, you will find 15 bouts; which is the bouts required to produce the warp.

If you have more than 30 bouts, double, or add any number, that will produce the number you want; and if more than 124 runners double or add, any number, that will produce the number you want.

	5 Run.		6 Run.		7 Run.		8 Run.		9 Run.		10 Run.	
B.	P.	S.	P.	S.	P.	S.	P.	S.	P.	S.	P.	S.
1	0	5	0	6	0	7	0	8	0	9	0	10
2	0	10	0	12	0	14	0	16	0	18	1	0
3	0	15	0	18	1	1	1	4	1	7	1	10
4	1	0	1	4	1	8	1	12	1	16	2	0
5	1	5	1	10	1	15	2	0	2	5	2	10
6	1	10	1	16	2	2	2	8	2	14	3	0
7	1	15	2	2	2	9	2	16	3	3	3	10
8	2	0	2	8	2	16	3	4	3	12	4	0
9	2	5	2	14	3	3	3	12	4	1	4	10
10	2	10	3	0	3	10	4	0	4	10	5	0
11	2	15	3	6	3	17	4	8	4	19	5	10
12	3	0	3	12	4	4	4	16	5	8	6	0
13	3	5	3	18	4	11	5	4	5	17	6	10
14	3	10	4	4	4	18	5	12	6	6	7	0
15	3	15	4	10	5	5	6	0	6	15	7	10
16	4	0	4	16	5	12	6	8	7	4	8	0
17	4	5	5	2	5	19	6	16	7	13	8	10
18	4	10	5	8	6	0	7	4	8	2	9	0
19	4	15	5	14	6	13	7	12	8	11	9	10
20	5	0	6	0	7	0	8	0	9	0	10	0
21	5	5	6	6	7	7	8	8	9	9	10	10
22	5	10	6	12	7	14	8	16	9	18	11	0
23	5	15	6	18	8	1	9	4	10	7	11	10
24	6	0	7	4	8	8	9	12	10	16	12	0
25	6	5	7	10	8	15	10	0	11	5	12	10
26	6	10	7	16	9	2	10	8	11	14	13	0
27	6	15	8	2	9	9	10	16	12	3	13	10
28	7	0	8	8	9	16	11	4	12	12	14	0
29	7	5	8	14	10	3	11	12	13	1	14	10
30	7	10	9	0	10	10	12	0	13	10	15	0

	11 Run.		12 Run.		13 Run.		14 Run.		15 Run.		16 Run.	
B.	P.	S.	P.	S.	P.	S.	P.	S.	P.	S.	P.	S.
1	0	11	0	12	0	13	0	14	0	15	0	16
2	1	2	1	4	1	6	1	8	1	10	1	12
3	1	13	1	16	1	19	2	2	2	5	2	8
4	2	4	2	8	2	12	2	16	3	0	3	4
5	2	15	3	0	3	5	3	10	3	15	4	0
6	3	6	3	12	3	18	4	4	4	10	4	16
7	3	17	4	4	4	11	4	18	5	5	5	12
8	4	8	4	16	5	4	5	12	6	0	6	8
9	4	19	5	8	5	17	6	6	6	15	7	4
10	5	10	6	0	6	10	7	0	7	10	8	0
11	6	1	6	12	7	3	7	14	8	5	8	16
12	6	12	7	4	7	16	8	8	9	0	9	12
13	7	3	7	16	8	9	9	2	9	15	10	8
14	7	14	8	8	9	2	9	16	10	10	11	4
15	8	5	9	0	9	15	10	10	11	5	12	0
16	8	16	9	12	10	8	11	4	12	0	12	16
17	9	7	10	4	11	1	11	18	12	15	13	12
18	9	18	10	16	11	14	12	12	13	10	14	8
19	10	9	11	8	12	7	13	6	14	5	15	4
20	11	0	12	0	13	0	14	0	15	0	16	0
21	11	11	12	12	13	13	14	14	15	15	16	16
22	12	2	13	4	14	6	15	8	16	10	17	12
23	12	13	13	16	14	19	16	2	17	5	18	8
24	13	4	14	8	15	12	16	16	18	0	19	4
25	14	15	15	0	16	5	17	10	18	15	20	0
26	14	6	15	12	16	18	18	4	19	10	20	16
27	15	17	16	4	17	11	18	18	20	5	21	12
28	15	8	16	16	17	4	19	12	21	0	22	8
29	16	19	17	8	18	17	20	6	21	15	23	4
30	16	16	18	0	19	10	21	0	22	10	24	0

K

	17 Run.		18 Run.		19 Run.		20 Run.		21 Run.		22 Run.	
B.	P.	S.	P.	S.	P.	S.	P.	S.	P.	S.	P.	S.
1	0	17	0	18	0	19	1	0	1	1	1	2
2	1	14	1	16	1	18	2	0	2	2	2	4
3	2	11	2	14	2	17	3	0	3	3	3	6
4	3	8	3	12	3	16	4	0	4	4	4	8
5	4	5	4	10	4	15	5	0	5	5	5	10
6	5	2	5	8	5	14	6	0	6	6	6	12
7	5	19	6	6	6	13	7	0	7	7	7	14
8	6	18	7	4	7	12	8	0	8	8	8	16
9	7	15	8	2	8	11	9	0	9	9	9	18
10	8	10	9	0	9	10	10	0	10	10	11	0
11	9	7	9	18	10	9	11	0	11	11	12	2
12	10	4	10	16	11	8	12	0	12	12	13	4
13	11	1	11	14	12	7	13	0	13	13	14	6
14	11	18	12	12	13	6	14	0	14	14	15	8
15	12	15	13	10	14	5	15	0	15	15	16	10
16	13	12	14	8	15	4	16	0	16	16	17	12
17	14	9	15	6	16	3	17	0	17	17	18	14
18	15	6	16	4	17	2	18	0	18	18	19	16
19	16	3	17	2	18	1	19	0	19	19	20	18
20	17	0	18	0	19	0	20	0	21	0	22	0
21	17	17	18	18	19	19	21	0	22	1	23	2
22	18	14	19	16	20	18	22	0	23	2	24	4
23	19	11	20	14	21	17	23	0	24	3	25	6
24	20	8	21	12	22	16	24	0	25	4	26	8
25	21	5	22	10	23	15	25	0	26	5	27	10
26	22	2	23	8	24	14	26	0	27	6	28	12
27	22	19	24	6	25	13	27	0	28	7	29	14
28	23	16	25	4	26	12	28	0	29	8	30	16
29	24	13	26	2	27	11	29	0	30	9	31	18
30	25	10	27	0	28	10	30	0	31	10	33	0

23 Run.			24 Run.		25 Run.		26 Run.		27 Run.		28 Run.	
B.	P.	S.	P.	S.	P.	S.	P.	S.	P.	S.	P.	S.
1	1	3	1	4	1	5	1	6	1	7	1	8
2	2	6	2	8	2	10	2	12	2	14	2	16
3	3	9	3	12	3	15	3	18	4	1	4	4
4	4	12	4	16	5	0	5	4	5	8	5	12
5	5	15	6	0	6	5	6	10	6	15	7	0
6	6	18	7	4	7	10	7	16	8	2	8	8
7	8	1	8	8	8	15	9	2	9	9	9	16
8	9	4	9	12	10	0	10	8	10	16	11	4
9	10	7	10	16	11	5	11	14	12	3	12	12
10	11	10	12	0	12	10	13	0	13	10	14	0
11	12	13	13	4	13	15	14	6	14	17	15	8
12	13	16	14	8	15	0	15	12	16	4	16	16
13	14	19	15	12	16	5	16	18	17	11	18	4
14	16	2	16	16	17	10	18	4	18	18	19	12
15	17	5	18	0	18	15	19	10	20	5	21	0
16	18	8	19	4	20	0	20	16	21	12	22	8
17	19	11	20	8	21	5	22	2	22	19	23	16
18	20	14	21	12	22	10	23	8	24	6	25	4
19	21	17	22	16	23	15	24	14	25	13	26	12
20	23	0	24	0	25	0	26	0	27	0	28	0
21	24	3	25	4	26	5	27	6	28	7	29	8
22	25	6	26	8	27	10	28	12	29	14	30	16
23	26	9	27	12	28	15	29	18	31	1	32	4
24	27	12	28	16	30	0	31	4	32	8	33	12
25	28	15	30	0	31	5	32	10	33	15	35	0
26	29	18	31	4	32	10	33	16	35	2	36	8
27	31	1	32	8	33	15	35	2	36	9	37	16
28	32	4	33	12	35	0	36	8	37	16	39	4
29	33	7	34	16	36	5	37	14	39	3	40	12
30	34	10	36	0	37	10	39	0	40	10	42	0

29 Run.			30 Run.		31 Run.		32 Run.		33 Run.		34 Run.	
B.	P.	S.	P.	S.	P.	S.	P.	S.	P.	S,	P.	S.
1	1	9	1	10	1	11	1	12	1	13	1	14
2	2	18	3	0	3	2	3	4	3	6	3	8
3	4	7	4	10	4	13	4	16	4	19	5	2
4	5	16	6	0	6	4	6	8	6	12	6	16
5	7	5	7	10	7	15	8	0	8	5	8	10
6	8	14	9	0	9	6	9	12	9	18	10	4
7	10	3	10	10	10	17	11	4	11	11	11	18
8	11	12	12	0	12	8	12	16	13	4	13	12
9	13	1	13	10	13	19	14	8	14	17	15	6
10	14	10	15	0	15	10	16	0	16	10	17	0
11	15	19	16	10	17	1	17	12	18	3	18	14
12	17	8	18	0	18	12	19	4	19	16	20	8
13	18	17	19	10	20	3	20	16	21	9	22	2
14	20	6	21	0	21	14	22	8	23	2	23	16
15	21	15	22	10	23	5	24	0	24	15	25	10
16	23	4	24	0	24	16	25	12	26	8	27	4
17	24	13	25	10	26	7	27	4	28	1	28	18
18	26	2	27	0	27	18	28	16	29	14	30	12
19	27	11	28	10	29	9	30	8	31	7	32	6
20	29	0	30	0	31	0	32	0	33	0	34	0
21	30	9	31	10	32	11	33	12	34	13	35	14
22	31	18	33	0	34	2	35	4	36	6	37	8
23	33	7	34	10	35	13	36	16	37	19	39	2
24	34	16	36	0	37	4	38	8	39	12	40	16
25	36	5	37	10	38	15	40	0	41	5	42	10
26	37	14	39	0	40	6	41	12	42	18	44	4
27	39	3	40	10	41	17	43	4	44	11	45	18
28	40	12	42	0	43	8	44	16	46	4	47	12
29	42	1	43	10	44	19	46	8	47	17	49	6
30	43	10	45	0	46	10	48	0	49	10	51	0

	35 Run.		36 Run.		37 Run.		38 Run.		39 Run.		40 Run.	
B.	P.	S.	P.	S.	P.	S.	P.	S.	P.	S.	P.	S.
1	1	15	1	16	1	17	1	18	1	19	2	0
2	3	10	3	12	3	14	3	16	3	18	4	0
3	5	5	5	8	5	11	5	14	5	17	6	0
4	7	0	7	4	7	8	7	12	7	16	8	0
5	8	15	9	0	9	5	9	10	9	15	10	0
6	10	10	10	16	11	2	11	8	11	14	12	0
7	12	5	12	12	12	19	13	6	13	13	14	0
8	14	0	14	8	14	16	15	4	15	12	16	0
9	15	15	16	4	16	13	17	2	17	11	18	0
10	17	10	18	0	18	10	19	0	19	10	20	0
11	19	5	19	16	20	7	20	18	21	9	22	0
12	21	0	21	12	22	4	22	16	23	8	24	0
13	22	15	23	8	24	1	24	14	25	7	26	0
14	24	10	25	4	25	18	26	12	27	6	28	0
15	26	5	27	0	27	15	28	10	29	5	30	0
16	28	0	28	16	29	12	30	8	31	4	32	0
17	29	15	30	12	31	9	32	6	33	3	34	0
18	31	10	32	8	33	6	34	4	35	2	36	0
19	33	5	34	4	35	3	36	2	37	1	38	0
20	35	0	36	0	37	0	38	0	39	0	40	0
21	36	15	37	16	38	17	39	18	40	19	42	0
22	38	10	39	12	40	14	41	16	42	18	44	0
23	40	5	41	8	42	11	43	14	44	17	46	0
24	42	0	43	4	44	8	45	12	46	16	48	0
25	43	15	45	0	46	5	47	10	48	15	50	0
26	45	10	46	16	48	2	49	8	50	14	52	0
27	47	5	48	12	49	19	51	6	52	13	54	0
28	49	0	50	8	51	16	53	4	54	12	56	0
29	50	15	52	4	53	13	55	2	56	11	58	0
30	52	10	54	0	55	10	57	0	58	10	60	0

	41 Run.		42 Run.		43 Run.		44 Run.		45 Run.		46 Run.	
B.	P.	S.	P.	S.	P.	S.	P.	S.	P.	S.	P.	S.
1	2	1	2	2	2	3	2	4	2	5	2	6
2	4	2	4	4	4	6	4	8	4	10	4	12
3	6	3	6	6	6	9	6	12	6	15	6	18
4	8	4	8	8	8	12	8	16	9	0	9	4
5	10	5	10	10	10	15	11	0	11	5	11	10
6	12	6	12	12	12	18	13	4	13	10	13	16
7	14	7	14	14	15	1	15	8	15	15	16	2
8	16	8	16	16	17	4	17	12	18	0	18	8
9	18	9	18	18	19	7	19	16	20	5	20	14
10	20	10	21	0	21	10	22	0	22	10	23	0
11	22	11	23	2	23	13	24	4	24	15	25	6
12	24	12	25	4	25	16	26	8	27	0	27	12
13	26	13	27	6	27	19	28	12	29	5	29	18
14	28	14	29	8	30	2	30	16	31	10	32	4
15	30	15	31	10	32	5	33	0	33	15	34	10
16	32	16	33	12	34	8	35	4	36	0	36	16
17	34	17	35	14	36	11	37	8	38	5	39	2
18	36	18	37	16	38	14	39	12	40	10	41	8
19	38	19	39	18	40	17	41	16	42	15	43	14
20	41	0	42	0	43	0	44	0	45	0	46	0
21	43	1	44	2	45	3	46	4	47	5	48	6
22	45	2	46	4	47	6	48	8	49	10	50	12
23	47	3	48	6	49	9	50	12	51	15	52	18
24	49	4	50	8	51	12	52	16	54	0	55	4
25	51	5	52	10	53	15	55	0	56	5	57	10
26	53	6	54	12	55	18	57	4	58	10	59	16
27	55	7	56	14	58	1	59	8	60	15	62	2
28	57	8	58	16	60	4	61	12	63	0	64	8
29	59	9	60	18	62	7	63	16	65	5	66	14
30	61	10	63	0	64	10	66	0	67	10	69	0

47 Run.			48 Run.		49 Run.		50 Run.		51 Run.		52 Run.	
B.	P.	S.	P.	S.	P.	S.	P.	S.	P.	S.	P.	S.
1	2	7	2	8	2	9	2	10	2	11	2	12
2	4	14	4	16	4	18	5	0	5	2	5	4
3	7	1	7	4	7	7	7	10	7	13	7	16
4	9	8	9	12	9	16	10	0	10	4	10	8
5	11	15	12	0	12	5	12	10	12	15	13	0
6	14	2	14	8	14	14	15	0	15	6	15	12
7	16	9	16	16	17	3	17	10	17	17	18	4
8	18	16	19	4	19	12	20	0	20	8	20	16
9	21	3	21	12	22	1	22	10	22	19	23	8
10	23	10	24	0	24	10	25	0	25	10	26	0
11	25	17	26	8	26	19	27	10	28	1	28	12
12	28	4	28	16	29	8	30	0	30	12	31	4
13	30	14	31	4	31	17	32	10	33	3	33	16
14	32	18	33	12	34	6	35	0	35	14	36	8
15	35	5	36	0	36	15	37	10	38	5	39	0
16	37	12	38	8	39	4	40	0	40	16	41	12
17	39	19	40	16	41	13	42	10	43	7	44	4
18	42	6	43	4	44	2	45	0	45	18	46	16
19	44	13	45	12	49	11	47	10	48	9	49	8
20	47	0	48	0	49	0	50	0	51	0	52	0
21	49	7	50	8	51	9	52	10	53	11	54	12
22	51	14	52	16	53	18	55	0	56	2	57	4
23	54	1	55	4	56	7	57	10	58	13	59	16
24	56	8	57	12	58	16	60	0	61	4	62	8
25	58	15	60	0	61	5	62	10	63	15	65	0
26	61	2	62	8	63	14	65	0	66	6	67	12
27	63	9	64	16	66	3	67	10	68	17	70	4
28	65	16	67	4	68	12	70	0	71	8	72	16
29	68	3	69	12	71	1	72	10	73	19	75	8
30	70	10	72	0	73	10	75	0	76	10	78	0

53 Run.			54 Run.		55 Run.		56 Run,		57 Run.		58 Run.	
B.	P.	S.	P.	S.	P.	S.	P.	S.	P.	S.	P.	S.
1	2	13	2	14	2	15	2	16	2	17	2	18
2	5	6	5	8	5	0	5	12	5	14	5	16
3	7	19	8	2	8	5	8	8	8	11	8	14
4	10	12	10	16	11	0	11	4	11	8	11	12
5	13	5	13	10	13	15	14	0	14	5	14	10
6	15	18	16	4	16	10	16	16	17	2	17	8
7	18	11	18	18	19	0	19	12	19	19	20	6
8	21	4	21	12	22	5	22	8	22	16	23	4
9	23	17	24	6	24	15	25	4	25	13	26	2
10	26	10	27	0	27	10	28	0	28	10	29	0
11	29	3	29	14	30	0	30	16	31	7	31	18
12	31	16	32	8	33	5	33	12	34	4	34	16
13	34	9	35	2	36	15	36	8	37	1	37	14
14	37	2	37	16	38	10	39	4	39	18	40	12
15	39	15	40	10	41	5	42	0	42	15	43	10
16	42	8	43	4	44	0	44	16	45	12	46	8
17	45	1	45	18	46	15	47	12	48	9	49	6
18	47	14	48	12	49	10	50	8	51	6	52	4
19	50	7	51	6	52	5	53	4	54	3	55	2
20	53	0	54	0	55	0	56	0	57	0	58	0
21	55	13	56	14	57	15	58	16	59	17	60	18
22	58	6	59	8	60	10	61	12	62	14	63	16
23	60	19	62	2	63	5	64	8	65	11	66	14
24	63	12	64	16	66	0	67	4	68	8	69	12
25	66	5	67	10	68	15	70	0	71	5	72	10
26	68	18	70	4	71	10	72	16	74	2	75	8
27	71	11	72	18	74	5	75	12	76	19	78	6
28	74	4	75	12	77	0	78	8	79	16	81	4
29	76	17	78	6	79	15	81	4	82	13	84	2
30	79	10	81	0	82	10	84	0	85	10	87	0

	59 Run.		60 Run.		61 Run.		62 Run.		63 Run.		64 Run.	
B.	P.	S.	P.	S.	P.	S.	P.	S.	P.	S.	P.	S.
1	2	19	3	0	3	1	3	2	3	3	3	4
2	5	18	6	0	6	2	6	4	6	6	6	8
3	8	17	9	0	9	3	9	6	9	9	9	12
4	11	16	12	0	12	4	12	8	12	12	12	16
5	14	15	15	0	15	5	15	10	15	15	16	0
6	17	14	18	0	18	6	18	12	18	18	19	4
7	20	13	21	0	21	7	21	14	22	1	22	8
8	23	12	24	0	24	8	24	16	25	4	25	12
9	26	11	27	0	27	9	27	18	28	7	28	16
10	29	10	30	0	30	10	31	0	31	10	32	0
11	32	9	33	0	33	11	34	2	34	13	35	4
12	35	8	36	0	36	12	37	4	37	16	38	8
13	38	7	39	0	39	13	40	6	40	19	41	12
14	41	6	42	0	42	14	43	8	44	2	44	16
15	44	5	45	0	45	15	46	10	47	5	48	0
16	47	4	48	0	48	16	49	12	50	8	51	4
17	50	3	51	0	51	17	52	14	53	11	54	8
18	53	2	54	0	54	18	55	16	56	14	57	12
19	56	1	57	0	57	19	58	18	59	17	60	16
20	59	0	60	0	61	0	62	0	63	0	64	0
21	61	19	63	0	64	1	65	2	66	3	67	4
22	64	18	66	0	67	2	68	4	69	6	70	8
23	67	17	69	0	70	3	71	6	72	9	73	12
24	70	16	72	0	73	4	74	8	75	12	76	16
25	73	15	75	0	76	5	77	10	78	15	80	0
26	76	14	78	0	79	6	80	12	81	18	83	4
27	79	13	81	0	82	7	83	14	85	1	86	8
28	82	12	84	0	85	8	86	16	88	4	89	12
29	85	11	87	0	88	9	89	18	91	7	92	16
30	88	10	90	0	91	10	93	0	94	10	96	0

	65 Run.		66 Run.		67 Run.		68 Run.		69 Run.		70 Run.	
B.	P.	S.	P.	S.	P.	S.	P.	S.	P.	S.	P.	S.
1	3	5	3	6	3	7	3	8	3	9	3	10
2	6	10	6	12	6	14	6	16	6	18	7	0
3	9	15	9	18	10	1	10	4	10	7	10	10
4	13	0	13	4	13	8	13	12	13	16	14	0
5	16	5	16	10	16	15	17	0	17	5	17	10
6	19	10	19	16	20	2	20	8	20	14	21	0
7	22	15	23	2	23	9	23	16	24	3	24	10
8	26	0	26	8	26	16	27	4	27	12	28	0
9	29	5	29	14	30	3	30	12	31	1	31	10
10	32	10	33	0	33	10	34	0	34	10	35	0
11	35	15	36	6	36	17	37	8	37	19	38	10
12	39	0	39	12	40	4	40	16	41	8	42	0
13	42	5	42	18	43	11	44	4	44	17	45	10
14	45	10	46	4	46	18	47	12	48	6	49	0
15	48	15	49	10	50	5	51	0	51	15	52	10
16	52	0	52	16	53	12	54	8	55	4	56	0
17	55	5	56	2	56	19	57	16	58	13	59	10
18	58	10	59	8	60	6	61	4	62	2	63	0
19	61	15	62	14	63	13	64	12	65	11	66	10
20	65	0	66	0	67	0	68	0	69	0	70	0
21	68	5	69	6	70	7	71	8	72	9	73	10
22	71	10	72	12	73	14	74	16	75	13	77	0
23	74	15	75	18	77	1	78	4	79	7	80	10
24	78	0	79	4	80	8	81	12	82	16	84	0
25	81	5	82	10	83	15	85	0	86	5	87	10
26	84	10	85	16	87	2	88	8	89	14	91	0
27	87	15	89	2	90	9	91	16	93	3	94	10
28	91	0	92	8	93	16	95	4	69	12	98	0
29	94	5	95	4	97	3	98	12	100	1	101	10
30	97	10	99	0	100	10	102	0	103	10	105	0

	71 Run.		72 Run.		73 Run.		74 Run.		75 Run.		76 Run.	
B.	P.	S.	P.	S.	P.	S.	P.	S.	P.	S.	P.	S.
1	3	11	3	12	3	13	3	14	3	15	3	16
2	7	2	7	4	7	6	7	8	7	10	7	12
3	10	13	10	16	10	19	11	2	11	5	11	8
4	14	4	14	8	14	12	14	16	15	0	15	4
5	17	15	18	0	18	5	18	10	18	15	19	0
6	21	6	21	12	21	18	22	4	22	10	22	16
7	24	17	25	4	25	11	25	18	26	5	26	12
8	28	8	28	16	29	4	29	12	30	0	30	8
9	31	19	32	8	32	17	33	6	33	15	34	4
10	35	10	36	0	36	10	37	0	37	10	38	0
11	39	1	39	12	40	8	40	14	41	5	41	16
12	42	12	43	4	43	16	44	8	45	0	45	12
13	46	3	46	16	47	9	48	2	48	15	49	8
14	49	14	50	8	51	2	51	16	52	10	53	4
15	53	5	54	0	54	15	55	10	56	5	57	0
16	56	16	57	12	58	8	59	4	60	0	60	16
17	60	17	61	4	62	1	62	18	63	15	64	12
18	63	18	64	16	65	4	66	12	67	10	68	8
19	67	9	68	8	69	7	70	6	71	5	72	4
20	71	0	72	0	73	0	74	0	75	0	76	0
21	74	11	75	12	76	13	77	14	77	15	79	16
22	78	2	79	4	80	6	81	8	82	10	83	12
23	81	13	82	16	83	19	85	2	86	5	87	8
24	85	4	86	8	87	12	88	16	90	0	91	4
25	88	15	90	0	91	5	92	10	93	15	95	0
26	92	6	93	12	94	18	96	4	97	10	98	16
27	95	17	97	4	98	11	99	18	101	5	102	12
28	99	8	100	16	102	4	103	12	105	0	106	8
29	102	19	104	8	105	17	107	6	108	15	110	4
30	106	10	108	0	109	10	111	0	112	10	114	0

	77 Run.		78 Run.		79 Run.		80 Run.		81 Run.		82 Run.	
B.	P.	S.	P.	S.	P.	S.	P.	S.	P.	S.	P.	S.
1	3	17	3	18	3	19	4	0	4	1	4	2
2	7	14	7	16	7	18	8	0	8	2	8	4
3	11	11	11	14	11	17	12	0	12	3	12	6
4	15	8	15	12	15	16	16	0	16	4	16	8
5	19	5	19	10	19	15	20	0	20	5	20	10
6	23	2	23	8	23	14	24	0	24	6	24	12
7	26	19	27	6	27	13	28	0	28	7	28	14
8	30	16	31	4	31	12	32	0	32	8	32	16
9	34	13	35	2	35	11	36	0	36	9	36	18
10	38	10	39	0	39	10	40	0	40	10	41	0
11	42	7	42	18	43	9	44	0	44	11	45	2
12	46	4	46	16	47	8	48	0	48	12	49	4
13	50	1	50	14	51	7	52	0	52	13	53	6
14	53	18	54	12	55	6	56	0	56	14	57	8
15	57	15	58	10	59	5	60	0	60	15	61	10
16	61	12	62	8	63	4	64	0	64	16	65	12
17	65	9	66	6	67	3	68	0	68	17	69	14
18	69	6	70	4	71	2	72	0	72	18	73	16
19	73	3	74	2	75	1	76	0	76	19	77	18
20	77	0	78	0	79	0	80	0	81	0	82	0
21	80	17	81	18	82	19	84	0	85	1	86	2
22	84	14	85	16	86	18	88	0	89	2	90	4
23	88	11	89	14	90	17	92	0	93	3	94	6
24	92	8	93	12	94	16	96	0	97	4	98	8
25	96	5	97	10	98	15	100	0	101	5	102	10
26	102	2	101	8	102	14	104	0	105	6	106	12
27	103	19	105	6	106	13	108	0	109	7	110	14
28	107	16	109	4	110	12	112	0	113	8	114	16
29	111	13	113	2	114	11	116	0	117	9	118	18
30	115	10	117	0	118	10	120	0	121	10	123	0

	83 Run.		84 Run.		85 Run.		86 Run.		87 Run.		88 Run.	
B.	P.	S.	P.	S.	P.	S.	P.	S.	P.	S.	P.	S.
1	4	3	4	4	4	5	4	6	4	7	4	8
2	8	6	8	8	8	10	8	12	8	14	8	16
3	12	9	12	12	12	15	12	18	13	1	13	4
4	16	12	16	16	17	0	17	4	17	8	17	12
5	20	15	21	0	21	5	21	10	21	15	22	0
6	24	18	25	4	25	10	25	16	26	2	26	8
7	29	1	29	8	29	15	30	2	30	9	30	16
8	33	4	33	12	34	0	34	8	34	16	35	4
9	37	7	37	16	38	5	38	14	39	3	39	12
10	41	10	42	0	42	10	43	0	43	10	44	0
11	45	13	46	4	46	15	47	6	47	17	48	8
12	49	16	50	8	51	0	51	12	52	4	52	16
13	53	19	54	12	55	5	55	18	56	11	57	4
14	58	2	58	16	59	10	60	4	60	18	61	12
15	62	5	63	0	63	15	64	10	65	5	66	0
16	66	8	67	4	68	0	68	16	69	12	70	8
17	70	11	71	8	72	5	73	2	73	19	74	16
18	74	14	75	12	76	10	77	8	78	6	79	4
19	78	17	79	16	80	15	81	14	82	13	83	12
20	83	0	84	0	85	0	86	0	87	0	88	0
21	87	3	88	4	89	5	90	6	91	7	92	8
22	91	6	92	8	93	10	94	12	95	14	96	16
23	95	9	96	12	97	15	98	18	100	1	101	4
24	99	12	100	16	102	0	103	4	104	8	105	12
25	103	15	105	0	106	5	107	10	108	15	110	0
26	107	18	109	4	110	10	111	16	113	2	114	8
27	112	1	113	8	114	15	116	2	117	9	118	16
28	116	4	117	12	119	0	120	8	121	16	123	4
29	120	7	121	16	123	5	124	14	126	3	127	12
30	124	10	126	0	127	10	129	0	130	10	132	0

	89 Run.		90 Run.		91 Run.		92 Run.		93 Run.		94 Run.	
B.	P.	S.	P.	S.	P.	S.	P.	S.	P.	S.	P.	S.
1	4	9	4	10	4	11	4	12	4	13	4	14
2	8	18	9	0	9	2	9	4	9	6	9	8
3	13	7	13	10	13	13	13	16	13	19	14	2
4	17	16	18	0	18	4	18	8	18	12	18	16
5	22	5	22	10	22	15	23	0	23	5	23	10
6	26	14	27	0	27	6	27	12	27	18	28	4
7	31	3	31	10	31	17	32	4	32	11	32	18
8	35	12	36	0	36	8	36	16	37	4	37	12
9	40	1	40	10	40	19	41	8	41	17	42	6
10	44	10	45	0	45	10	46	0	46	10	47	0
11	48	19	49	10	50	1	50	12	51	3	51	14
12	53	8	54	0	54	12	55	4	55	16	56	8
13	57	17	58	10	59	3	59	16	60	9	61	2
14	62	6	63	0	63	14	64	8	65	2	65	16
15	66	15	67	10	68	5	69	0	69	15	70	10
16	71	4	72	0	72	16	73	12	74	8	75	4
17	75	13	76	10	77	7	78	4	79	1	79	18
18	80	2	81	0	81	18	82	16	83	14	84	12
19	84	11	85	10	86	9	87	8	88	7	89	6
20	89	0	90	0	91	0	92	0	89	0	94	0
21	93	9	94	10	95	11	96	12	97	13	98	14
22	97	18	99	0	100	2	101	4	102	6	103	8
23	102	7	103	10	104	13	105	16	106	19	108	2
24	106	16	108	0	109	4	110	8	111	12	112	16
35	111	5	112	10	113	15	115	0	116	5	117	10
26	115	14	117	0	118	6	119	12	120	18	122	4
27	120	3	121	10	122	17	124	4	125	11	126	18
28	124	12	126	0	127	8	128	16	130	4	131	12
29	129	1	130	10	131	19	133	8	134	17	136	6
30	133	10	135	0	136	10	138	0	139	10	141	0

	95Run.		96Run.		97Run.		98Run.		99Run.		100Run.	
B.	P.	S.	P.	S.	P.	S.	P.	S.	P.	S.	P.	S.
1	4	15	4	16	4	17	4	18	4	19	5	0
2	9	10	9	12	9	14	9	16	9	18	10	0
3	14	5	14	8	14	11	14	14	14	17	15	0
4	19	0	19	4	19	8	19	12	19	16	20	0
5	23	15	24	0	24	5	24	10	24	15	25	0
6	28	10	28	16	29	2	29	8	29	14	30	0
7	33	5	33	12	33	19	34	6	34	13	35	0
8	38	0	38	8	38	16	39	4	39	12	40	0
9	42	15	43	4	43	13	44	2	44	11	45	0
10	48	10	48	0	48	10	49	0	49	10	50	0
11	52	5	52	16	53	7	53	18	54	9	55	0
12	57	0	57	12	58	4	58	16	59	8	60	0
13	61	15	62	8	63	1	63	14	64	7	65	0
14	66	10	67	4	67	18	68	12	69	6	70	0
15	71	5	72	0	72	15	73	10	74	5	75	0
16	76	0	77	16	77	12	78	8	79	4	80	0
17	80	15	81	12	82	9	83	6	84	3	85	0
18	85	10	86	8	87	6	88	4	89	2	90	0
19	90	5	91	4	92	3	93	2	94	1	95	0
20	95	0	96	0	97	0	98	0	99	0	100	0
21	99	15	100	16	101	17	102	18	103	19	105	0
22	104	10	105	12	106	14	107	16	108	18	110	0
23	109	5	110	8	111	11	112	14	113	17	115	0
24	114	0	115	4	116	8	117	12	118	16	120	0
25	117	15	120	0	121	5	122	10	123	15	125	0
26	123	10	124	16	126	2	127	8	128	14	130	0
27	128	5	129	12	130	19	132	6	133	13	135	0
28	133	0	134	8	135	16	137	4	138	12	140	0
29	137	15	139	4	140	13	142	2	143	11	145	0
30	142	10	144	0	145	10	147	0	148	10	150	0

	101 Rn.		102Rn.		103Rn.		104Rn.		105Rn.		106Rn.	
B.	P.	S.	P.	S.	P.	S.	P.	S.	P.	S.	P.	S.
1	5	1	5	2	5	3	5	4	5	5	5	6
2	10	2	10	4	10	6	10	8	10	10	10	12
3	15	3	15	6	15	9	15	12	15	15	15	18
4	20	4	20	8	20	12	20	16	21	0	21	4
5	25	5	25	10	25	15	26	0	26	5	26	10
6	30	6	30	12	30	18	31	4	31	10	31	16
7	35	7	35	14	36	1	36	8	36	15	37	2
8	40	8	40	16	41	4	41	12	42	0	42	8
9	45	9	45	18	46	7	46	16	47	5	47	14
10	50	10	51	0	51	10	52	0	52	10	53	0
11	55	11	56	2	56	13	57	4	57	15	58	6
12	60	12	61	4	61	16	62	8	63	0	63	12
13	65	13	66	6	66	19	67	12	68	5	68	18
14	70	14	71	8	72	2	72	16	73	10	74	4
15	75	15	76	10	77	5	78	0	78	15	79	10
16	80	16	81	12	82	8	83	4	84	0	84	16
17	85	17	86	14	87	11	88	8	89	5	90	2
18	90	18	91	16	92	14	93	12	94	10	95	8
19	95	19	96	18	97	17	98	16	99	15	100	14
20	101	0	102	0	103	0	104	0	105	0	106	0
21	106	1	107	2	108	3	109	4	110	5	111	6
22	111	2	112	4	113	6	114	8	115	10	116	12
23	116	3	117	6	118	9	119	12	120	15	121	18
24	121	4	122	8	123	12	124	16	125	0	127	4
25	126	5	127	10	128	15	130	0	131	5	132	10
26	131	6	132	12	133	18	135	4	136	10	137	16
27	136	7	137	14	139	1	140	8	141	15	143	2
28	141	8	142	16	144	4	145	12	147	0	148	8
29	146	9	147	18	149	7	150	16	152	5	153	14
30	151	10	153	0	154	10	156	0	157	10	159	0

	107 Rn.		108Rn.		109Rn.		110Rn.		111Rn.		112Rn.	
B.	P.	S.	P.	S.	P.	S.	P.	S.	P.	S.	P.	S.
1	5	7	5	8	5	9	5	10	5	11	5	12
2	10	14	10	16	10	18	11	0	11	2	11	4
3	16	1	16	4	16	7	16	10	16	13	16	16
4	21	8	21	12	21	16	22	0	22	4	22	8
5	26	15	27	0	27	5	27	10	27	15	28	0
6	32	2	32	8	32	14	33	0	33	6	33	12
7	37	9	37	16	38	3	38	10	38	17	39	4
8	42	16	43	4	43	12	44	0	44	8	44	16
9	48	2	48	12	49	1	49	10	49	19	50	8
10	53	10	54	0	54	10	55	0	55	10	56	0
11	58	17	59	8	59	19	60	10	61	1	61	12
12	64	4	64	16	65	8	66	0	66	12	67	4
13	69	11	70	4	70	17	71	10	72	3	72	10
14	74	18	75	12	76	6	77	0	77	14	78	8
15	80	5	81	0	81	15	82	10	83	5	84	0
16	85	12	86	8	87	4	88	0	88	16	89	12
17	90	19	91	16	92	13	93	10	94	7	95	4
18	96	6	97	4	98	2	99	0	99	18	100	16
19	101	13	102	12	103	11	104	10	105	9	106	8
20	107	0	108	0	109	0	110	0	111	0	112	0
21	112	7	113	8	114	9	115	10	116	11	117	12
22	117	14	118	16	119	18	121	0	122	2	123	4
23	123	1	124	4	125	7	126	10	127	13	128	16
24	128	8	129	12	130	16	132	0	133	4	134	8
25	133	15	135	0	136	5	137	10	138	15	140	0
26	139	2	140	8	141	14	143	0	144	6	145	12
27	144	9	145	16	147	3	148	10	149	17	151	4
28	149	16	151	4	152	12	154	0	155	8	156	16
29	155	3	156	12	158	1	159	10	160	19	162	8
30	160	10	162	0	163	10	165	0	166	10	168	0

	113 Rn.		114Rn.		115Rn.		116Rn.		117Rn.		118Rn.	
B.	P.	S.	P.	S.	P.	S.	P.	S.	P.	S.	P.	S.
1	5	13	5	14	5	15	5	16	5	17	5	18
2	11	6	11	8	11	10	11	12	11	14	11	16
3	16	19	17	2	17	5	17	8	17	11	17	14
4	22	12	22	16	23	0	23	4	23	8	23	12
5	28	5	28	10	28	15	29	0	29	5	29	10
6	33	18	34	4	34	10	34	16	35	2	35	8
7	39	11	39	18	40	5	40	12	40	19	41	6
8	45	4	45	12	46	0	46	8	46	18	47	4
9	50	17	51	6	51	15	52	4	52	15	53	2
10	56	10	57	0	57	10	58	0	58	10	59	0
11	62	3	62	14	63	5	63	16	64	7	64	18
12	67	16	68	8	69	0	69	12	70	4	70	16
13	73	9	74	2	74	15	75	8	76	1	75	14
14	79	2	79	16	80	10	81	4	81	18	82	12
15	84	15	85	10	86	5	87	0	87	15	88	10
16	90	8	91	4	92	0	92	16	93	12	94	8
17	96	1	96	18	97	15	98	12	59	9	100	6
18	101	14	102	12	103	10	104	8	105	6	106	4
19	107	7	108	6	109	5	110	4	111	3	112	2
20	113	0	114	0	115	0	116	0	117	0	118	0
21	118	13	119	14	120	15	121	16	122	17	123	18
22	124	6	125	8	126	10	127	12	128	14	129	16
23	129	19	131	2	132	5	133	8	134	11	135	14
24	135	12	136	16	138	0	139	4	140	8	141	12
25	141	5	142	10	143	15	145	0	146	5	147	10
26	146	18	148	4	149	10	150	16	152	2	153	8
27	152	11	153	18	155	5	156	12	157	19	159	6
28	158	4	159	12	161	0	162	8	163	16	165	4
29	163	17	165	6	166	15	168	4	169	13	171	2
30	169	10	171	0	172	10	174	0	175	10	177	0

	119 Rn.		120Rn.		121Rn.		122Rn.		123Rn.		124Rn.	
B.	P.	S.	P.	S.	P.	S.	P.	S.	P.	S.	P.	S.
1	5	19	6	0	6	1	6	2	6	3	6	4
2	11	18	12	0	12	2	12	4	12	6	12	8
3	17	17	18	0	18	3	18	6	18	9	18	12
4	23	16	24	0	24	4	24	8	24	12	24	16
5	29	15	30	0	30	5	30	0	30	15	31	0
6	35	14	36	0	36	6	36	12	36	18	37	4
7	41	13	42	0	42	7	42	14	43	1	43	8
8	47	12	48	0	48	8	48	16	49	4	49	12
9	53	11	54	0	54	9	54	18	55	7	55	16
10	59	10	60	0	60	10	61	0	61	10	62	0
11	65	9	66	0	66	11	67	2	67	13	68	4
12	71	8	72	0	72	12	73	4	73	16	74	8
13	77	7	78	0	78	13	79	6	79	19	80	12
14	83	6	84	0	84	14	85	8	86	2	86	16
15	89	5	90	0	90	15	91	10	92	5	93	0
16	95	4	96	0	96	16	97	12	98	8	99	4
17	101	3	102	0	102	17	103	14	104	11	105	8
18	107	2	108	0	108	18	109	16	110	14	111	12
19	113	1	114	0	114	19	115	18	116	17	117	16
20	119	0	120	0	121	0	122	0	123	0	124	0
21	124	19	126	0	127	1	128	2	129	3	130	4
22	130	18	132	0	133	2	134	4	136	6	136	8
23	136	17	138	0	139	3	140	6	141	9	142	12
24	142	16	144	0	145	4	146	8	147	12	148	16
25	148	15	150	0	151	5	152	10	153	15	155	0
26	154	14	156	0	157	6	158	12	159	18	161	4
27	160	13	162	0	163	7	164	14	166	1	167	8
28	166	12	168	0	169	8	170	16	172	4	173	12
29	172	11	174	0	175	9	176	18	178	7	179	16
30	178	10	180	0	181	10	183	0	184	10	186	0

Explanation of the Twenty-fourth Table.

THE following Table shews the quantity of flour and water required for the starching any weight of Mull Yarn in the hank, from 1 to 2 hundred pounds. The page is divided into eight columns; in the first column is the quantity of yarn, the other columns contain the quantity of flour and water required for the starching any quantity of yarn, in the first column. On the head of the column Lbs. stands for Pounds, Oz. for Ounces, Dr. for Drams, Pt. for Pints, Ch. for Chopins, M. for Mutchkins, Gl. for Gills.

Suppose you are to starch any quantity of yarn, look in the first column for the quantity you intend to starch, and in the same line of the other columns you will find the quantity of flour and water for the starching of the yarn.

EXAMPLE.

Suppose you are to starch 50 Pounds of Yarn, look in the first column, and you will find 50 Pounds, and in the same line of the other columns you will find the quantity of flour to be 10 Pounds and the water 55 Pints, which are the quantities of flour and water required for the quantity of yarn.

Note. Some flour may require a little more water, and some a little less, owing to the strength or weakness of the flour.

Weight of Yarn.	Quantity of Flour.			Quantity of Water.			
lbs.	lbs.	oz.	dr.	Pt.	ch.	m.	gl.
1	0	3	3⅗	0	1	0	1
5	1	0	0	5	1	0	0
10	2	0	0	11	0	0	0
15	3	0	0	16	1	0	0
20	4	0	0	22	0	0	0
25	5	0	0	27	1	0	0
30	6	0	0	33	0	0	0
35	7	0	0	38	1	0	0
40	8	0	0	44	0	0	0
45	9	0	0	49	1	0	0
50	10	0	0	55	0	0	0
55	11	0	0	60	1	0	0
60	12	0	0	66	0	0	0
65	13	0	0	71	1	0	0
70	14	0	0	77	0	0	0
75	15	0	0	82	1	0	0
80	16	0	0	88	0	0	0
85	17	0	0	93	1	0	0
90	18	0	0	99	0	0	0
95	19	0	0	104	1	0	0
100	20	0	0	110	0	0	0
105	21	0	0	115	1	0	0
110	22	0	0	121	0	0	0
115	23	0	0	126	1	0	0
120	24	0	0	132	0	0	0
125	25	0	0	137	1	0	0
130	26	0	0	143	0	0	0
135	27	0	0	148	1	0	0
140	28	0	0	154	0	0	0

Weight of Yarn.	Quantity of Flour.			Quantity of Water.			
lbs.	lbs	oz.	dr.	Pt.	ch.	m.	gl.
145	29	0	0	159	1	0	0
150	30	0	0	165	0	0	0
155	31	0	0	170	1	0	0
160	32	0	0	176	0	0	0
165	33	0	0	181	1	0	0
170	34	0	0	187	0	0	0
175	35	0	0	192	1	0	0
180	36	0	0	198	0	0	0
185	37	0	0	203	1	0	0
190	38	0	0	209	0	0	0
195	39	0	0	214	1	0	0
200	40	0	0	220	0	0	0

Note. In starching Mull Yarn, the following things will be observed, viz fill up the Pot or Boiler with clean water and for every five pounds of Yarn you are to starch, put in one ounce of soft ashes, then when the water is warm put in the Yarn. (but before you put in the Yarn it will be necessary to put in a wooden hoop, cross warped with cords, to keep the Yarn from the bottom of the boiler,) press it down, cover it well with water, and boil it for about three hours, take it out and wring it well, turning it upon the wringers, then put your starch through a search, make it up as the table directs, (your flour must be steeped a day or two before) and while the starch is cold, for every 5 pounds of Yarn, put in 18 Drams of Alum: when it comes to

the boil put in your hoop, then your Yarn; boil it till you see the starch turn thin, then take it out and wring it, keeping it in mind to turn it upon the wringers. Care must be taken not to wring it too hard or too soft, as either would be equally injurious to the Yarn, and for this lay not too much upon the wringers at a time, and alike each time, observing always to give the wringers the same turn; after it is wrung it must be well pauped while warm betwixt the hands, to divide the starch, and open out the Yarn, (which will be highly advantageous to the Yarn in the after processes it has to go through), then put the Yarn upon polls, and turn it frequently, till it be perfectly dry, &c.

Yarn that is starched in the hank is put up in spindles or handfuls, by tieing a small cord round each spindle or handful, then it is bunched before it is put into the boiler in the following manner, viz: Put your hands into the double of the spindle or handful at opposite sides, keeping the left hand uppermost, give the right hand a turn out from you and bring it up cross over the middle of the spindle or handful, and catch hold of the side of the double next the breast; at the same time catch hold of the side of the double that lies on the back of the right hand with the left, then pull the hands out at opposite sides, still keeping the hold: but if the Yarn is a coarse number or the handful large, pull only one hand through with a side of the double in it. These are the two ways yarn is commonly made up.

Explanation of the Twenty-fifth Table.

THE following Table shews the quantity of flour and water required for the starching any weight of water twist Yarn in the hank, from 1 to 2 hundred pounds, the page is divided into eight columns, in the first column is the quantity of Yarn, the other columns contain the quantity of flour and water, required for the starching any quantity of yarn in the first column. On the head of the column Lbs. stands for Pounds, Oz. for Ounces, Dr. for Drams, Pt. for Pints, Ch. for Chopins, M. for Mutchkins, Gl. for Gills.

Suppose you are to starch any quantity of Yarn, look in the first column for the quantity you intend to starch, and in the same line of the other columns you will find the quantity of flour and water for the starching of the Yarn.

EXAMPLE.

Suppose you are to starch 80 Pounds of Yarn, look in the first column and you will find 80 pounds, and in the same line of the other columns, you will find the quantity of flour to be 8 Pounds, and the water 33 Pints, which is the quantity of flour and water required for the quantity of Yarn.

Note. Some flour may require a little more water, and some a little less, owing to the strength or weakness of the flour.

Quantity of Yarn.	Quantity of Flour.			Quantity of Water.			
lbs.	lbs.	oz.	dr.	pt.	ch.	m.	gl.
1	0	1	9½	0	0	1	3
5	0	8	0	2	0	0	1
10	1	0	0	4	0	0	2
15	1	8	0	6	0	0	3
20	2	0	0	8	0	1	0
25	2	8	0	10	0	1	1
30	3	0	0	12	0	1	2
35	3	8	0	14	0	1	3
40	4	0	0	16	1	0	0
45	4	8	0	18	1	0	1
50	5	0	0	20	1	0	2
55	5	8	0	22	1	0	3
60	6	0	0	24	1	1	0
65	6	8	0	26	1	1	1
70	7	0	0	28	1	1	2
75	7	8	0	30	1	1	3
80	8	0	0	33	0	0	0
85	8	8	0	35	0	0	1
90	9	0	0	37	0	0	2
95	9	8	0	39	0	0	3
100	10	0	0	41	0	1	0
105	10	8	0	43	0	1	1
110	11	0	0	45	0	1	2
115	11	8	0	47	0	1	3
120	12	0	0	49	1	0	0
125	12	8	0	51	1	0	1
130	13	0	0	53	1	0	2
135	13	8	0	55	1	0	3
140	14	0	0	57	1	1	0

N

Quantity of Yarn.	Quantity of Flour.			Quantity of Water.			
lbs.	lbs.	oz.	dr.	pts.	ch.	m.	gl.
145	14	8	0	59	1	1	1
150	15	0	0	61	1	1	2
155	15	8	0	63	1	1	3
160	16	0	0	66	0	0	0
165	16	8	0	68	0	0	1
170	17	0	0	70	0	0	2
175	17	8	0	72	0	0	3
180	18	0	0	74	0	1	0
185	18	8	0	76	0	1	1
190	19	0	0	78	0	1	2
195	19	8	0	80	0	1	3
200	20	0	0	82	0	1	0

Note. The process gone through with the water twist, is nearly the same as with the Mull, only it is unnecessary, except the Yarn be soft, to use either Ashes or Alum; and instead of boiling it among the starch as Mull yarn is, it is put through the starch with the hand, turning it round that it may receive the starch alike, (the starch is put through a search and made up as the Table directs,) then brought to the boil and taken out into a tub, the yarn put through it, pauped on a pin, wrung, &c. in the same manner as the Mull Yarn.

Explanation of the Twenty-Sixth Table.

The following Table shews the quantity of flour and water required for the starching any Chain of a Web, from 1 to 24 pounds weight. On the head of the columns, Lbs. stands for Pounds, Oz. for Ounces, Dr. for Drams, Pts. for Pints, Ch. for Choppins, M. for Mutchkins, Gl. for Gills.

Suppose you are to starch the Chain of a Web of any weight, look in the first column for the weight of the Chain you intend to starch, and in the same line of the other columns you will find the quantity of flour and water for the starching of the Chain.

EXAMPLE.

Suppose you are to starch the Chain of a Web weighing 10 pounds, look in the first column and you will find 10 pounds, and in the same line of the other columns you will find the quantity of flour to be 15 Ounces 6 Drams, and the quantity of water 10 Pints, which are the quantities of flour and water required.

Note, If there are more than 24 pounds in the Chain, or Chains, add any two numbers together, with the quantities of flour and water, that will make out the number you want.

Weight of the Chain.	Quantity of Flour.			Quantity of Water.			
lbs.	lbs	oz.	dr.	pt.	ch.	m.	gl.
1	0	1	8	1	0	0	0
2	0	3	1	2	0	0	0
3	0	4	10	3	0	0	0
4	0	6	2	4	0	0	0
5	0	7	11	5	0	0	0
6	0	9	3	6	0	0	0
7	0	10	12	7	0	0	0
8	0	12	5	8	0	0	0
9	0	13	13	9	0	0	0
10	0	15	6	10	0	0	0
11	1	0	14	11	0	0	0
12	1	2	7	12	0	0	0
13	1	4	0	13	0	0	0
14	1	5	8	14	0	0	0
15	1	7	1	15	0	0	0
16	1	8	10	16	0	0	0
17	1	10	2	17	0	0	0
18	1	11	11	18	0	0	0
19	1	13	3	19	0	0	0
20	1	14	12	20	0	0	0
21	2	0	5	21	0	0	0
22	2	1	14	22	0	0	0
23	2	3	6	23	0	0	0
24	2	4	14	24	0	0	0

Note The foregoing Table is only for webs that have been starched formerly, and have turned a little soft; and the following rules may be observed, viz. Make the water come to the boil, and put in

the dough through a search; make it up as the table directs, then make it come to the boil again, at the same time have the web laid loosely in a tub or vessel fit for the purpose, with the end that the small rods are put into uppermost. and a small cord in the double hanging over the tub or vessel, to keep you from loseing the end of the chain, and for entering it in through the bore; also for every 6 pounds weight of chain, put among the starch a gill of white wine vinegar, or in the same proportion if under 6 pounds (which will keep the threads a little open) then pour the liquor through a search upon the web, and press the web down: cover it over with a woollen cloth for 20 minutes or half an hour, then draw it through the bore. Care must be taken that it be not too tight nor too slack in the bore, as being too tight would press out overmuch starch, and by being too slack would leave it too wet. The bore may be either made of wood or brass, and a little wider on the side in which the chain is entered, something like the form of the mouth of a dram glass. After the chain is drawn through, put it upon poles in a regular manner to keep it from falling, or being torn: turn it frequently in the course of drying, roll it up in such a manner that the end of the chain that is laid in the evener (raith or ravel) may come out of the middle.

Explanation of the Twenty-Seventh Table.

The following Table shews the quantity of flour and water required for the starching any Chain of a Web that has been warped off the cops, from one to 24 pounds weight. On the head of the columns, Lbs. stands for Pounds, Oz. for Ounces, Dr. for Drams, Pts. for Pints, Ch. for Choppins, M. for Mutchkins, Gl. for Gills.

Suppose you are to starch the Chain of a web of any weight, look in the first column for the weight of Chain you intend to starch, and in the same line of the other columns you will find the quantity of flour and water for the starching of the Chain.

EXAMPLE.

Suppose you are to starch the Chain of a Web, warped off the cops, weighing 12 pounds, look in the first column and you will find 12 pounds, and in the same line of the other columns you will find the quantity of flour to be 1 Pound 13 Ounces 8 Drams, and the quantity of water 12 Pints; which are the quantities of flour and water required.

Note, If there are more than 24 pounds in the Chain, or Chains, add any number with the quantities of flour and water, that will make out the number you want.

Weight of the Chain.	Quantity of Flour.			Quantity of Water.			
lbs.	lbs.	oz.	dr.	pt.	ch.	m.	gl.
1	0	2	$7\frac{5}{11}$	1	0	0	0
2	0	4	15	2	0	0	0
3	0	7	6	3	0	0	0
4	0	9	13	4	0	0	0
5	0	12	4	5	0	0	0
6	0	14	12	6	0	0	0
7	1	1	3	7	0	0	0
8	1	3	11	8	0	0	0
9	1	6	2	9	0	0	0
10	1	8	10	10	0	0	0
11	1	11	1	11	0	0	0
12	1	13	8	12	0	0	0
13	2	0	0	13	0	0	0
14	2	2	7	14	0	0	0
15	2	5	0	15	0	0	0
16	2	7	5	16	0	0	0
17	2	9	13	17	0	0	0
18	2	12	5	18	0	0	0
19	2	14	12	19	0	0	0
20	3	1	3	20	0	0	0
21	3	3	0	21	0	0	0
22	3	6	2	22	0	0	0
23	3	8	10	23	0	0	0
24	3	8	5	24	0	0	0

Note. In starching webs warped off the cops, the following things may be observed, viz. While the water is cold, for every 5 Pounds weight of a Chain, add one ounce of soft ashes; and boil the web, or webs, three hours among clean water, with a cross warped wooden hoop in the bottom, to prevent the yarn adhering to the boiler, then take it out and draw it through a bore to press out the water, at the same time have the starch made up as the table directs; and for every 5 pounds weight of chain, put in 13 drams of alum; also for every 6 pounds weight of chain, add a gill of white wine vinegar, then bring it to the boil, and put it into a tub, then put the web among the starch, laying it down in a regular manner, keeping the end for the small rods uppermost, with a small cord in the double; press it down, cover it up 15 minutes with a woollen cloth, then draw it through a bore, the same as webs that have turned soft; pole, turn, and dry it, then roll it up in such a manner that the end of the chain that is laid into the evener (raith or ravel) may come out of the middle.

On the whole, yarn and webs in the starching, ought to be well handled, and every precaution ought to be taken not to tear or break the yarn, and also to divide the starch and keep the yarn in an open state. Likewise the quality of the yarn must be attended to as well as the quality of the flour; some yarn will require more boiling, and some will require more flour to starch the same quantity; and some kinds of flour will not sufficiently starch the same quantity of yarn as others kinds will do; but these variations we leave to the judgment and experience of the starcher, &c.

Explanation of the Twenty-Eighth Table.

The following Table shews what evener (raith or ravel) will be required for the beaming of any web from 12 Nails to 6-4ths. The page is divided into 3 parts, and each part into three columns; the first column of each part contains the pinfuls which may be in the web, the second and third columns contain the scores and pins upon ell of evener required for the beaming of the pinfuls in the first columns to make them stand to the breadth marked on the head of the columns. On the head of the columns, Pf. stands for pinfuls, S. for scores, P. for pins.

EXAMPLE.

Suppose a web having 240 pinfuls, what evener will be required to beam it 5 4ths? Look in the first column of one of the parts under 5-4ths and you will find 240 pinfuls, and in the 2d and 3d columns you will find the evener required, to be an 8 score and 14 pins, which is the evener required to make it stand 5-4ths.

Note. In the following table, allowance is made for the building of the heads; but, as eveners are generally made upon 5 and 10 pins, the nearest numbers must be taken; for instance, if the evener required be a 5 score and 8 pins, the evener to be taken is 5 score and 10, which is the nearest; also, respect must be paid to the length and fineness of the web, and likewise to the stretch betwixt the beam and camb.

EXAMPLE.

If the web is long, the yarn coarse, and the stretch short betwixt the beam and camb, and the evener required a 5 score and 8 pins, the evener that should be taken, must be a 5 score, or a 5 score and 5 pins; on the contrary, if the web is short, the yarn small, and the stretch long betwixt the beam and the camb, the evener to be taken should be a 5 score and 10, or a 5 score and 15 pins, &c.

Also, in some places, and by some people, eveners are counted by hundreds; thus, suppose 140 pins upon ell of an evener required for the beaming of a web, every 10 pins of the evener is called a hundred, by putting all the figures in 140 except the last, in the place of hundreds makes it 14 hundreds; this way of counting will answer equally as well as by scores, as the one way an evener having 140 pins on ell is called a 7 score evener, and the other way a 14 hundred.

12 Nails.			12 Nails.			12 Nails.		
Pf.	S.	P.	Pf.	S.	P.	Pf.	S.	P.
50	3	0	80	4	16	110	6	12
51	3	1	81	4	18	111	6	14
52	3	2	82	4	19	112	6	15
53	3	3	83	5	0	113	6	16
54	3	5	84	5	1	114	6	17
55	3	6	85	5	2	115	6	18
56	3	7	86	5	3	116	6	19
57	3	9	87	5	6	117	7	1
58	3	10	88	5	7	118	7	2
59	3	11	89	5	8	119	7	3
60	3	12	90	5	8	120	7	4
61	3	13	91	5	9	121	7	5
62	3	14	92	5	10	122	7	6
63	3	16	93	5	12	123	7	8
64	3	17	94	5	13	124	7	9
65	3	18	95	5	14	125	7	10
66	4	0	96	5	16	126	7	12
67	4	0	97	5	17	127	7	13
68	4	1	98	5	17	128	7	14
69	4	3	99	5	19	129	7	15
70	4	4	100	6	0	130	7	16
71	4	5	101	6	1	131	7	17
72	4	7	102	6	3	132	7	19
73	4	8	103	6	4	133	8	0
74	4	9	104	6	5	134	8	1
75	4	10	105	6	6	135	8	2
76	4	11	106	6	7	136	8	3
77	4	12	107	6	8	137	8	8
78	4	14	108	6	10	138	8	6
79	4	15	109	6	11	139	8	7

12 Nails.			12 Nails.			12 Nails.		
Pf.	S.	P.	Pf.	S.	P.	Pf.	S.	P.
140	8	8	170	10	4	200	12	0
141	8	10	171	10	6			
142	8	11	172	10	7	13 Nails.		
143	8	11	173	10	8	Pf.	S	P.
144	8	13	174	10	9	60	3	6
145	8	14	175	10	10	61	3	8
146	8	15	176	10	11	62	3	9
147	8	17	177	10	13	63	3	10
148	8	18	178	10	14	64	3	11
149	8	19	179	10	15	65	3	12
150	9	0	180	10	16	66	3	13
151	9	1	181	10	17	67	3	14
152	9	2	182	10	18	68	3	15
153	9	4	183	10	19	69	3	17
154	9	5	184	11	1	70	3	18
155	9	6	185	11	2	71	3	19
156	9	8	186	11	3	72	4	0
157	9	9	187	11	4	73	4	1
158	9	10	188	11	5	74	4	2
159	9	11	189	11	7	75	4	3
160	9	12	190	11	8	76	4	4
161	9	13	191	11	9	77	4	5
162	9	15	192	11	10	78	4	6
163	9	16	193	11	11	79	4	8
164	9	17	194	11	13	80	4	9
165	9	18	195	11	14	81	4	10
166	10	0	196	11	15	82	4	11
167	10	1	197	11	16	83	4	12
168	10	2	198	11	18	84	4	13
169	10	3	199	11	19	85	4	14

13 Nails.			13 Nails.			13. Nails.		
Pf.	S.	P.	Pf.	S.	P.	Pf.	S.	P.
86	4	15	116	6	9	146	8	2
87	4	17	117	6	10	147	8	3
88	4	18	118	6	11	148	8	4
89	4	19	119	6	12	149	8	5
90	5	0	120	6	13	150	8	6
91	5	1	121	6	14	151	8	7
92	5	2	122	6	15	152	8	9
93	5	3	123	6	16	153	8	10
94	5	4	124	6	17	154	8	11
95	5	5	125	6	18	155	8	12
96	5	7	126	7	0	156	8	13
97	5	8	127	7	1	157	8	14
98	5	9	128	7	2	158	8	15
99	5	10	129	7	3	159	8	16
100	5	11	130	7	4	160	8	18
101	5	12	131	7	5	161	8	19
102	5	13	132	7	6	162	8	0
103	5	14	133	7	6	163	9	1
104	5	16	134	7	8	164	9	2
105	5	17	135	7	9	165	9	3
106	5	18	136	7	10	166	9	4
107	5	19	137	7	11	167	9	5
108	6	0	138	7	13	168	9	6
109	6	1	139	7	14	169	9	8
110	6	2	140	7	15	170	9	9
111	6	3	141	7	16	171	9	10
112	6	4	142	7	17	172	9	11
113	6	6	143	7	18	173	9	12
114	6	7	144	8	0	174	9	13
115	6	8	145	8	1	175	9	14

13 Nails.			13 Nails.			7 8ths.		
Pf.	S.	P.	Pf	S	P.	Pf.	S.	P.
176	9	15	206	11	8	92	4	14
177	9	16	207	11	9	93	4	15
178	9	18	208	11	10	94	4	16
179	9	19	209	11	12	95	4	18
180	10	0	210	11	13	96	4	19
181	10	1				97	5	0
182	10	2	7-8ths.			98	5	1
183	10	3	Pf.	S.	P.	99	5	2
184	10	4	70	3	12	100	5	3
185	10	5	71	3	13	101	5	4
186	10	6	72	3	14	102	5	5
187	10	7	73	3	15	103	5	6
188	10	8	74	3	16	104	5	7
189	10	9	75	3	17	105	5	8
190	10	10	76	3	18	106	5	9
191	10	11	77	3	19	107	5	10
192	10	13	78	4	0	108	5	11
193	10	14	79	4	1	109	5	12
194	10	15	80	4	2	110	5	13
195	10	16	81	4	3	111	5	14
196	10	17	82	4	4	112	5	15
197	10	18	83	4	5	113	5	16
198	10	19	84	4	6	114	5	17
199	11	0	85	4	8	115	5	18
200	11	2	86	4	9	116	5	19
201	11	3	87	4	10	117	6	0
202	11	4	88	4	10	118	6	1
203	11	5	89	4	11	119	6	2
204	11	6	90	4	12	120	6	3
205	11	7	91	4	13	121	6	4

7-8ths.			7-8ths.			7-8ths.		
Pf.	S.	P.	Pf.	S.	P.	Pf.	S.	P.
122	6	5	152	7	17	182	9	7
123	6	6	153	7	18	183	9	8
124	6	7	154	7	19	184	9	9
125	6	8	155	8	0	185	9	10
126	6	9	156	8	1	186	9	11
127	6	10	157	8	2	187	9	12
128	6	12	158	8	2	188	9	13
129	6	13	159	8	3	189	9	14
130	6	14	160	8	4	190	9	16
131	6	15	161	8	5	191	9	17
132	6	16	162	8	6	192	9	18
133	6	17	163	8	7	193	9	18
134	6	18	164	8	8	194	9	19
135	6	19	165	8	10	195	10	0
136	7	0	166	8	11	196	10	1
137	7	1	167	8	12	197	10	2
138	7	2	168	8	13	198	10	3
139	7	3	169	8	14	199	10	4
140	7	4	170	8	15	100	10	5
141	7	5	171	8	16	101	10	6
142	7	6	172	8	17	102	10	7
143	7	7	173	8	18	103	10	8
144	7	8	174	8	19	104	10	9
145	7	9	175	9	0	105	10	11
146	7	10	176	9	1	106	10	12
147	7	12	177	9	2	107	10	13
148	7	13	178	9	3	108	10	14
149	7	14	179	9	4	109	10	15
150	7	15	180	9	5	110	10	16
151	7	16	181	9	6	111	10	17

7-8ths.			15 Nails.			15 Nails.		
Pf.	S.	P	Pf.	S.	P.	Pf.	S.	P.
212	10	18	93	4	9	123	5	18
213	10	19	94	4	10	124	5	19
214	11	0	95	4	11	125	6	0
215	11	1	96	4	12	126	6	1
216	11	2	97	4	13	127	6	2
217	11	3	98	4	14	128	6	3
218	11	4	99	4	15	129	6	4
219	11	5	100	4	16	130	6	5
220	11	6	101	4	17	131	6	6
			102	4	18	132	6	7
15 Nails.			103	4	19	133	6	8
Pf	S.	P.	104	5	0	134	6	9
75	3	12	105	5	1	135	6	10
76	3	13	106	5	2	136	6	11
77	3	14	107	5	3	137	6	12
78	3	15	108	5	4	138	6	13
79	3	16	109	5	5	139	6	14
80	3	17	110	5	6	140	6	15
81	3	18	111	5	7	141	6	16
82	3	19	112	5	8	142	6	17
83	4	0	113	5	9	143	6	18
84	4	1	114	5	9	144	6	19
85	4	1	115	5	10	145	6	19
86	4	2	116	5	11	146	7	0
87	4	3	117	5	12	147	7	1
88	4	4	118	5	13	148	7	2
89	4	5	119	5	14	149	7	3
90	4	6	120	5	15	150	7	4
91	4	7	121	5	16	151	7	5
92	4	8	122	5	17	152	7	6

15 Nails.			15 Nails.			15 Nails.		
Pf.	S.	P.	Pf.	S.	P.	Pf.	S.	P.
153	7	7	183	8	16	213	10	5
154	7	8	184	8	17	214	10	6
155	7	9	185	8	18	215	10	7
156	7	10	186	8	19	216	10	8
157	7	11	187	9	0	217	10	9
158	7	12	188	9	1	218	10	10
159	7	13	189	9	2	219	10	11
160	7	13	190	9	2	220	10	12
161	7	14	191	9	3	221	10	13
162	7	15	192	9	4	222	10	14
163	7	16	193	9	5	223	10	15
164	7	17	194	9	6	224	10	16
165	7	18	195	9	7	225	10	17
166	7	19	196	9	8	226	10	18
167	8	0	197	9	9	227	10	19
168	8	1	198	9	10	228	10	19
169	8	2	199	9	11	229	11	0
170	8	3	200	9	12	230	11	1
171	8	4	201	9	13			
172	8	5	202	9	14	4-4ths.		
173	8	6	203	9	15	Pf.	S.	P.
174	8	7	204	9	16	90	4	1
175	8	8	205	9	17	91	4	2
176	8	9	206	9	18	92	4	3
177	8	10	207	9	19	93	4	4
178	8	11	208	10	0	94	4	5
179	8	12	209	10	1	95	4	6
180	8	13	210	10	2	96	4	7
181	8	14	211	10	3	97	4	8
182	8	15	212	10	4	98	4	9
				P				

4-4ths.			4-4ths.			4-4ths.		
Pf.	S.	P.	Pf.	S.	P.	Pf.	S.	P.
99	4	10	129	5	17	159	7	4
100	4	10	130	5	17	160	7	4
101	4	11	131	5	18	161	7	5
102	4	12	132	5	19	162	7	6
103	4	13	133	6	0	163	7	7
104	4	14	134	6	1	164	7	8
105	4	15	135	6	2	165	7	9
106	4	16	136	6	3	166	7	10
107	4	17	137	6	4	167	7	11
108	4	18	138	6	5	168	7	12
109	4	19	139	6	6	169	7	13
110	4	19	140	6	6	170	7	13
111	5	0	141	6	7	171	7	14
112	5	1	142	6	8	172	7	15
113	5	2	143	6	9	173	7	16
114	5	3	144	6	10	174	7	17
115	5	4	145	6	11	175	7	18
116	5	5	146	6	12	176	7	19
117	5	6	147	6	13	177	8	0
118	5	7	148	6	14	178	8	1
119	5	8	149	6	15	179	8	2
120	5	8	150	6	15	180	8	2
121	5	9	151	6	16	181	8	3
122	5	10	152	6	17	182	8	4
123	5	11	153	6	18	183	8	5
124	5	12	154	6	19	184	8	6
125	5	13	155	7	0	185	8	7
126	5	14	156	7	1	186	8	8
127	5	15	157	7	2	187	8	9
128	5	16	158	7	3	188	8	10

4-4ths.			4-4ths.			4-4ths.		
Pf.	S.	P.	Pf.	S.	P.	Pf.	S.	P.
189	8	11	219	9	18	249	11	5
190	8	11	220	9	18	250	11	5
191	8	12	221	9	19	251	11	6
192	8	13	222	10	0	252	11	7
193	8	14	223	10	1	253	11	8
194	8	15	224	10	2	254	11	9
195	8	16	225	10	3	255	11	10
196	8	17	226	10	4	256	11	11
197	8	18	227	10	5	257	11	12
198	8	19	228	10	6	258	11	13
199	9	0	229	10	7	259	11	14
200	9	0	230	10	7	260	11	14
201	9	1	231	10	8	261	11	15
202	9	2	232	10	9	262	11	16
203	9	3	233	10	10	263	11	17
204	9	4	234	10	11	264	11	18
205	9	5	235	10	12	265	11	19
206	9	6	236	10	13	266	12	0
207	9	7	237	10	14	267	12	1
208	9	8	238	10	15	268	12	2
209	9	9	239	10	16	269	12	3
210	9	9	240	10	16	270	12	3
211	9	10	241	10	17	271	12	4
212	9	11	242	10	18	272	12	5
213	9	12	243	10	19	273	12	6
214	9	13	244	11	0	274	12	7
215	9	14	245	11	1	275	12	8
216	9	15	246	11	2	276	12	9
217	9	16	247	11	3	277	12	10
218	9	17	248	11	4	278	12	11

4-4ths.			17 Nails.			17 Nails.		
Pf.	S.	P.	Pf.	S.	P.	Pf.	S.	P.
279	12	12	115	4	18	145	6	3
280	12	12	116	4	19	146	6	4
281	12	13	117	5	0	147	6	5
282	12	14	118	5	1	148	6	6
283	12	15	119	5	2	149	6	7
284	12	16	120	5	2	150	6	7
285	12	17	121	5	3	151	6	8
286	12	18	122	5	4	152	6	9
287	12	19	123	5	5	153	6	10
288	13	0	124	5	6	154	6	11
289	13	1	125	5	6	155	6	11
290	13	1	126	5	7	156	6	12
			127	5	8	157	6	13
17 Nails.			128	5	9	158	6	14
Pf	S.	P.	129	5	10	159	6	15
100	4	5	130	5	10	160	6	15
101	4	6	131	5	11	161	6	16
102	4	7	132	5	12	162	6	17
103	4	8	133	5	13	163	6	18
104	4	9	134	5	14	164	6	19
105	4	9	135	5	14	165	6	19
106	4	10	136	5	15	166	7	0
107	4	11	137	5	16	167	7	1
108	4	12	138	5	17	168	7	2
109	4	13	139	5	18	169	7	3
110	4	14	140	5	18	170	7	4
111	4	15	141	5	19	171	7	5
112	4	16	142	6	0	172	7	6
113	4	17	143	6	1	173	7	7
114	4	18	144	6	2	174	7	8

17 Nails.			17 Nails.			17 Nails.		
Pf.	S.	P.	Pf.	S.	P.	Pf.	S.	P.
175	7	8	205	8	14	235	9	19
176	7	9	206	8	15	236	10	0
177	7	10	207	8	16	237	10	1
178	7	11	208	8	17	238	10	2
179	7	12	209	8	18	239	10	3
180	7	12	210	8	19	240	10	3
181	7	13	211	9	0	241	10	4
182	7	14	212	9	1	242	10	5
183	7	15	213	9	2	243	10	6
184	7	16	214	9	3	244	10	7
185	7	16	215	9	3	245	10	8
186	7	17	216	9	4	246	10	9
187	7	18	217	9	5	247	10	10
188	7	19	218	9	6	248	10	11
189	8	0	219	9	7	249	10	12
190	8	1	220	9	7	250	10	12
191	8	2	221	9	8	251	10	13
192	8	3	222	9	9	252	10	14
193	8	4	223	9	10	253	10	15
194	8	5	224	9	11	254	10	16
195	8	5	225	9	11	255	10	16
196	8	6	226	9	12	256	10	17
197	8	7	227	9	13	257	10	18
198	8	8	228	9	14	258	10	19
199	8	9	229	9	15	259	11	0
200	8	10	230	9	15	260	11	0
201	8	11	231	9	16	261	11	1
202	8	12	232	9	17	262	11	2
203	8	13	233	9	18	263	11	3
204	8	14	234	9	19	264	11	4

17 Nails.			17 Nails.			9-8ths.		
Pf.	S.	P.	Pf.	S.	P.	Pf.	S.	P.
265	11	5	295	12	10	106	4	5
266	11	6	296	12	11	107	4	6
267	11	7	297	12	12	108	4	7
268	11	8	298	12	13	109	4	8
269	11	9	299	12	14	110	4	8
270	11	9	300	12	14	111	4	9
271	11	10	301	12	15	112	4	10
272	11	11	302	12	16	113	4	11
273	11	12	303	12	17	114	4	12
274	11	13	304	12	18	115	4	12
275	11	14	305	12	18	116	4	13
276	11	15	306	12	19	117	4	14
277	11	16	307	13	0	118	4	15
278	11	17	308	13	1	119	4	16
279	11	18	309	13	2	120	4	16
280	11	18	310	13	2	121	4	17
281	11	19	311	13	3	122	4	18
282	12	0	312	13	4	123	4	19
283	12	1	313	13	5	124	5	0
284	12	2	314	13	6	125	5	0
285	12	2	315	13	6	126	5	1
286	12	3	316	13	7	127	5	2
287	12	4	317	13	8	128	5	3
288	12	5	318	13	9	129	5	4
289	12	6	319	13	10	130	5	4
290	12	6	320	13	11	131	5	5
291	12	7				132	5	6
292	12	8	9-8ths.			133	5	7
293	12	9	Pf.	S.	P.	134	5	8
294	12	10	105	4	4	135	5	8

9-8ths.			9-8ths.			9-8ths.		
Pf.	S.	P.	Pf.	S.	P.	Pf.	S.	P.
136	5	9	166	6	13	196	7	17
137	5	10	167	6	14	197	7	18
138	5	11	168	6	15	198	7	19
139	5	12	169	6	16	199	8	0
140	5	12	170	6	16	200	8	0
141	5	13	171	6	17	201	8	1
142	5	14	172	6	18	202	8	2
143	5	15	173	6	19	203	8	3
144	5	16	174	7	0	204	8	4
145	5	16	175	7	0	205	8	4
146	5	17	176	7	1	206	8	5
147	5	18	177	7	2	207	8	6
148	5	19	178	7	3	208	8	7
149	6	0	179	7	4	209	8	8
150	6	0	180	7	4	210	8	8
151	6	1	181	7	5	211	8	9
152	6	2	182	7	6	212	8	10
153	6	3	183	7	7	213	8	11
154	6	4	184	7	8	214	8	12
155	6	4	185	7	8	215	8	12
156	6	5	186	7	9	216	8	13
157	6	6	187	7	10	217	8	14
158	6	7	188	7	11	218	8	15
159	6	8	189	7	12	219	8	16
160	6	8	190	7	12	220	8	16
161	6	9	191	7	13	221	8	17
162	6	10	192	7	14	222	8	18
163	6	11	193	7	15	223	8	19
164	6	12	194	7	16	224	9	0
165	6	12	195	7	16	225	9	0

9-8ths.			9-8ths.			9-8ths.		
Pf.	S.	P	Pf.	S.	P.	Pf.	S.	P.
226	9	1	256	10	5	286	11	9
227	9	2	257	10	6	287	11	10
228	9	3	258	10	7	288	11	11
229	9	4	259	10	8	289	11	12
230	9	4	260	10	8	290	11	12
231	9	5	261	10	9	291	11	13
232	9	6	262	10	10	292	11	14
233	9	7	263	10	11	293	11	15
234	9	8	264	10	12	294	11	16
235	9	8	265	10	12	295	11	16
236	9	9	266	10	13	296	11	17
237	9	10	267	10	14	297	11	18
238	9	11	268	10	15	298	11	19
239	9	12	269	10	16	299	12	0
240	9	12	270	10	16	300	12	0
241	9	13	271	10	17	301	12	1
242	9	14	272	10	18	302	12	2
243	9	15	273	10	19	303	12	3
244	9	16	274	11	0	304	12	4
245	9	16	275	11	0	305	12	4
246	9	17	276	11	1	306	12	5
247	9	18	277	11	2	307	12	6
248	9	19	278	11	3	308	12	7
249	10	0	279	11	4	309	12	8
250	10	0	280	11	4	310	12	8
251	10	1	281	11	5	311	12	9
252	10	2	282	11	6	312	12	10
253	10	3	283	11	7	313	12	11
254	10	4	284	11	8	314	12	12
255	10	4	285	11	8	315	12	12

9-8ths.			5-4ths.			5-4ths.		
Pf.	S.	P.	Pf.	S.	P.	Pf.	S.	P.
316	12	13	122	4	10	152	5	12
317	12	14	123	4	11	153	5	12
318	12	15	124	4	12	154	5	13
319	12	16	125	4	12	155	5	14
320	12	16	126	4	13	156	5	14
321	12	17	127	4	14	157	5	15
322	12	18	128	4	15	158	5	16
323	12	19	129	4	16	159	5	17
324	13	0	130	4	16	160	5	17
325	13	0	131	4	16	161	5	18
326	13	1	132	4	16	162	5	19
327	13	2	133	4	17	163	6	0
328	13	3	134	4	17	164	6	0
329	13	4	135	4	18	165	6	1
330	13	4	136	4	19	166	6	2
			137	5	0	167	6	3
5-4ths.			138	5	1	168	6	4
Pf.	S.	P.	139	5	2	169	6	5
110	4	0	140	5	2	170	6	5
111	4	1	141	5	3	171	6	6
112	4	2	142	5	4	172	6	7
113	4	3	143	5	5	173	6	7
114	4	3	144	5	5	174	6	8
115	4	4	145	5	6	175	6	9
116	4	5	146	5	7	176	6	10
117	4	6	147	5	8	177	6	10
118	4	7	148	5	9	178	6	11
119	4	8	149	5	10	179	6	12
120	4	8	150	5	10	180	6	12
121	4	9	151	5	11	181	6	13

Q

5-4ths.			5-4ths.			5-4ths.		
Pf.	S.	P.	Pf.	S.	P.	Pf.	S.	P.
182	6	14	212	7	10	242	8	16
183	6	14	213	7	11	243	8	17
184	6	15	214	7	11	244	8	18
185	6	16	215	7	12	245	8	18
186	6	16	216	7	12	246	8	19
187	6	17	217	7	13	247	9	0
188	6	18	218	7	14	248	9	1
189	6	19	219	7	15	249	9	2
190	6	19	220	7	16	250	9	2
191	7	0	221	7	17	251	9	3
192	7	0	222	7	18	252	9	4
193	7	1	223	7	19	253	9	5
194	7	1	224	8	0	254	9	6
195	7	2	225	8	2	255	9	6
196	7	2	226	8	3	256	9	7
197	7	3	227	8	4	257	9	8
198	7	3	228	8	5	258	9	9
199	7	4	229	8	6	259	9	10
200	7	4	230	8	6	260	9	10
201	7	5	231	8	7	261	9	10
202	7	5	232	8	8	262	9	11
203	7	6	233	8	9	263	9	12
204	7	6	234	8	10	264	9	13
205	7	7	235	8	10	265	9	14
206	7	7	236	8	11	266	9	15
207	7	8	237	8	12	267	9	16
208	7	8	238	8	13	268	9	17
209	7	9	239	8	14	269	9	18
210	7	9	240	8	14	270	9	18
211	7	10	241	8	15	271	9	18

5-4ths.			5-4ths.			5-4ths.		
Pf.	S.	P.	Pf.	S.	P.	Pf.	S.	P.
272	9	19	302	11	2	332	12	7
273	10	0	303	11	3	333	12	8
274	10	1	304	11	4	334	12	9
275	10	1	305	11	5	335	12	9
276	10	2	306	11	6	336	12	10
277	10	3	307	11	7	337	12	11
278	10	4	308	11	8	338	12	12
279	10	5	309	11	9	339	12	13
280	10	5	310	11	9	340	12	13
281	10	5	311	11	10	341	12	14
282	10	6	312	11	11	342	12	15
283	10	7	313	11	12	343	12	16
284	10	8	314	11	13	344	12	17
285	10	8	315	11	14	345	12	17
286	10	9	316	11	15	346	12	18
287	10	10	317	11	16	347	12	19
288	10	11	318	11	17	348	13	0
289	10	12	319	11	18	349	13	1
290	10	12	320	11	19	350	13	1
291	10	13	321	12	0	351	13	1
292	10	14	322	12	0	352	13	2
293	10	15	323	12	1	353	13	3
294	10	16	324	12	2	354	13	4
295	10	16	325	12	2	355	13	4
296	10	17	326	12	3	356	13	4
297	10	18	327	12	4	357	13	5
298	10	19	328	12	5	358	13	6
299	11	0	329	12	6	359	13	7
300	11	0	330	12	6	360	13	7
301	11	1	331	12	6	361	13	7

5-4ths.			11-8ths.			11-8ths.		
Pf.	S.	P.	Pf.	S.	P.	Pf.	S.	P.
362	13	8	143	4	15	173	5	16
363	13	9	144	4	16	174	5	17
364	13	10	145	4	16	175	5	18
365	13	10	146	4	16	176	5	18
			147	4	17	177	5	19
11-8ths.			148	4	18	178	6	0
Pf.	S.	P.	149	4	19	179	6	1
120	3	19	150	4	19	180	6	1
121	4	0	151	5	0	181	6	1
122	4	1	152	5	1	182	6	2
123	4	2	153	5	2	183	6	3
124	4	3	154	5	3	184	6	4
125	4	3	155	5	3	185	6	4
126	4	4	156	5	3	186	6	5
127	4	5	157	5	4	187	6	6
128	4	6	158	5	5	188	6	7
129	4	7	159	5	6	189	6	8
130	4	7	160	5	7	190	6	8
131	4	7	161	5	7	191	6	8
132	4	8	162	5	8	192	6	9
133	4	9	163	5	9	193	6	10
134	4	10	164	5	10	194	6	11
135	4	10	165	5	10	195	6	12
136	4	10	166	5	11	196	6	12
137	4	11	167	5	12	197	6	13
138	4	11	168	5	13	198	6	14
139	4	12	169	5	14	199	6	15
140	4	13	170	5	14	200	6	15
141	4	13	171	5	14	201	6	16
142	4	14	172	5	15	202	6	17

11-8ths.			11-8ths.			11-8ths.		
Pf.	S.	P.	Pf.	S.	P.	Pf.	S.	P.
203	6	17	233	7	18	263	9	0
204	6	18	234	7	19	264	9	0
205	6	18	235	8	0	265	9	0
206	6	19	236	8	0	266	9	1
207	7	0	237	8	1	267	9	2
208	7	0	238	8	2	268	9	3
209	7	1	239	8	3	269	9	4
210	7	1	240	8	4	270	9	4
211	7	2	241	8	5	271	9	4
212	7	2	242	8	6	272	9	5
213	7	3	243	8	6	273	9	6
214	7	4	244	8	6	274	9	7
215	7	5	245	8	7	275	9	8
216	7	6	246	8	8	276	9	8
217	7	6	247	8	9	277	9	9
218	7	7	248	8	10	278	9	10
219	7	8	249	8	10	279	9	11
220	7	9	250	8	10	280	9	11
221	7	9	251	8	10	281	9	11
222	7	10	252	8	11	282	9	12
223	7	11	253	8	12	283	9	13
224	7	12	254	8	13	284	9	14
225	7	12	255	8	14	285	9	15
226	7	13	256	8	14	286	9	15
227	7	14	257	8	15	287	9	16
228	7	15	258	8	16	288	9	17
229	7	16	259	8	17	289	9	18
230	7	16	260	8	18	290	9	19
231	7	16	261	8	18	291	9	19
232	7	17	262	8	19	292	10	0

11-8ths.			11-8ths.			11-8ths.		
Pf.	S.	P.	Pf.	S.	P.	Pf.	S.	P.
193	10	1	323	11	0	353	12	1
294	10	1	324	11	1	354	12	2
295	10	2	325	11	1	355	12	2
296	10	2	326	11	2	356	12	2
297	10	3	327	11	3	357	12	3
298	10	4	328	11	4	358	12	4
299	10	5	329	11	5	359	12	5
300	10	6	330	11	6	360	12	5
301	10	6	331	11	6	361	12	5
302	10	6	332	11	6	362	12	6
303	10	7	333	11	7	363	12	7
304	10	8	334	11	8	364	12	8
305	10	9	335	11	8	365	12	9
306	10	9	336	11	9	366	12	9
307	10	10	337	11	10	367	12	9
308	10	10	338	11	11	368	12	10
309	10	11	339	11	12	369	12	10
210	10	12	340	11	12	370	12	11
311	10	12	341	11	12	371	12	12
312	10	13	342	11	13	372	12	12
313	10	14	343	11	14	373	12	13
314	10	15	344	11	15	374	12	14
315	10	15	345	11	15	375	12	14
316	10	16	346	11	16	376	12	15
317	10	16	347	11	17	377	12	16
318	10	17	348	11	18	378	12	17
319	10	18	349	11	19	379	12	18
320	10	18	350	11	19	380	12	18
321	10	18	351	11	19	381	12	18
322	10	19	352	12	0	382	12	19

11-8ths.			6-4ths.			6-4ths.		
Pf.	S.	P.	Pf.	S.	P.	Pf.	S.	P.
383	13	0	139	4	6	169	5	5
384	13	0	140	4	6	170	5	5
385	13	0	141	4	6	171	5	5
386	13	1	142	4	6	172	5	6
387	13	2	143	4	7	173	5	7
388	13	2	144	4	8	174	5	8
389	13	3	145	4	9	175	5	8
390	13	3	146	4	9	176	5	8
391	13	3	147	4	10	177	5	9
392	13	4	148	4	11	178	5	10
393	13	4	149	4	12	179	5	11
394	13	5	150	4	13	180	5	11
395	13	6	151	4	13	181	5	12
396	13	6	152	4	13	182	5	13
397	13	8	153	4	14	183	5	13
398	13	8	154	4	15	184	5	14
399	13	9	155	4	16	185	5	15
400	13	9	156	4	17	186	5	16
			157	4	17	187	5	16
6-4ths.			158	4	18	188	5	17
Pf.	S.	P.	159	4	19	189	5	17
130	3	18	160	5	0	190	5	18
131	3	19	161	5	0	191	5	18
132	4	0	162	5	0	192	5	19
133	4	1	163	5	1	193	6	0
134	4	1	164	5	2	194	6	0
135	4	2	165	5	2	195	6	0
136	4	3	166	5	2	196	6	0
137	4	4	167	5	3	197	6	1
138	4	5	168	5	4	198	6	2

6-4ths.			6-4ths.			6-4ths.		
Pf.	S.	P	Pf.	S.	P.	Pf.	S.	P.
199	6	3	229	6	18	259	8	0
200	6	3	230	6	19	260	8	0
201	6	3	231	7	0	261	8	0
202	6	3	232	7	0	262	8	1
203	6	4	233	7	0	263	8	2
204	6	5	234	7	0	264	8	3
205	6	5	235	7	1	265	8	3
206	6	5	236	7	2	266	8	3
207	6	6	237	7	3	267	8	4
208	6	6	238	7	4	268	8	4
209	6	7	239	7	5	269	8	5
210	6	7	240	7	5	270	8	5
211	6	8	241	7	5	271	8	5
212	6	9	242	7	6	272	8	6
213	6	10	243	7	7	273	8	7
214	6	11	244	7	8	274	8	8
215	6	12	245	7	9	275	8	8
216	6	12	246	7	9	276	8	9
217	6	13	247	7	10	277	8	10
218	6	14	248	7	11	278	8	11
219	6	15	249	7	12	279	8	12
220	6	15	250	7	12	280	8	12
221	6	15	251	7	12	281	8	13
222	6	16	252	7	13	282	8	14
223	6	16	253	7	14	283	8	15
224	6	17	254	7	15	284	8	16
225	6	17	255	7	16	285	8	16
226	6	17	256	7	17	286	8	16
227	6	18	257	7	18	287	8	17
228	6	18	258	7	19	288	8	18

6-4ths.			6-4ths.			6-4ths.		
Pf.	S.	P.	Pf.	S.	P.	Pf.	S.	P.
289	8	19	319	9	17	349	10	15
290	9	0	320	9	17	350	10	15
291	9	0	321	9	17	351	10	15
292	9	0	322	9	18	352	10	16
293	9	1	323	9	19	353	10	17
294	9	2	324	10	0	354	10	18
295	9	2	325	10	0	355	10	18
296	9	2	326	10	0	356	10	18
297	9	3	327	10	1	357	10	19
298	9	4	328	10	2	358	11	0
299	9	5	329	10	3	359	11	1
300	9	5	330	10	4	360	11	1
301	9	5	331	10	4	361	11	1
302	9	6	332	10	4	362	11	2
303	9	7	333	10	5	363	11	2
304	9	8	334	10	6	364	11	3
305	9	8	335	10	7	365	11	4
306	9	8	336	10	7	366	11	4
307	9	9	337	10	7	367	11	4
308	9	10	338	10	8	368	11	5
309	9	11	339	10	9	369	11	6
310	9	11	340	10	9	370	11	6
311	9	11	341	10	9	371	11	6
312	9	12	342	10	10	372	11	7
313	9	13	343	10	11	373	11	8
314	9	14	344	10	12	374	11	9
315	9	14	345	10	12	375	11	9
316	9	14	346	10	12	376	11	9
317	9	15	347	10	13	377	11	10
318	9	16	348	10	14	378	11	11

6-4ths.			6-4ths.			6-4ths.		
Pf.	S.	P.	Pf.	S.	P.	Pf.	S.	P.
379		12	409	12	9	439	13	6
380	11	13	410	12	9	440	13	6
381	11	13	411	12	10	441	13	6
382	11	13	412	12	10	442	13	7
383	11	14	413	12	10	443	13	8
384	11	15	414	12	11	444	13	9
385	11	15	415	12	11	445	13	9
386	11	15	416	12	12	446	13	9
387	11	16	417	12	13	447	13	10
388	11	17	418	12	14	448	13	11
389	11	18	419	12	15	449	13	12
390	11	18	420	12	15	450	13	12
391	11	18	421	12	15	451	13	12
392	11	19	422	12	16	452	13	13
393	12	0	423	12	17	453	13	14
394	12	0	424	12	18	454	13	15
395	12	0	425	12	18	455	13	15
396	12	1	426	12	18	456	13	15
397	12	2	427	12	19	457	13	16
398	12	3	428	12	19	458	13	17
399	12	4	429	13	0	459	13	18
400	12	4	430	13	0	460	13	18
401	12	4	431	13	0	461	13	19
402	12	5	432	13	1	462	14	0
403	12	6	433	13	2	463	14	1
404	12	7	434	13	3	464	14	2
405	12	7	435	13	3	465	14	2
406	12	8	436	13	3	466	14	2
407	12	9	437	13	4	467	14	3
408	12	9	438	13	5	468	14	4

6-4ths.			6-4ths.			6-4ths.		
Pf.	S.	P.	Pf.	S.	P.	Pf.	S.	P.
469	14	5	477	14	10	485	14	15
470	14	5	478	14	11	486	14	15
471	14	5	479	14	12	487	14	16
472	14	6	480	14	12	488	14	17
473	14	7	481	14	12	489	14	18
474	14	8	482	14	13	490	14	18
475	14	8	483	14	13	491	14	19
476	14	9	484	14	14	492	15	0

Explanation of the 29th Table.

The following Table shews how to set Cambs or Heddles, to reeds, from an 8 to a 24 hundred camb, and from a 6 to a 24 hundred reed. Each page is divided into 8 columns: the first 2 colums marked on the head camb, contains the hundreds or porters of the camb on Ell; the next 2 columns marked on the head reed, contain the hundreds and porters of the reed on the same breadth; the other four columns marked on the head drafts and times, contain the number of drafts and times you must draw betwixt settings. Upon the head of the columns H. stands for hundreds, P. for porters, D. for drafts, T. for times.

Suppose you are to set a camb to any reed, look in the first four columns for the number of the camb and reed, and in the same line of the other columns, you will find the drafts and times you are to draw betwixt settings.

EXAMPLE.

If it is required to set a 10 hundred camb to an 800 and 2 porter reed, look in the two first columns for a 10 hundred camb, and in the next 2 columns you will find an 800 and 2 porter reed, and in the same line of the other columns, you will find 5 drafts 6 times, and 6 drafts 2 times, which shew that you must draw 5 drafts 6 times, and set, and 6 drafts 2 times, and set, to be continued during the drawing of the web.

Camb. H.	Camb. P.	Reed. H.	Reed. P.	Drafts and Times. D.	T.	D.	T.
8	0	6	0	3	0	0	0
8	0	6	1	3	5	4	4
8	0	6	2	4	0	0	0
8	0	6	2½	4	2	5	1
8	0	6	3	4	2	5	5
8	0	6	4	5	2	6	4
8	0	7	0	7	0	0	0
8	0	7	1	9	0	0	0
8	0	7	2	12	2	13	1
8	0	7	2½	15	0	0	0
8	0	7	3	19	0	0	0
8	0	7	4	39	0	0	0
9	0	7	0	3	1	4	1
9	0	7	1	4	0	0	0
9	0	7	2	4	3	5	5
9	0	7	2½	5	0	0	0
9	0	7	3	5	4	6	3
9	0	7	4	6	3	7	3
9	0	8	0	8	0	0	0
9	0	8	1	10	3	11	3
9	0	8	2	14	0	0	0
9	0	8	2½	17	0	0	0
9	0	8	3	21	1	22	1
9	0	8	4	44	0	0	0
10	0	8	8	4	0	0	0
10	0	8	1	4	4	5	5
10	0	8	2	5	6	6	2
10	0	8	2½	6	2	5	1
10	0	8	3	6	6	7	1
10	0	8	4	7	4	8	2

Camb. H.	Camb. P.	Reed. H.	Reed. P.	Drafts and Times. D.	T.	D.	T.
10	0	9	0	9	0	0	0
10	0	9	1	11	2	12	2
10	0	9	2	15	1	16	2
10	0	8	2½	19	0	0	0
10	0	9	3	24	0	0	0
10	0	9	4	49	0	0	0
11	0	8	0	3	2	2	1
11	0	8	1	3	13	2	1
11	0	8	2	3	10	4	3
11	0	8	2½	3	3	4	2
11	0	8	3	5	5	4	7
11	0	8	4	4	0	0	0
11	0	9	0	4	1	5	1
11	0	9	1	5	8	6	1
11	0	9	2	5	1	6	7
11	0	9	2½	6	2	7	1
11	0	9	3	6	1	7	6
11	0	9	4	8	5	9	1
11	0	10	0	10	0	0	0
11	0	10	1	12	1	13	3
11	0	10	2	17	2	18	1
11	0	10	2½	21	0	0	0
11	0	10	3	26	1	27	1
11	0	10	4	54	0	0	0
12	0	9	0	3	0	0	0
12	0	9	1	3	10	4	4
12	0	9	2	4	8	3	5
12	0	9	2½	3	1	4	4
12	0	9	3	4	0	0	0
12	0	9	4	5	5	4	6

Camb. H.	Camb. P.	Reed. H.	Reed. P.	Drafts and Times. D.	T.	D.	T.
12	0	10	0	5	0	0	0
12	0	10	1	5	3	6	6
12	0	10	2	6	4	7	4
12	0	10	2½	7	0	0	0
12	0	10	3	7	3	8	4
12	0	10	4	9	0	0	0
12	0	11	0	11	0	0	0
12	0	11	1	14	0	0	0
12	0	11	2	19	0	0	0
12	0	11	2½	23	0	0	0
12	0	11	3	29	0	0	0
12	0	11	4	59	0	0	0
13	0	10	0	3	2	4	1
13	0	10	1	4	9	3	5
13	0	10	2	4	0	0	0
13	0	10	2½	4	4	5	1
13	0	10	3	4	7	5	5
13	0	10	4	5	10	4	1
13	0	11	0	6	1	5	1
13	0	11	1	6	7	7	2
13	0	11	2	7	7	8	1
13	0	11	2½	8	2	7	1
13	0	11	3	8	5	9	2
13	0	11	4	9	1	10	5
13	0	12	0	12	0	0	0
13	0	12	1	15	3	16	1
13	0	12	2	20	1	21	2
13	0	12	2	25	0	0	0
13	0	12	3	31	1	32	1
13	0	12	4	64	0	0	0

Camb. H.	Camb. P.	Reed. H.	Reed. P.	Drafts and Times. D.	T.	D.	T.
14	0	10	0	3	2	2	2
14	0	10	1	3	6	3	13
14	0	10	2	3	16	2	2
14	0	10	2½	3	0	0	0
14	0	10	3	3	15	4	2
14	0	10	4	3	10	4	6
14	0	11	0	3	1	4	2
14	0	11	1	4	0	0	0
14	0	11	2	5	5	4	8
14	0	11	2½	5	3	4	2
14	0	11	3	5	10	4	2
14	0	11	4	5	7	6	4
14	0	12	0	6	0	0	0
14	0	12	1	6	2	7	7
14	0	12	2	8	6	7	2
14	0	12	2½	8	2	9	1
14	0	12	3	9	0	0	0
14	0	12	4	10	2	11	4
14	0	13	0	13	0	0	0
14	0	13	1	16	2	17	2
14	0	13	2	12	2	23	1
14	0	13	2½	27	0	0	0
14	0	13	3	24	0	0	0
14	0	13	4	39	0	0	0
15	0	11	0	62	3	2	1
15	0	11	1	3	18	2	1
15	0	11	2	3	15	4	3
15	0	11	2½	3	5	4	2
15	0	11	3	3	10	4	7
15	0	11	4	4	11	3	5

Camb. H.	Camb. P.	Reed. H.	Reed. P.	Drafts and Times. D.	T.	D.	T.
15	0	12	0	4	0	0	0
15	0	12	1	4	9	5	5
15	0	12	2	5	10	4	3
15	0	12	2½	5	0	0	0
15	0	12	3	5	9	6	3
15	0	12	4	6	9	5	2
15	0	13	0	6	1	7	1
15	0	13	1	7	6	8	3
15	0	13	2	9	3	8	5
15	0	13	2½	9	0	0	0
15	0	13	3	10	5	9	2
15	0	13	4	12	3	11	3
15	0	14	0	14	0	0	0
15	0	14	1	18	3	17	1
15	0	14	2	24	0	0	0
15	0	14	2½	29	0	0	0
15	0	14	3	37	1	36	1
15	0	14	4	74	0	0	0
16	0	12	0	3	0	0	0
16	0	12	1	3	15	4	4
16	0	12	2	3	10	4	3
16	0	12	2½	4	4	3	3
16	0	12	3	3	12	2	5
16	0	12	4	4	0	0	0
16	0	13	0	4	2	5	1
16	0	13	1	5	10	4	4
16	0	13	2	5	11	6	2
16	0	13	2½	5	3	6	2
16	0	13	3	6	8	5	5
16	0	13	4	6	8	7	2

Camb. H.	Camb. P.	Reed. H.	Reed. P.	Drafts and Times. D.	T.	D.	T.
16	0	14	0	7	0	0	0
16	0	14	1	8	8	7	1
16	0	14	2	9	0	0	0
16	0	14	2½	10	2	9	1
16	0	14	3	10	4	11	3
16	0	14	4	12	4	13	2
16	0	15	0	15	0	0	0
16	0	15	1	19	0	0	0
16	0	15	2	26	2	25	1
16	0	15	2½	31	0	0	0
16	0	15	3	39	0	0	0
16	0	15	4	79	0	0	0
17	0	13	0	3	3	4	1
17	0	13	1	3	10	4	9
17	0	13	2	4	13	3	5
17	0	13	2½	5	3	6	2
17	0	13	3	4	0	0	0
17	0	13	4	4	11	5	5
17	0	14	0	5	2	4	1
17	0	14	1	5	13	6	1
17	0	14	2	6	7	5	6
17	0	14	2½	6	4	5	1
17	0	14	3	6	11	7	1
17	0	14	4	7	8	6	3
17	0	15	0	8	1	7	1
17	0	15	1	8	5	9	4
17	0	15	2	10	5	9	3
17	0	15	2½	10	2	11	1
17	0	15	3	11	6	12	1
17	0	15	4	13	5	14	1

Camb. H.	Camb. P.	Reed. H.	Reed. P.	Drafts and Times. D.	T.	D.	T.
17	0	16	0	16	0	0	0
17	0	16	1	20	3	21	1
17	0	16	2	27	2	28	1
17	0	16	2 1/2	33	0	0	0
17	0	16	3	41	1	42	1
17	0	16	4	34	0	0	0
18	0	14	0	3	1	4	1
18	0	14	1	4	14	3	5
18	0	14	2	4	0	0	0
18	0	14	2 1/2	5	1	4	6
13	0	14	3	4	12	5	5
18	0	14	4	5	10	4	6
18	0	15	0	5	0	0	0
18	0	15	1	5	8	6	6
18	0	15	2	6	12	5	1
18	0	15	2 1/2	6	4	7	1
18	0	15	3	7	6	6	6
18	0	15	4	7	9	8	2
18	0	16	0	8	0	0	0
18	0	16	1	9	0	0	0
18	0	16	2	10	6	11	2
18	0	16	2 1/2	11	0	0	0
18	0	16	3	12	6	11	1
18	0	16	4	14	0	0	0
18	0	17	0	17	0	0	0
18	0	17	1	22	2	21	2
18	0	17	2	29	0	0	0
18	0	17	2 1/2	35	0	0	0
18	0	17	3	44	0	0	0
18	0	17	4	89	0	0	0

Camb. H.	Camb. P.	Reed. H.	Reed. P.	Drafts and Times. D.	T.	D.	T.
19	0	15	0	4	3	3	1
19	0	15	1	4	0	0	0
19	0	15	2	4	13	5	5
19	0	15	2 1/2	4	4	5	3
19	0	15	3	5	10	4	7
19	0	15	4	5	15	4	1
19	0	16	0	5	4	6	2
19	0	16	1	6	11	5	3
19	0	16	2	6	9	7	4
19	0	16	2 1/2	7	3	6	2
19	0	16	3	7	11	6	1
19	0	16	4	8	7	7	4
19	0	17	0	9	1	8	1
19	0	17	1	10	5	9	4
19	0	17	2	11	7	10	1
19	0	17	2 1/2	12	2	11	1
19	0	17	3	13	4	12	3
19	0	17	4	15	5	14	1
19	0	18	0	18	0	0	0
19	0	18	1	23	3	22	1
19	0	18	2	31	2	30	1
19	0	18	2 1/2	37	0	0	0
19	0	18	3	46	1	47	1
19	0	18	4	94	0	0	0
20	0	16	0	4	0	0	0
20	0	16	1	4	14	5	5
20	0	16	2	5	10	4	3
20	0	16	2 1/2	5	5	4	2
20	0	16	3	5	15	4	2
20	0	16	4	5	12	6	4

Camb.		Reed.		Drafts and Times.			
H.	P.	H.	P.	D.	T.	D.	T.
20	0	17	0	7	2	6	1
20	0	17	1	6	12	7	2
20	0	17	2	7	9	6	4
20	0	17	2½	7	0	0	0
20	0	17	3	7	8	8	4
20	0	17	4	8	10	11	1
20	0	18	0	9	0	0	0
20	0	18	1	10	8	11	1
20	0	18	2	11	4	12	4
20	0	18	2½	12	2	13	1
20	0	18	3	13	5	14	2
20	0	18	4	16	4	15	2
20	0	19	0	19	0	0	0
20	0	19	1	24	0	0	0
20	0	19	2	26	2	27	1
20	0	19	2½	39	0	0	0
20	0	19	3	49	0	0	0
20	0	19	4	99	0	0	0
21	0	17	0	4	3	5	1
21	0	17	1	5	10	4	2
21	0	17	2	5	15	4	3
21	0	17	2½	5	15	6	3
21	0	17	3	5	14	6	3
21	0	17	4	6	8	5	8
21	0	18	0	6	0	0	0
21	0	18	1	7	7	6	7
21	0	18	2	7	12	8	1
21	0	18	2½	7	8	8	2
21	0	18	3	8	9	7	8
21	0	18	4	8	5	9	6

Camb.		Reed.		Drafts and Times.			
H.	P.	H.	P.	D.	T.	D.	T.
21	0	19	0	10	1	9	1
31	0	19	1	11	6	10	3
21	0	19	2	12	7	13	1
21	0	19	2½	13	0	0	0
21	0	19	3	14	0	0	0
21	0	19	4	17	3	16	3
21	0	20	0	20	0	0	0
21	0	20	1	25	3	26	1
21	0	20	2	34	0	0	0
21	0	20	2½	41	0	0	0
21	0	20	3	51	1	52	1
21	0	20	4	104	0	0	0
22	0	18	0	5	2	4	2
22	0	18	1	5	15	4	4
22	0	18	2	5	16	6	2
22	0	18	2½	5	5	6	2
22	0	18	3	6	8	5	9
22	0	18	4	6	14	5	2
22	0	19	0	7	1	6	2
22	0	19	1	7	12	6	2
22	0	19	2	8	6	7	7
22	0	19	2½	8	4	7	1
22	0	19	3	8	10	9	2
22	0	19	4	9	0	0	0
22	0	20	0	10	0	0	0
22	0	20	1	11	7	12	2
22	0	20	2	13	6	12	2
22	0	20	2½	14	2	13	1
22	0	20	3	15	5	14	2
22	0	20	4	18	2	17	4

Camb. H.	Camb. P.	Reed. H.	Reed. P.	Drafts and Times. D.	T.	D.	T.
22	0	21	0	21	0	0	0
22	0	21	1	27	2	26	2
22	0	21	2	36	2	35	1
22	0	21	2½	43	0	0	0
22	0	21	3	54	0	0	0
22	0	21	4	109	0	0	0
23	0	19	0	5	3	4	1
23	0	19	1	6	1	5	18
23	0	19	2	6	7	5	11
23	0	19	2½	6	4	5	3
23	0	19	3	6	13	5	4
23	0	19	4	7	3	6	18
23	0	20	0	7	2	6	1
23	0	20	1	8	3	7	11
23	0	20	2	8	11	7	2
23	0	20	2½	9	1	8	4
23	0	20	3	9	7	8	5
23	0	20	4	10	5	9	6
23	0	21	0	11	1	10	1
23	0	21	1	12	7	11	2
23	0	21	2	14	3	13	5
23	0	21	2½	15	1	14	2
23	0	21	3	16	3	15	4
23	0	21	4	19	1	18	5
23	0	22	0	22	0	0	0
23	0	22	1	28	3	27	1
23	0	22	2	38	1	37	2
23	0	22	2½	45	0	0	0
22	0	22	3	56	1	57	1
23	0	22	4	114	0	0	0

Camb. H.	Camb. P.	Reed. H.	Reed. P.	Drafts and Times. D.	T.	D.	T.
24	0	20	0	5	0	0	0
24	0	20	1	5	13	6	6
24	0	20	2	6	12	5	6
24	0	20	2½	6	6	5	1
24	0	20	3	6	16	7	1
24	0	20	4	6	8	7	8
24	0	21	0	7	0	0	0
24	0	21	1	8	8	7	6
24	0	21	2	8	10	9	3
24	0	21	2½	9	3	8	2
24	0	21	3	9	0	0	0
24	0	21	4	10	40	9	1
24	0	22	0	11	0	0	0
24	0	22	1	12	6	13	3
24	0	22	2	14	0	0	0
24	0	22	2½	15	0	0	0
24	0	22	3	16	6	17	1
24	0	22	4	19	0	0	0
24	0	23	0	23	0	0	0
24	0	23	1	29	0	0	0
24	0	23	2	39	0	0	0
24	0	23	2½	47	0	0	0
24	0	23	3	59	0	0	0
24	0	23	4	119	0	0	0

Explanation of the Thirtieth Table.

THE following Table shews the weight of the spyndle, at every number from number 18 to number 50; and at every 2 numbers from 50 to number 100; and at every 3 numbers from number 100 to number 140. The page is divided into 9 columns, the columns marked on the head No. contains the number of yarn, the other columns contains the ounces and drams on the spyndle. On the head of the columns No. stands for the number of the yarn per Sp. Oz. and Dr. for the ounces and drams in the spyndle.

EXAMPLE.

Suppose number 64, what is the weight of the spyndle? Look in the column marked on the head No. and you will find 64, and in the same line of the other two columns under per Sp. Oz. and Dr. you will find the weight of the spyndle to be 4 ounces 8 Drams, which is the weight of the spyndle, the yarn being number 64.

Note.—By adding the weight of the Spyndle for any two numbers together, and then halving it, gives you the weight of the spyndle for the number betwixt the numbers.

Per. Sp.			Per. Sp.			Per. Sp.		
No.	Oz.	Dr.	No.	Oz.	Dr.	No.	Oz.	Dr.
18	16	0	42	6	13	82	3	8
19	14	2	43	6	11	84	3	6
20	14	6	44	6	8	86	3	5
21	13	3	45	6	6	88	3	4
22	13	6	46	6	4	90	3	3
23	12	8	47	6	2	92	3	2
24	12	0	48	6	0	94	3	1
25	11	8	49	5	14	96	3	0
26	11	1	50	5	12	98	2	15
27	10	10	52	5	11	100	2	14
28	10	4	54	5	5	103	2	13
29	10	0	56	5	2	106	2	11
30	9	9	58	4	15	109	2	10
31	9	4	60	4	12	112	2	9
32	9	0	62	4	10	115	2	8
33	8	11	64	4	8	118	2	7
34	8	7	66	4	5	121	2	6
35	8	3	68	4	3	124	2	5
36	8	0	70	4	1	127	2	4
37	7	12	72	4	0	130	2	3
38	7	9	74	3	14	133	2	2
39	7	6	76	3	12	136	2	2
40	7	3	78	3	11	140	2	1
41	7	0	80	3	9			

Explanation of the Thirty-first Table.

The following Table shews how much yarn it will require to one ell of cloth, counting from 3 to 30 shots upon the glass, standing the breadth when weaved, marked on the heads of the pages, from 3-4ths to 6-4ths at the same proportion as in Table second. The page is divided into four parts, the first part contains the shots upon the glass, the other three parts contain the numbers, skeens, and threads required for the yard at the shots upon the glass in the first column, at the breadths marked on the head of the columns: Sh. stands for shots, Nos. for numbers, Sk. for skeens, Th. for threads.

EXAMPLE.

Suppose a 3-4ths weaved to count 26 shots upon the glass: Look in the first column and you will find 26 shots, and in the same line of the other columns under 3-4ths you will find the quantity of weft required to be 6 Nos. 4 Sk. 10 Th. which is the weft required for one yard.

Note.—This Table will only do for cloth that stands the neat breadth when weaved; and by adding the quantities for any two numbers together, and then halving them, will give you the quantity of weft required for the shots and half shots betwixt them: for example, by adding the weft for 18 and 19 shots together and halving it, you get the quantity of weft required for one yard, counting 18½ shots

3-4ths.				13-16ths.			7-8ths.		
Sh.	Nos.	Sk.	Th.	Nos.	Sk.	Th.	Nos.	Sk.	Th.
3	0	5	23	0	5	59	0	6	10
4	1	0	7	1	0	56	1	1	21
5	1	1	71	1	2	49	1	3	28
6	1	3	46	1	4	38	1	5	20
7	1	5	30	1	6	35	2	0	41
8	2	0	14	2	1	32	2	2	43
9	2	1	78	2	3	17	2	4	45
10	2	3	62	2	5	18	2	6	56
11	2	5	37	3	0	12	3	1	58
12	3	0	21	3	2	5	3	3	40
13	3	2	5	3	3	78	3	5	71
14	3	3	6	3	5	71	4	0	73
15	3	5	44	4	0	64	4	3	4
16	4	0	28	4	2	57	4	4	6
17	4	2	12	4	4	59	5	0	8
18	4	4	26	4	6	52	5	2	19
19	4	5	51	5	1	45	5	4	21
20	5	0	44	5	3	38	5	6	22
21	5	2	28	5	5	40	6	1	10
22	5	3	74	6	0	33	6	3	36
23	5	5	58	6	2	8	6	5	38
24	6	0	42	6	4	28	7	0	40
25	6	2	56	6	6	7	7	2	50
26	6	4	10	7	0	76	7	4	42
27	6	5	74	7	2	73	7	6	63
28	6	0	12	7	4	62	8	1	65
29	7	2	42	7	6	55	8	3	67
30	7	3	8	8	1	48	8	5	78

15-16ths.				4-4ths.			17-16ths.		
Sh.	Nos.	Sk.	Th.	Nos.	Sk.	Th.	Nos.	Sk.	Th.
3	0	6	51	1	0	7	1	0	43
4	1	1	66	1	2	36	1	3	18
5	1	4	6	1	4	65	1	5	43
6	1	6	22	2	0	14	2	1	6
7	2	1	42	2	2	43	2	3	44
8	2	3	53	2	4	72	2	6	2
9	2	5	78	3	0	21	3	1	40
10	3	1	13	3	2	50	3	4	7
11	3	3	24	3	4	79	3	6	45
12	3	5	44	4	0	28	4	2	3
13	4	0	64	4	2	57	4	4	41
14	4	3	4	4	5	6	5	0	8
15	4	5	15	5	0	3	5	2	46
16	5	0	25	5	2	64	5	5	4
17	5	2	46	5	5	13	6	0	51
18	5	4	66	6	0	42	6	3	9
19	6	0	6	6	2	71	6	5	47
20	6	2	26	6	5	20	7	1	5
21	6	4	46	7	0	49	7	3	70
22	6	6	57	7	2	78	7	6	10
23	7	1	77	7	5	27	8	1	48
24	7	4	17	8	0	56	8	4	6
25	7	6	32	8	2	5	8	6	48
26	8	1	48	8	5	34	9	2	11
27	8	3	68	9	0	63	9	4	49
28	8	5	79	9	3	12	10	0	7
29	9	1	19	9	5	41	10	2	45
30	9	3	39	10	0	70	10	5	12

9-8ths.				5-4ths.			11-8ths.		
Sh.	Nos.	Sk.	Th.	Nos.	Sk.	Th.	Nos.	Sk.	Th.
3	1	0	74	1	1	66	1	2	54
4	1	3	46	1	4	60	1	5	70
5	1	6	22	2	0	54	2	2	7
6	2	1	68	2	3	53	2	5	28
7	2	4	45	2	6	47	3	1	40
8	3	0	13	3	2	41	3	4	61
9	3	2	68	3	5	35	4	1	2
10	3	5	44	4	1	29	4	4	14
11	4	1	11	4	4	33	5	0	35
12	4	3	67	5	0	17	5	3	56
13	4	6	14	5	3	11	5	6	68
14	5	2	10	5	6	5	6	3	9
15	5	4	57	6	2	8	6	6	30
16	6	0	33	6	5	2	7	2	42
17	6	3	0	7	0	70	7	5	63
18	6	5	56	7	3	70	8	2	4
19	7	1	32	7	6	64	8	5	10
20	7	3	79	8	2	58	9	1	37
21	7	6	64	8	5	52	9	4	49
22	8	2	22	9	1	45	10	0	70
23	8	4	29	9	4	40	10	4	11
24	9	0	45	10	0	38	11	0	37
25	9	3	21	10	3	32	11	3	43
26	9	1	63	10	6	31	11	6	65
27	10	1	44	11	2	35	12	2	77
28	10	4	11	11	5	19	12	6	18
29	10	6	67	12	1	13	13	2	39
30	11	2	43	12	4	7	13	5	51

	6-4ths.				6-4ths.		
Sh.	Nos.	Sk.	Th.	Sh.	Nos.	Sk.	Th.
3	1	3	41	17	8	3	50
4	2	0	5	18	9	0	9
5	2	3	44	19	9	3	57
6	3	0	3	20	10	0	16
7	3	3	42	21	10	3	55
8	4	0	10	22	11	0	14
9	4	3	49	23	11	3	57
10	5	0	8	24	12	0	21
11	5	3	47	25	12	3	60
12	6	0	6	26	13	0	19
13	6	3	54	27	13	3	58
14	7	0	13	28	14	0	26
15	7	3	32	29	14	3	55
16	8	0	1	30	15	0	24

Explanation of the Thirty-second Table.

The following Table shews the Manchester, Stockport, Preston, and Blackburn, muslin counts of reeds upon 36 Inches, compared with the Scotch count of reeds upon 37 Inches. The page is divided into two parts, and each part into six columns; the first column of each part contains the number by which the English reed is known; the second, the Dents in an inch; the third, the Dents in an English yard; the 4th, 5th and 6th, contain the Hundreds, Porters, and Splits of a Scotch reed, of an equal fineness.

EXAMPLE.

Suppose an English 50 reed, what set will a Scotch reed be of an equal fineness? Look in the first column of one of the parts, and you will find 50, the number of the reed; in the second, you will find 25, the Dents in one inch; in the third, you will find 900 the Dents in a yard; and in the 4th, 5th, and 6th columns, you will find 9 Hundreds, 1 Porter, and 5 Splits, which is the set of a Scotch reed equal in fineness to a 50 reed English.

Note.—What the Scotch weavers term a Porter, the English term a beer, and what the Scotch weavers term a Split, the English term a Dent. In many places of England the weavers count reeds by the number of ends or threads in an inch, therefore, the Dents or Splits in two inches is the number of the reed.

No. of the Reed.	Dents in an Inch.	Dents in a Yard.	Hundreds.	Porters.	Splits.	No. of the Reed.	Dents in an Inch.	Dents in a Yard.	Hundreds.	Porters.	Splits.
No.	In.	Yd.	H.	P.	S.	No.	In.	Yd.	H.	P.	S.
34	17	612	6	1	9	84	42	1512	15	2	14
36	18	648	6	3	6	86	43	1548	15	4	11
38	19	684	7	0	3	88	44	1584	16	1	8
40	20	720	7	2	0	90	45	1620	16	3	5
42	21	756	7	3	17	92	46	1656	17	0	2
44	22	792	8	0	14	94	47	1692	17	1	9
46	23	828	8	2	17	96	48	1728	17	3	16
48	24	864	8	4	8	98	49	1764	18	0	13
50	25	900	9	1	5	100	50	1800	18	2	10
52	26	936	9	2	12	102	51	1836	18	4	17
54	27	972	9	4	19	104	52	1872	19	1	4
56	28	1008	10	1	16	106	53	1908	19	3	1
58	29	1044	10	3	13	108	54	1944	19	4	18
60	30	1080	11	0	10	110	55	1980	20	1	15
62	31	1116	11	2	7	112	56	2016	20	3	1
64	32	1152	11	4	4	114	57	2052	21	0	9
66	33	1188	12	1	1	116	58	2088	21	2	6
68	34	1224	12	2	18	118	59	2124	21	4	3
70	35	1260	12	4	15	120	60	2160	22	1	0
72	36	1296	13	1	12	122	61	2196	22	2	17
74	37	1332	13	3	9	124	62	2232	22	4	14
76	38	1368	14	0	6	126	63	2268	23	1	11
78	39	1404	14	2	3	128	64	2304	23	3	8
80	40	1440	14	4	0	130	65	2340	24	0	5
82	41	1476	15	0	17						

Explanation of the following Twelve Tables.

The following Tables shew how to Camb or Set different kinds of Linen Cloth. On the head of the columns is marked the name of the Cloth. The page is divided into parts, and the parts into columns. The first column of the page contains the Hundreds of the Reed, the other columns contain the Ounces or Drams per hank, of the warp and weft required for the Reed in the first column, for the kinds of Cloth marked on the head of the columns; H. Reed, stands for the hundreds of the Reed; Warp, Oz. and Dr. the Ounces and Drams per hank of the Warp; Weft, Oz. and Dr. the Ounces and Drams per hank of the Weft.

EXAMPLE.

Suppose you are to make a 1200 Shirting; look on the head of the parts for Shirting, then look in the first column, and you will find 1200, and in the same line of the other columns under Shirting, you will find the weight of the Warp per hank, to be 4 ounces 2 drams, and the Weft 3 ounces 7 drams.

Note.—If there is any kind of a Figure put upon the Cloth, the nature of the Figure must be studied, as there are some Figures that requires to be thronger set than others, and must be set as the Figure requires: for example a Figure that has a great plain in it, will not require to be so throng set, as a Figure that has a little plain, &c.

	Diaper.				*Clear Lawn.*				*Britannia.*			
	Per hk.		Per hk.		Per hk.		Per hk.		Per hk.		Per hk.	
H. Reed	Warp. Oz.	Dr.	Weft. Oz.	Dr.	Warp. Oz.	Dr.	Weft. Oz.	Dr.	Warp Oz.	Dr.	Weft. Oz.	Dr.
5	15	11	14	6	0	0	0	0	0	0	0	0
6	11	0	10	0	0	0	0	0	13	7	13	4
7	8	2	7	5	4	0	3	8	9	14	9	2
8	6	4	5	10	4	1	2	11	8	2	7	0
9	5	0	4	7	2	6	2	2	6	4	5	6
10	4	0	3	9	1	15	1	11	4	15	4	4
11	3	4	3	0	1	10	1	6	4	0	3	7
12	2	12	2	8	1	5	1	3	3	4	2	12
13	0	0	0	0	1	2	1	0	2	12	2	6
14	0	0	0	0	1	0	0	14	0	0	0	0

Note.—Of Irish Linen and Holland; the Reed is counted upon 40 inches. Dornick is weaved 3 in the split, and the Reed for Umbrella Cloth is counted upon 50 Inches; if the Check is for Shirts, it is set as Shirting.

	Check.				*Dornick.*				*Umbrella Cloth.*			
	Per hk.		Per hk.		Per hk.		Per hk.		Per hk.		Per hk.	
H. Reed	Warp. Oz.	Dr.	Weft. Oz.	Dr.	Warp. Oz.	Dr.	Weft. Oz.	Dr.	Warp. Oz.	Dr.	Weft. Oz.	Dr
4	0	0	0	0	33	11	30	10	0	0	0	0
5	0	0	0	0	21	2	19	9	0	0	0	0
6	13	14	11	4	14	11	13	9	0	0	0	0
7	9	6	7	12	11	0	10	0	8	2	7	0
8	7	6	6	2	8	2	7	5	6	4	5	0
9	6	0	5	0	6	4	5	10	4	15	4	4
10	5	0	4	2	5	0	4	7	4	0	3	7
11	4	2	3	7	4	0	3	9	3	4	2	12
12	3	8	2	15	3	4	3	0	2	12	2	6
13	3	0	2	8	2	13	2	7	2	6	2	0
14	2	10	2	3	2	7	2	3	2	0	1	12
15	2	5	1	15	0	0	0	0	0	0	0	0
16	illegible											

	Shirting.				*Irish Linen.*				*Holland.*			
	Per hk.		Per hk.		Per hk.		Per hk.		Per hk.		Per hk.	
H. Reed	Warp. Oz.	Dr.	Weft. Oz.	Dr.	Warp. Oz.	Dr.	Weft. Oz.	Dr	Warp. Oz.	Dr.	Weft. Oz.	Dr.
8	9	6	7	12	11	0	9	6	0	0	0	0
9	7	6	6	2	8	10	7	6	0	0	0	0
10	6	0	5	0	7	0	6	0	8	0	6	8
11	5	0	4	2	5	12	5	0	6	10	5	6
12	4	2	3	7	4	13	4	2	5	8	4	8
13	3	8	2	15	4	2	3	8	4	11	3	12
14	3	0	2	8	3	8	3	0	4	0	3	4
15	2	10	2	3	3	2	2	10	3	9	2	14
16	2	5	1	15	2	12	2	5	3	2	2	8
17	2	1	1	11	2	7	2	1	2	12	2	4
18	1	13	1	8	2	2	1	13	2	7	2	0
19	0	0	0	0	0	0	0	0	2	3	1	12
20	0	0	0	0	0	0	0	0	2	0	1	10

	Tweeling.				*Silesia.*				*Bed Tyke.*			
	Per hk.		Per hk.		Per hk.		Per hk.		Per hk.		Per hk.	
H. Reed	Warp. Oz.	Dr.	Weft. Oz.	Dr.	Warp. Oz.	Dr.	Weft. Oz.	Dr.	Warp. Oz.	Dr.	Weft. Oz.	Dr.
6	13	14	13	14	0	0	0	0	16	0	16	0
7	10	3	10	3	8	2	7	0	11	12	11	12
8	7	13	7	13	6	4	5	6	9	0	9	0
9	6	2	6	2	4	15	4	4	7	2	7	2
10	5	0	5	0	4	0	3	7	5	12	5	12
11	4	2	4	2	3	4	2	12	4	12	4	12
12	3	7	3	7	2	12	2	6	4	0	4	0
13	2	15	2	15	2	6	2	0	3	6	3	6
14	2	8	2	8	2	0	1	12	0	0	0	0
15	2	3	2	3	0	0	0	0	0	0	0	0
16	1	15	1	15	0	0	0	0	0	0	0	0

Note.—Tweeling is weaved 3 in the split, and tyking 4; but if tweeling is weaved 2 in the split, the reed will require to be a set finer; and if Tyking

These pages were miscut in making the book and their bottoms chopped off.

Table Forty-Fifth.

Prices paid for Weaving Household, or Customary Work, in and about Perth,

Tweeled and Plain Linens.				*Bed Tyking.*			
Warp per Ell.	Price per Ell Weaving.			Warp per Ell.	Price per Ell Weaving.		
H.	*s.*	*d.*	*f.*	H.	*s.*	*d.*	*f.*
8	0	6	0	10	0	10	0
9	0	7	0	11	0	11	0
10	0	8	0	12	0	11	2
11	0	9	0	13	1	0	2
12	0	10	0	14	1	2	0
13	0	11	0	15	1	3	2
14	1	1	0	16	1	5	0
15	1	2	2	17	1	6	2
16	1	4	0	18	1	7	2
17	1	5	2	19	1	9	0
18	1	7	0	20	2	0	0
19	1	9	0	21	2	3	0
20	2	0	0	22	2	6	0
21	2	3	0	23	2	9	0
22	2	6	0	24	3	0	0
23	2	9	0	25	3	3	0
24	3	0	0	26	3	6	0

Checks under a 1000 reed three halfpence, and above a 1000 reed, twopence additional per ell to the above prices—Plain Wincies, twopence per heer of weft, and if striped, one penny each shuttle above one per ell:—Winding, warping, and dressing Linen Yarn, sixpence per spyndle—dyed or bleached, one penny additional.

Cotton and Woollen Yarns Winding.

			d.
Brown Cotton per spyndle,		-	4½
Dyed or Bleached	do.	- -	5½
Greasy Woollen	do.	- -	5½
Scoured do.	do.	- -	7½
Dyed do.	do.	- -	10½

Woollen Cloth Ell Broad.

			d.
Five heers per lb. Scots,		-	6
Seven do.	do.	-	7
Nine do.	do.	-	10

If more than ell broad, charged in proportion to breadth—Bordered Blankets charged twopence above.

Tramped Dornick twopence halfpenny above the plain. The above prices for good yarn, and ready money, and all measured ells paid for.

Explanation of the Forty-sixth Table.

The following Table shows how many spyndles and numbers are in 5 and 10 pound bundles of Yarn, at any number, from No. 18 to No: 221. The page is divided into 10 columns, the first and sixth columns marked on the head No. contains the number of the yarn; the other columns contain the spyndles and numbers in the bundle. On the head of the columns No. stands for number, Sps. for spyndles, Nos. for numbers.

EXAMPLE.

Suppose a 5 pound bundle of No. 54, look in the column marked on the head No. and you will find 54, and in the same line of the other columns under 5 lb. bundle, you will find 15 spyndles, which are the spyndles in a 5 lb. bundle of No. 54. Again, suppose a 10 lb. bundle of No. 68, in the columns marked on the head No. you will find 68, and in the same line of the other columns under 10 lb. bundle, you will find 37 spyndles, and 14 numbers, which are the spyndles and numbers in a 10 lb. bundle of No. 68.

5 lb. Bundle.		10 lb. Bundle.			5 lb. Bundle.		10 lb. Bundle.		
No.	Sps.	No	Sps.	Nos.	No.	Sps.	Nos.	Sps.	No.
18	5	0	10	0	47	13	1	26	2
19	5	5	10	10	48	13	6	26	12
20	5	10	11	2	49	13	11	27	4
21	5	15	11	12	50	13	16	27	14
22	6	2	12	4	51	14	3	28	6
23	6	7	12	14	52	14	8	28	16
24	6	12	13	6	53	14	13	29	8
25	6	17	13	16	54	15	0	30	0
26	7	4	14	8	55	15	5	30	10
27	7	9	15	0	56	15	10	31	2
28	7	14	15	10	57	15	15	31	12
29	8	1	16	2	58	16	2	32	4
30	8	6	16	12	59	16	7	32	14
31	8	11	17	4	60	16	12	33	6
32	8	16	17	14	61	16	17	33	16
33	9	3	18	6	62	17	4	34	8
34	9	8	18	16	63	17	9	35	0
35	9	13	19	8	64	17	14	35	10
36	10	0	20	0	65	18	1	36	2
37	10	5	20	10	66	18	6	36	12
38	10	10	21	2	67	18	11	37	4
39	10	15	21	12	68	18	16	37	14
40	11	2	22	4	69	19	3	38	6
41	11	7	22	14	70	19	8	38	16
42	11	12	23	6	71	19	13	39	8
43	11	17	23	16	72	20	0	40	0
44	12	4	24	8	73	20	5	40	10
45	12	9	25	0	74	20	10	41	2
46	12	14	25	10	75	20	15	41	12

5 lb. Bundle.		10 lb. Bundle.			5 lb. Bundle.		10 lb. Bundle.		
No.	Sps.	Nos.	Sps.	Nos.	No.	Sps.	Nos.	Sps.	Nos.
76	21	2	42	4	105	29	0	58	6
77	21	7	42	14	106	29	8	58	16
78	21	12	43	6	107	29	13	59	8
79	21	17	43	16	108	30	0	60	0
80	22	4	44	8	109	30	5	60	10
81	22	9	45	0	110	30	10	61	2
82	22	14	45	10	111	30	15	61	12
83	23	1	46	2	112	31	2	62	4
84	23	6	46	12	113	31	7	62	14
85	23	11	47	4	114	31	12	63	6
86	23	16	47	14	115	31	17	63	16
87	24	3	48	6	116	32	4	64	8
88	24	8	48	16	117	32	9	65	0
89	24	13	49	8	118	32	18	65	10
90	25	0	50	0	119	33	1	66	2
91	25	5	50	10	120	33	6	66	12
92	25	10	51	2	121	33	11	67	4
93	25	15	51	12	122	33	16	67	14
94	26	2	52	4	123	34	3	68	6
95	26	7	52	14	124	34	8	68	16
96	26	12	53	6	125	34	13	69	8
97	26	17	53	16	126	35	0	70	0
98	27	4	54	8	127	35	5	70	10
99	27	9	55	0	128	35	10	71	2
100	27	14	55	10	129	35	15	71	12
101	28	1	56	2	130	36	2	72	4
102	28	6	56	12	131	36	7	72	14
103	28	11	57	4	132	36	12	73	6
104	28	16	57	14	133	36	17	73	16

5 lb. Bundle.		10 lb. Bundle.			5 lb. Bundle.		10 lb. Bundle.		
No.	Sps.	Nos.	Sps.	Nos.	No.	Sps.	Nos.	Sps.	Nos.
134	37	4	74	8	163	45	5	90	10
135	37	9	75	0	164	45	10	91	2
136	37	14	75	10	165	45	15	91	12
137	38	1	76	2	166	46	2	92	4
138	38	6	76	12	167	46	7	92	14
139	38	11	77	4	168	46	12	93	6
140	38	16	77	14	169	46	17	93	16
141	39	3	78	6	170	47	4	94	8
142	39	8	78	16	171	47	9	95	0
143	39	13	79	8	172	47	14	95	10
144	40	0	80	0	173	48	1	96	2
145	40	5	80	10	174	48	6	96	12
146	40	10	81	2	175	48	11	97	4
147	40	15	81	12	176	48	16	97	14
148	41	2	82	4	177	49	3	98	6
149	41	7	82	14	178	49	8	98	16
150	41	12	83	6	179	49	13	99	8
151	41	17	83	16	180	50	0	100	0
152	42	4	84	8	181	50	5	100	10
153	42	9	85	0	182	50	10	101	2
154	42	14	85	10	183	50	15	101	12
155	43	1	86	2	184	51	2	102	4
156	43	6	86	12	185	51	7	102	14
157	43	11	87	4	186	51	12	103	6
158	43	16	87	14	187	51	17	103	16
159	44	3	88	6	188	52	4	104	8
160	44	8	88	16	189	52	9	105	0
162	44	13	89	8	190	52	14	105	10
161	45	0	90	0	191	53	1	106	2

5 lb. Bundle.		10 lb. Bundle.			5 lb. Bundle.		10 lb. Bundle.		
No.	Sps.	Nos.	Sps.	Nos.	No.	Sps.	Nos.	Sps.	Nos.
192	53	6	106	12	207	57	9	115	0
193	53	11	107	4	208	57	14	115	10
194	53	16	107	14	209	58	1	116	2
195	54	3	108	6	210	58	6	116	12
196	54	8	108	16	211	58	11	117	4
197	54	14	109	8	212	58	16	117	14
198	55	0	110	0	213	59	3	118	6
199	55	5	110	10	214	59	8	118	16
200	55	10	111	2	215	59	13	119	8
201	55	15	111	12	216	60	0	120	0
202	56	2	112	4	217	60	5	120	10
203	56	7	112	14	218	60	10	121	2
204	56	12	113	6	219	60	15	121	14
205	56	17	113	16	220	61	2	122	4
209	57	4	114	8	221	61	7	122	12

Explanation of the Forty-Seventh Table.

The first page of the following Table shews the list price of the pound of Water-Twist Cotton Yarn, at any No. from No. 20 to No. 70, and of the Spyndle from No. 20 to No. 40, and of every two numbers from No. 40 to No. 70; the other pages of the Table shew the neat cost of the Pound and Spyndle, every two numbers from No. 20 to No. 70, at any discount from *5 per cent.* to *52½ per cent.*; the columns marked on the head No. contains the number of the yarn, the other columns marked on the head per Lb. and per Sp. contains the price of the pound and spyndle, at the discount marked on the head of the columns.

EXAMPLE.

Suppose No. 36, the list price of the pound is 6s. and of the spyndle 3s. what is the neat cost, the discount being 37½ per cent? Look on the head of the pages for 37½ per cent, then look in the column marked on the head No. and you will find 36, and in the same line of the other columns under 37½ per cent. you will find the price of the pound to be 3s. 9d. and the spyndle 1s. 10½d. which is the neat cost.

Note, By adding the prices of any two numbers together, and then halving them, gives you the price of the No. betwixt them.

List Price of Water Twist.

No.	Per Lb. S.	D.	F.	Per Sp. S.	D.	F.	No.	Per Lb. S.	D.	F.	Per Sp. S.	D.	F.
20	4	0	0	3	7	1	46	7	2	0	2	9	3
21	4	1	2	3	6	2	47	7	3	0	0	0	0
22	4	3	0	3	5	3	48	7	4	0	2	9	0
23	4	4	2	3	5	1	49	7	5	0	0	0	0
24	4	6	0	3	4	2	50	7	6	0	2	8	2
25	4	7	2	3	4	0	51	7	7	0	0	0	0
26	4	9	0	3	3	2	52	7	8	0	2	7	3
27	4	10	2	3	3	0	53	7	9	0	0	0	0
28	5	0	0	3	2	2	54	7	10	0	2	7	2
29	5	1	2	3	2	1	55	7	11	2	0	0	0
30	5	3	0	3	2	0	56	8	1	0	2	7	1
31	5	4	2	3	1	2	57	8	2	2	0	0	0
32	5	6	0	3	1	0	58	8	4	0	2	7	0
33	5	7	2	3	0	3	59	8	5	2	0	0	0
34	5	9	0	6	0	2	60	8	7	0	2	7	0
35	5	10	2	3	0	1	61	8	9	0	0	0	0
36	6	0	0	3	0	0	62	8	11	0	2	7	0
37	6	1	2	2	11	3	63	9	1	0	0	0	0
38	6	3	0	2	11	2	64	9	3	1	2	7	1
39	6	4	2	2	11	1	65	9	5	0	0	0	0
40	6	6	0	2	11	0	66	9	7	0	2	7	2
41	6	7	2	0	0	0	67	9	9	0	0	0	0
42	6	9	0	2	10	3	68	9	11	0	2	7	2
43	6	10	2	0	0	0	69	10	1	0	0	0	0
44	7	0	0	2	10	2	70	10	3	0	2	7	3
45	7	1	0	0	0	0							

No.	5 Per cent. Per Lb. S.	D.	F.	Per Sp. S.	D.	F.	7½ Per cent. Per Lb. S.	D.	F.	Per Sp. S.	D.	F.
20	3	9	2	3	5	0	3	8	2	3	4	0
22	4	0	2	3	3	3	3	11	1	3	3	0
24	4	3	1	3	2	2	4	2	0	3	1	2
26	4	6	1	3	1	2	4	4	3	3	0	2
28	4	9	0	3	0	3	4	7	2	2	11	2
30	4	11	3	3	0	0	4	10	1	2	11	1
32	5	2	3	2	11	2	5	1	0	2	10	1
34	5	5	2	2	10	3	5	3	3	2	9	3
36	5	8	2	2	10	1	5	6	3	2	9	1
38	5	11	1	2	9	3	5	9	2	2	8	3
40	6	2	0	2	9	1	6	0	1	2	8	2
42	6	5	0	2	9	0	6	3	0	2	8	1
44	6	7	3	2	8	2	6	5	3	2	8	0
46	6	9	3	2	8	0	6	7	2	2	7	1
48	6	11	3	2	7	1	6	9	2	2	6	2
50	7	1	2	2	6	3	6	11	1	2	6	0
52	7	3	2	2	6	1	7	1	0	2	5	2
54	7	5	1	2	5	3	7	3	0	2	5	1
56	7	8	1	2	5	3	7	5	3	2	5	0
58	7	11	0	2	5	2	7	8	2	2	4	3
60	8	2	0	3	5	2	7	11	1	2	4	3
62	8	5	3	2	5	2	8	3	0	2	4	3
64	8	9	2	2	5	3	8	6	3	2	5	0
66	9	1	1	2	5	3	8	10	2	2	5	1
68	9	5	0	2	6	0	9	2	0	2	5	1
70	9	9	0	2	6	0	9	5	3	2	5	2

	10 Per cent.						12½ Per cent.					
	Per Lb.			Per Sp.			Per Lb.			Per Sp.		
No.	S.	D.	F.	S.	D.	F.	S.	D.	F.	S.	D.	F.
20	3	7	1	3	3	0	3	6	0	3	2	0
22	3	10	0	3	1	3	3	8	3	3	0	3
24	4	0	2	2	0	2	3	11	1	2	11	2
26	4	3	1	2	11	2	4	2	0	2	10	2
28	4	6	0	2	10	3	4	4	2	2	9	3
30	4	8	3	2	10	1	4	7	0	2	9	1
32	4	11	2	2	9	2	4	9	3	2	8	2
34	5	2	0	2	9	0	5	0	2	2	8	0
36	5	4	3	2	8	2	5	3	0	2	7	2
38	5	7	2	2	8	0	5	5	3	2	7	0
40	5	10	1	2	7	2	5	8	1	2	6	3
42	6	1	0	2	7	1	5	11	0	2	6	2
44	6	3	2	2	7	0	6	1	2	2	6	1
46	6	5	2	2	6	1	6	3	1	2	5	2
48	6	7	1	2	5	3	6	5	0	2	5	0
50	6	9	0	2	5	1	6	6	3	2	4	2
52	6	10	3	2	4	2	6	8	2	2	3	3
54	7	0	2	2	4	1	6	10	1	2	3	2
56	7	3	3	2	4	0	7	1	0	2	3	1
58	7	6	0	2	4	0	7	3	2	2	3	1
60	7	8	3	2	4	0	7	6	1	2	3	1
62	8	0	1	2	4	0	7	9	3	2	3	1
64	8	4	0	2	4	1	8	1	1	2	3	1
66	8	7	2	2	4	1	8	4	3	2	3	2
68	8	11	0	2	4	2	8	8	1	2	3	2
70	9	2	3	2	4	2	8	11	3	2	3	3

	15 Per cent.						17½ Per cent.					
	Per Lb.			Per Sp.			Per Lb.			Per Sp.		
No.	S.	D.	F.	S.	D.	F.	S.	D.	F.	S.	D.	F.
20	3	4	3	3	0	3	3	3	3	2	11	3
22	3	7	2	2	11	3	3	6	1	2	10	3
24	3	10	0	2	10	2	3	8	2	2	9	2
26	4	0	2	2	9	2	3	11	0	2	8	3
28	4	3	0	2	8	3	4	1	2	2	7	3
30	4	5	2	2	8	1	4	4	0	2	7	1
32	4	8	1	2	7	2	4	6	2	2	6	2
34	4	10	3	2	7	0	4	9	0	2	6	1
36	5	1	1	2	6	3	4	11	2	2	5	3
38	5	3	3	2	6	1	5	2	0	2	5	2
40	5	6	1	2	5	3	5	4	2	2	5	0
42	5	8	3	2	5	2	5	7	0	2	4	3
44	5	11	2	2	5	1	5	9	2	2	4	2
46	6	1	1	2	4	3	5	11	0	2	4	0
48	6	2	3	2	4	0	6	0	3	2	3	1
50	6	4	2	2	3	3	6	2	1	2	3	0
52	6	6	1	2	3	0	6	4	0	2	2	1
54	6	8	0	2	2	3	6	5	2	2	2	0
56	6	10	2	2	2	2	6	8	0	2	1	3
58	7	1	0	2	2	2	6	10	2	2	1	2
60	7	3	2	2	2	1	7	1	0	2	1	2
62	7	7	0	2	2	2	7	4	2	2	1	2
64	7	10	2	2	2	2	7	7	2	2	1	3
66	8	1	3	2	2	3	7	11	0	2	2	0
68	8	5	1	2	2	3	8	2	1	2	2	0
70	8	8	2	2	3	0	8	5	2	2	2	1

	20 Per cent.						22½ Per cent.					
	Per Lb.			Per Sp.			Per Lb.			Per Sp.		
No.	S.	D.	F.	S.	D.	F.	S.	D.	F.	S.	D.	F.
20	3	2	2	2	10	3	3	1	1	2	9	2
22	3	4	3	2	9	3	3	3	2	2	8	2
24	3	7	1	2	8	2	3	6	0	2	7	2
26	3	9	3	2	7	3	3	8	1	2	6	3
28	4	0	0	2	7	0	3	10	2	2	6	0
30	4	2	2	2	6	2	4	0	3	2	5	2
32	4	4	3	2	5	3	4	3	1	2	4	3
34	4	7	1	2	5	1	4	5	2	2	4	1
36	4	9	3	2	4	3	4	7	2	2	4	0
38	5	0	0	2	4	2	4	10	1	2	3	2
40	5	2	2	2	4	0	5	0	2	2	3	1
42	5	4	3	2	3	3	5	2	3	2	3	0
44	5	7	1	2	3	2	5	5	1	2	2	2
46	5	8	3	2	3	0	5	6	3	2	2	1
48	5	10	2	2	2	2	5	8	1	2	1	3
50	6	0	0	2	2	0	5	9	3	2	1	1
52	6	1	3	2	1	2	5	11	2	2	0	3
54	6	3	1	2	1	1	6	1	0	2	0	2
56	6	5	3	2	1	0	6	3	1	2	0	1
58	6	8	0	2	0	3	6	5	2	2	0	0
60	6	10	2	2	0	3	6	8	0	2	0	0
62	7	1	3	2	0	3	6	11	0	2	0	0
64	7	4	3	2	1	0	7	2	0	2	0	1
66	7	8	0	2	1	1	7	5	1	2	0	2
68	7	11	1	2	1	1	7	8	2	2	0	2
70	8	2	2	2	1	2	7	11	2	2	0	3

	25 Per cent.						27½ Per cent.					
	Per Lb.			Per Sp.			Per Lb.			Per Sp.		
No.	S.	D.	F.	S.	D.	F.	S.	D.	F.	S.	D.	F.
20	3	0	0	2	8	2	2	10	3	2	7	1
22	3	2	1	2	7	2	3	1	0	2	6	2
24	3	4	2	2	6	2	3	3	1	2	5	1
26	3	6	3	2	5	3	2	5	1	2	4	2
28	3	9	0	2	5	0	3	7	2	2	4	0
30	3	11	1	2	4	2	3	9	3	2	3	2
32	4	1	2	2	3	3	3	11	3	2	2	3
34	4	3	3	2	3	2	4	2	0	2	2	2
36	4	6	0	2	3	0	4	4	1	2	2	0
38	4	8	1	2	2	3	4	6	2	2	1	3
40	4	10	2	2	2	1	4	8	2	2	1	2
42	5	0	3	2	2	1	4	10	3	2	1	1
44	5	3	0	2	2	0	5	1	0	2	1	0
46	5	4	2	2	1	1	5	2	2	2	0	2
48	5	6	0	2	0	3	5	3	3	2	0	0
50	5	7	2	2	0	2	5	5	1	1	11	2
52	5	9	0	1	11	3	5	6	3	1	11	0
54	5	10	2	1	11	2	5	8	1	1	10	3
56	6	0	3	1	11	2	5	10	2	1	10	3
58	6	3	0	1	11	1	6	0	2	1	10	2
60	6	5	1	1	11	1	6	2	3	1	10	2
62	6	8	1	1	11	1	6	5	2	1	10	2
64	6	11	1	1	11	2	6	8	2	1	10	3
66	7	2	1	1	11	2	6	11	2	1	10	3
68	7	5	1	1	11	3	7	2	1	1	10	3
70	7	8	1	1	11	3	7	5	1	1	18	0

	30 Per cent.						32½ Per cent.					
	Per Lb.			Per Sp.			Per Lb.			Per Sp.		
No.	S.	D.	F.	S.	D.	F.	S.	D.	F.	S.	D.	F.
20	2	9	3	2	6	1	2	8	1	2	5	1
22	2	11	3	2	5	2	2	10	2	2	4	2
24	3	1	3	2	4	2	3	0	2	2	3	2
26	3	4	0	2	3	3	3	2	2	2	2	3
28	3	6	0	2	3	0	3	4	2	2	2	0
30	3	8	0	2	2	2	3	6	2	2	1	3
32	3	10	1	2	2	0	3	8	2	2	1	0
34	4	0	1	2	1	2	3	10	2	2	0	3
36	4	2	2	2	1	1	4	0	3	2	0	1
38	4	4	2	2	1	0	4	2	3	2	0	0
40	4	6	3	2	0	2	4	4	3	1	11	3
42	4	8	3	2	0	1	4	6	3	1	11	2
44	4	10	3	2	0	1	4	8	3	1	11	1
46	5	0	1	1	11	3	4	10	0	1	10	3
48	5	1	3	1	11	1	4	11	2	1	10	1
50	5	3	0	1	10	3	5	0	3	1	10	0
52	5	4	2	1	10	1	5	2	1	1	9	2
54	5	5	3	1	10	0	5	3	2	1	9	1
56	5	8	0	1	10	0	5	6	0	1	9	0
58	5	10	0	1	9	3	5	7	2	1	9	0
60	6	0	1	1	9	3	5	9	2	1	9	0
62	6	3	0	1	9	3	6	0	1	1	9	0
64	6	5	3	1	10	0	6	3	0	1	9	0
66	6	8	2	1	10	0	6	5	3	1	9	1
68	6	11	1	1	10	1	6	8	2	1	9	1
70	7	2	1	1	10	1	6	11	0	1	9	0

	35 Per cent.						37½ Per cent.					
	Per Lb.			Per Sp.			Per Lb.			Per Sp.		
No.	S.	D.	F.	S.	D.	F.	S.	D.	F.	S.	D.	F.
20	2	7	1	2	4	1	2	6	0	2	3	0
22	2	9	1	2	3	1	2	8	0	2	2	1
24	2	11	1	2	2	1	2	9	3	2	1	1
26	3	1	0	2	1	3	2	11	3	2	0	3
28	3	3	0	2	1	0	3	1	2	2	0	0
30	3	5	0	2	0	3	3	3	2	1	11	3
32	3	7	0	2	0	0	3	5	1	1	11	1
34	3	8	3	1	11	3	3	7	1	1	10	3
36	3	10	3	1	11	2	3	9	0	1	10	2
38	4	0	3	1	11	1	3	11	0	1	10	1
40	4	2	3	1	10	3	4	1	0	1	10	0
42	4	4	3	1	10	3	4	2	3	1	9	3
44	4	6	3	1	10	2	4	4	2	1	9	2
46	4	8	0	1	10	0	4	5	3	1	9	1
48	4	9	1	1	9	2	4	7	0	1	8	3
50	4	10	2	1	9	1	4	8	1	1	8	1
52	4	11	3	1	8	3	4	9	2	1	8	0
54	5	1	1	1	8	2	4	10	3	1	7	3
56	5	3	0	1	8	2	5	0	1	1	7	2
58	5	5	0	1	8	1	5	2	2	1	7	1
60	5	7	0	1	8	1	5	4	2	1	7	1
62	5	9	2	1	8	1	5	7	0	1	7	1
64	6	0	1	1	8	2	5	9	2	1	7	2
66	6	2	3	1	8	2	6	0	0	1	7	3
68	6	5	2	1	8	2	6	2	2	1	7	3
70	6	8	0	1	8	3	6	5	0	1	8	0

	40 Per cent.						42½ Per cent.					
	Per Lb.			Per Sp.			Per Lb.			Per Sp.		
No.	S.	D.	F.	S.	D.	F.	S.	D.	F.	S.	D.	F.
20	2	4	3	2	2	0	2	3	3	2	1	0
22	2	6	3	2	1	1	2	5	1	2	0	1
24	2	8	2	2	0	1	2	7	0	1	11	1
26	2	10	1	1	11	3	2	8	3	1	10	3
28	3	0	0	1	11	1	2	10	2	1	10	1
30	3	1	3	1	10	3	3	0	1	1	10	0
32	3	3	3	1	10	1	3	2	0	1	9	1
34	3	5	2	1	10	0	3	3	3	1	9	0
36	3	7	1	1	9	3	3	5	2	1	8	3
38	3	9	0	1	9	1	3	7	1	1	8	2
40	3	10	3	1	9	0	3	9	0	1	8	1
42	4	0	3	1	9	0	3	10	2	1	8	0
44	4	2	2	1	8	3	4	0	1	1	7	3
46	4	3	3	1	8	1	4	1	2	1	7	1
48	4	4	3	1	7	3	4	2	3	1	7	0
50	4	6	0	1	7	2	4	3	3	1	6	3
52	4	7	1	1	7	0	4	5	0	1	6	1
54	4	8	2	1	7	0	4	6	0	1	6	1
56	4	10	1	1	6	3	4	7	3	1	6	0
58	5	0	0	1	6	2	4	9	2	1	6	0
60	5	1	3	1	6	3	4	11	1	1	5	3
62	5	4	1	1	6	3	5	1	0	1	5	3
64	5	6	3	1	6	3	5	3	3	1	5	3
66	5	9	0	1	7	0	5	6	1	1	6	0
68	5	11	2	1	7	0	5	8	2	1	6	1
70	6	1	3	1	7	0	5	10	3	1	6	1

	45 Per cent.						47½ Per cent.					
	Per Lb.			Per Sp.			Per Lb.			Per Sp.		
No.	S.	D.	F.	S.	D.	F.	S.	D.	F.	S.	D.	F.
20	2	2	2	1	11	3	2	1	1	1	10	3
22	2	4	0	1	11	1	2	2	3	1	10	0
24	2	5	3	1	10	1	2	4	2	1	9	1
26	2	7	2	1	9	3	2	6	0	1	8	3
28	2	9	0	1	9	1	2	7	2	1	8	1
30	2	10	3	1	9	0	2	9	0	1	8	0
32	3	0	1	1	8	2	2	10	3	1	7	2
34	3	2	0	1	8	1	3	0	1	1	7	1
36	3	3	3	1	7	3	3	1	3	1	7	0
38	3	5	1	1	7	2	3	3	2	1	6	3
40	3	7	0	1	7	1	3	5	0	1	6	2
42	3	8	2	1	7	1	3	6	0	1	6	1
44	3	10	1	1	7	0	3	8	1	1	6	1
46	3	11	2	1	6	2	3	9	1	1	5	3
48	4	0	2	1	6	1	3	10	1	1	5	2
50	4	1	2	1	6	0	3	11	1	1	5	0
52	4	2	3	1	5	2	4	0	1	1	4	3
54	4	3	3	1	5	2	4	1	2	1	4	2
56	4	5	2	1	5	1	4	3	0	1	4	1
58	4	7	0	1	5	0	4	4	2	1	4	1
60	4	8	3	1	5	0	4	6	0	1	4	1
62	4	11	0	1	5	0	4	7	3	1	4	1
64	5	1	0	1	5	1	4	10	1	1	4	1
66	5	3	1	1	5	1	5	0	2	1	4	2
68	5	5	2	1	5	2	5	2	2	1	4	2
70	5	7	3	1	5	2	5	4	3	1	4	3

	50 Per cent.						52½ Per cent.					
	Per Lb.			Per Sp.			Per Lb.			Per Sp.		
No.	S.	D.	F.	S.	D.	F.	S.	D.	F.	S.	D.	F.
20	2	0	0	1	9	2	1	10	3	1	8	2
22	2	1	2	1	9	0	2	0	1	1	8	0
24	2	3	0	1	8	1	2	1	3	1	7	2
26	2	4	2	1	7	3	2	3	0	1	6	3
28	2	6	0	1	7	1	2	4	2	1	6	1
30	2	7	2	1	7	0	2	6	0	1	6	0
32	2	9	0	1	6	2	2	7	2	1	5	3
34	2	10	2	1	6	1	2	8	3	1	5	2
36	3	0	0	1	6	0	2	10	1	1	5	1
38	3	1	2	1	5	3	2	11	3	1	5	0
40	3	3	0	1	5	2	3	1	0	1	4	3
42	3	4	2	1	5	1	3	2	2	1	4	2
44	3	6	0	1	5	1	3	4	0	1	4	1
46	3	7	0	1	5	0	3	5	1	1	4	0
48	3	8	0	1	4	2	3	5	3	1	3	3
50	3	9	0	1	4	1	3	6	3	1	3	2
52	3	10	0	1	4	0	3	7	3	1	3	0
54	3	11	0	1	3	3	3	8	3	1	3	0
56	4	0	2	1	3	2	3	10	0	1	3	0
58	4	2	0	1	3	2	3	11	2	1	2	3
60	4	3	2	1	3	2	4	1	0	1	2	3
62	4	5	2	1	3	2	4	2	3	1	2	3
64	4	7	2	1	3	2	4	4	3	1	3	0
66	4	9	2	1	3	3	4	6	3	1	3	0
68	4	11	2	1	3	3	4	8	2	1	3	0
70	5	1	2	1	4	0	4	10	2	1	3	0

Explanation of the Forty-Eight Table.

The first 2 pages of the following Table shew the list price of the pound and spyndle of Mull Twist Cotton Yarn, at any No. from No. 40 to 140; the other pages of the table shew the neat cost of the pound and spyndle every two Nos. from No. 40 to No. 140, at any discount from 1¼ per cent. to 62½ per cent. The columns marked on the head No. contains the number of the yarn, the other columns marked on the head per Lb. and per Sp. contain the price of the pound and spyndle at the discount marked on the head of the columns.

EXAMPLE.

Suppose No. 46, the list price of the pound is 7s. and of the spyndle 2s. 9d. what is the neat cost the discount being 47½ per cent? Look on the head of the pages for 47½ per cent. then look in the columns marked on the head No. and you will find 46, and in the same line of the other columns under 47½ per cent, you will find the price of the pound to be 3s. 8d. and the spyndle 1s. 5d. which is the neat cost.

Note, By adding the prices of any two numbers together, and then halving them, gives you the price of the No. betwixt them.

List Price of Mull-Twist.

	Per Lb.			Per Sp.				Per Lb.			Per Sp.		
No.	S.	D.	F.	S.	D.	F.	No.	S.	D.	F.	S.	D.	F.
40	6	6	0	2	11	0	65	8	9	0	2	5	0
41	6	7	0	2	10	3	66	8	10	0	2	5	0
42	6	8	0	2	10	1	67	8	11	2	2	4	3
43	6	9	0	2	10	0	68	9	1	0	2	4	3
44	6	10	0	2	9	2	69	9	2	2	2	4	3
45	6	11	0	3	9	1	70	9	4	0	2	4	3
46	7	0	0	2	9	0	71	9	5	2	2	4	3
47	7	1	0	2	8	2	72	9	7	0	2	4	3
48	7	2	0	2	8	1	73	9	8	2	2	4	3
49	7	3	0	2	8	0	74	9	10	0	2	4	3
50	7	4	0	2	7	3	75	9	11	2	2	4	3
51	7	5	0	2	7	2	76	10	1	0	2	4	3
52	7	6	0	2	7	1	77	10	2	2	2	4	3
53	7	7	0	2	7	0	78	10	4	0	2	4	3
54	7	8	0	2	6	3	79	10	5	2	2	4	3
55	7	9	0	2	6	2	80	19	7	0	2	4	2
56	7	10	0	2	6	1	81	10	8	2	2	4	2
57	7	11	2	2	6	1	82	10	10	0	2	4	2
58	8	1	0	2	6	0	83	10	11	2	2	4	2
59	8	2	2	2	6	0	84	11	1	0	2	4	2
60	8	4	0	2	6	0	85	11	3	0	2	4	3
61	8	5	0	2	5	3	86	11	5	0	2	4	3
62	8	6	0	2	5	2	87	11	7	0	2	4	3
63	8	7	0	2	5	2	88	11	9	0	2	4	3
64	8	8	0	2	5	1	89	11	11	0	2	5	0

List Price of Mull Twist.

	Per Lb.			Per Sp.				Per Lb.			Per Sp.		
No.	S.	D.	F.	S.	D.	F.	No.	S.	D.	F.	S.	D.	F.
90	12	1	0	2	5	0	116	19	1	0	2	11	2
91	12	4	0	2	5	1	117	19	5	0	3	0	0
92	12	7	0	2	5	2	118	19	9	0	3	0	1
93	12	10	0	2	6	0	119	20	1	0	3	0	2
94	13	1	0	2	6	0	120	20	5	0	3	0	3
95	13	4	0	2	6	2	121	20	9	0	3	1	0
96	13	7	0	2	6	2	122	21	1	0	3	1	2
97	13	10	0	2	6	2	123	21	5	0	3	1	3
98	14	1	0	2	7	0	124	21	9	0	3	2	0
99	14	4	0	2	7	1	125	22	1	0	3	2	1
100	14	7	0	2	7	2	126	22	5	0	3	2	2
101	14	10	0	2	7	3	127	22	9	0	3	2	3
102	15	1	0	2	8	0	128	23	1	0	3	3	0
103	15	4	0	2	8	1	129	23	5	0	3	3	1
104	15	7	0	2	8	2	130	23	9	0	3	3	2
105	15	10	0	2	8	2	131	24	2	0	3	3	3
106	16	1	0	2	8	3	132	24	7	0	3	4	1
107	16	4	0	2	8	3	133	25	0	0	3	4	2
108	16	7	0	2	9	1	134	25	5	0	3	5	0
109	16	10	0	2	9	2	135	25	10	0	3	5	2
110	17	1	0	2	9	2	136	26	3	0	3	5	3
111	17	5	0	2	10	0	137	26	8	0	3	6	0
112	17	9	0	2	10	1	138	27	1	0	3	6	2
113	18	1	0	2	10	2	139	27	6	0	3	6	3
114	18	5	0	2	11	0	140	27	11	0	3	7	0
115	18	9	0	2	11	1							

	1¼ Per cent.						2½ Per cent.					
	Per Lb.			Per Sp.			Per Lb.			Per Sp.		
No.	S.	D.	F.	S.	D.	F.	S.	D.	F.	S.	D.	F.
40	6	5	0	2	10	2	6	4	0	2	10	1
42	6	7	0	2	10	0	6	6	0	2	9	2
44	6	9	0	2	9	0	6	8	0	2	8	3
46	6	11	0	2	8	2	6	10	0	2	8	1
48	7	1	0	2	8	0	7	0	0	2	7	2
50	7	3	0	2	7	1	7	1	3	2	7	0
52	7	5	0	2	6	3	7	3	3	2	6	2
54	7	7	0	2	6	1	7	5	3	2	6	0
56	7	9	0	2	6	0	7	7	3	2	5	2
58	7	11	3	2	5	3	7	10	2	2	5	1
60	8	2	3	2	5	3	8	1	2	2	5	1
62	8	4	3	2	5	1	8	3	2	2	5	0
64	8	6	3	2	5	0	8	5	2	2	4	2
66	8	8	3	2	4	2	8	7	2	2	4	1
68	8	11	3	2	4	2	8	10	1	2	4	1
70	9	2	3	2	4	2	9	1	1	2	4	0
72	9	5	2	2	4	2	9	4	1	2	4	0
74	9	8	2	2	4	2	9	7	0	2	4	0
76	9	11	2	2	4	2	9	10	0	2	4	0
78	10	2	2	2	4	1	10	1	0	2	4	0
80	10	5	2	2	4	1	10	4	0	2	4	0
82	10	8	2	2	4	1	10	6	3	2	4	0
84	10	11	2	2	4	1	10	9	3	2	4	0
86	11	3	2	2	4	2	11	1	3	2	4	0
88	11	7	1	2	4	2	11	5	2	2	4	0
90	11	11	1	2	4	3	11	9	2	2	4	1

	1¼ Per cent.						2½ Per cent.					
	Per Lb.			Per Sp.			Per Lb.			Per Sp.		
No.	S.	D.	F.	S.	D.	F.	S.	D.	F.	S.	D.	F.
92	12	5	0	2	5	1	12	3	1	2	5	0
94	12	11	0	2	5	3	12	9	2	2	5	2
96	13	5	0	2	6	1	13	3	0	2	5	3
98	13	11	0	2	6	3	13	8	3	2	6	1
100	14	5	0	2	7	1	14	2	3	2	6	3
102	14	10	3	2	7	2	14	8	2	2	7	1
104	15	4	3	2	8	0	15	2	2	2	7	2
106	15	10	3	2	8	2	15	8	2	2	8	0
108	16	4	2	2	8	3	16	2	0	2	8	2
110	16	10	2	2	9	1	16	8	0	2	8	3
112	17	6	2	2	9	3	17	3	3	2	9	2
114	18	2	1	2	10	2	17	11	2	2	10	0
116	18	10	1	2	11	1	18	7	1	2	10	3
118	19	6	0	2	11	3	19	3	0	2	11	1
120	20	2	0	3	0	1	19	10	3	2	11	3
122	20	10	0	3	1	0	20	6	3	3	0	2
124	21	5	3	3	1	2	21	2	3	3	1	0
126	22	1	3	3	2	0	21	10	1	3	1	2
128	22	9	2	3	2	2	22	6	0	3	2	0
130	23	5	2	3	3	1	23	2	0	3	2	2
132	24	3	1	3	3	3	23	11	3	3	3	1
134	25	1	1	3	4	2	24	9	2	3	4	0
136	25	11	0	3	5	1	25	7	1	3	3	3
138	26	9	0	3	6	0	26	5	0	3	5	1
140	27	7	0	3	6	2	27	2	3	3	6	0

	5 Per cent.						7½ Per cent.					
	Per Lb.			Per Sp.			Per Lb.			Per Sp.		
No.	S.	D.	F.	S.	D.	F.	S.	D.	F.	S.	D.	F.
40	6	2	0	2	9	1	6	0	1	2	8	2
42	6	4	0	2	8	2	6	2	0	2	7	3
44	6	6	0	2	8	0	6	4	0	2	7	0
46	6	7	3	2	7	1	6	5	3	2	6	2
48	6	9	3	2	6	3	6	7	2	2	6	0
50	6	11	3	2	6	1	6	9	2	2	5	1
52	7	1	2	2	5	2	6	11	1	2	4	3
54	7	3	2	2	5	1	7	1	1	2	4	2
56	7	5	1	2	5	0	7	3	0	2	4	0
58	7	8	1	2	4	3	7	5	3	2	4	0
60	7	11	0	2	4	2	7	8	2	2	3	3
62	8	1	0	2	4	1	7	10	2	2	3	2
64	8	2	3	2	3	3	8	0	1	2	3	1
66	8	4	3	2	3	2	8	2	0	2	2	3
68	8	7	2	2	3	2	8	5	0	2	2	3
70	8	10	2	2	3	2	8	7	3	2	2	3
72	9	1	1	2	3	1	8	10	2	2	2	2
74	9	4	1	2	3	1	9	1	1	2	2	2
76	9	7	0	2	3	1	9	4	0	2	2	2
78	9	9	3	2	3	1	9	6	3	2	2	2
80	10	0	3	2	3	1	9	9	2	2	2	2
82	10	3	2	2	3	1	10	0	1	2	2	2
84	10	6	2	2	3	0	10	4	0	2	2	2
86	10	10	1	2	3	1	10	6	3	2	2	2
88	11	2	0	2	3	2	10	10	2	2	2	3
90	11	5	3	2	3	2	11	2	1	2	2	3

	5 Per cent.						7½ Per cent.					
	Per Lb.			Per Sp.			Per Lb.			Per Sp.		
No.	S.	D.	F.	S.	D.	F.	S.	D.	F.	S.	D.	F.
92	11	11	2	2	4	0	11	7	3	2	3	2
94	12	5	1	2	4	3	12	1	1	2	4	0
96	12	10	3	2	5	0	12	6	3	2	4	1
98	13	3	2	2	5	2	13	0	1	2	4	3
100	13	10	1	2	6	0	13	6	0	2	5	1
102	14	4	0	2	6	2	13	11	2	2	5	2
104	14	9	3	2	6	3	14	5	0	2	6	0
106	15	3	2	2	7	1	14	10	2	2	6	2
108	15	9	0	2	7	2	15	4	0	2	6	3
110	16	2	3	2	8	0	15	9	3	2	7	0
112	16	10	2	2	8	2	16	5	0	2	7	3
114	17	6	0	2	9	1	17	0	2	2	8	1
116	18	1	2	2	9	3	17	8	0	2	9	0
118	18	9	1	2	10	2	18	3	1	2	9	2
120	19	4	3	2	11	0	18	10	3	2	10	0
122	20	0	2	2	11	2	19	6	0	2	10	2
124	20	8	0	3	0	0	20	1	2	2	11	0
126	21	3	2	3	0	2	20	9	0	2	11	2
128	21	11	1	3	1	0	21	4	1	3	0	0
130	22	6	3	3	1	2	21	11	3	3	0	2
132	23	4	1	3	2	1	22	9	0	3	1	1
134	24	1	3	3	3	0	23	6	1	3	2	0
136	24	11	1	3	3	2	24	3	2	3	2	2
138	25	8	3	3	4	1	25	0	3	3	3	1
140	26	6	1	3	5	0	25	10	0	3	4	0

	10 Per cent.						12½ Per cent.					
	Per Lb.			Per Sp.			Per Lb.			Per Sp.		
No.	S.	D.	F.	S.	D.	F.	S.	D.	F.	S.	D.	F.
40	5	10	1	2	7	2	5	8	1	2	6	3
42	6	0	0	2	6	3	5	10	0	2	6	0
44	6	1	3	2	6	1	5	11	3	2	5	1
46	6	3	2	2	5	2	6	1	2	2	4	3
48	6	5	2	2	5	0	6	3	1	2	4	1
50	6	7	2	2	4	3	6	5	0	2	3	3
52	6	9	0	2	4	0	6	6	3	2	3	1
54	6	10	3	2	3	3	6	8	2	2	3	0
56	7	0	2	2	3	1	6	10	2	2	2	2
58	7	3	2	2	3	1	7	1	0	2	2	1
60	7	6	0	2	3	0	7	3	2	2	2	1
62	7	7	3	2	2	3	7	5	1	2	2	0
64	7	9	2	2	2	1	7	7	0	2	1	2
66	7	11	2	2	2	0	7	8	3	2	1	2
68	8	2	0	2	2	0	7	11	2	2	1	1
70	8	4	3	2	2	0	8	2	0	2	1	1
72	8	7	2	2	1	3	8	4	3	2	1	1
74	8	10	1	2	1	3	8	7	1	2	1	1
76	9	1	0	2	1	3	8	10	0	2	1	1
78	9	3	2	2	1	3	9	0	2	2	1	0
80	9	6	1	2	1	3	9	3	1	3	1	0
82	9	9	0	2	1	3	9	5	3	2	1	0
84	9	11	3	2	1	3	9	8	2	2	1	0
86	10	3	1	2	1	3	10	0	0	2	1	1
88	10	7	0	2	2	0	10	3	2	2	1	1
90	10	10	2	2	2	0	10	7	0	2	1	2

	10 Per cent.						12½ Per cent.					
	Per Lb.			Per Sp.			Per Lb.			Per Sp.		
No.	S.	D.	F.	S.	D.	F.	S.	D.	F.	S.	D.	F.
92	11	4	0	2	2	1	11	0	1	2	2	0
94	11	9	1	2	3	0	11	5	2	2	2	1
96	12	2	3	2	3	3	11	10	3	2	2	3
98	12	8	1	2	4	1	12	4	0	2	3	1
100	13	2	2	2	4	2	12	9	1	2	3	2
102	13	7	0	2	4	3	13	2	2	2	4	0
104	14	0	1	2	5	1	13	7	3	2	4	1
106	14	5	3	2	5	2	14	1	0	2	4	3
108	14	11	0	2	5	3	14	6	0	2	5	0
110	15	4	2	2	6	1	14	11	2	2	5	2
112	15	11	3	2	6	3	15	6	2	2	6	0
114	16	7	0	2	7	2	16	1	2	2	6	2
116	17	2	0	2	8	0	16	8	2	2	7	0
118	17	9	1	2	8	2	17	3	2	2	7	3
120	18	4	2	2	9	0	17	10	2	2	8	1
122	18	11	3	2	9	3	18	5	2	2	8	3
124	19	7	0	2	10	1	19	0	2	2	9	1
126	20	2	1	2	10	3	19	7	2	2	9	3
128	20	9	1	2	11	0	20	3	2	2	10	1
130	21	4	2	2	11	2	20	9	2	2	10	2
132	22	1	2	3	0	1	21	6	1	2	11	1
134	22	10	2	3	1	0	22	3	0	3	0	0
136	23	7	2	3	1	2	22	11	3	3	0	2
138	24	4	2	3	2	1	23	8	2	3	1	1
140	25	1	2		2	3	24	5	1	3	1	3

	15 Per cent.						17½ Per cent.					
	Per Lb.			Per Sp.			Per Lb.			Per Sp.		
No.	S.	D.	F.	S.	D.	F.	S.	D.	F.	S.	D.	F
40	5	6	2	2	6	0	5	4	2	2	5	0
42	5	8	0	2	5	0	5	6	0	2	4	1
44	5	9	3	2	4	2	5	7	3	2	3	3
46	5	11	2	2	4	0	5	9	2	2	3	1
48	6	1	0	2	3	2	5	11	0	2	2	3
50	6	2	3	2	3	0	6	0	3	2	2	1
52	6	4	2	2	2	2	6	2	1	2	1	3
54	6	6	1	2	2	0	6	4	0	2	1	1
56	6	8	0	2	1	3	6	5	2	2	1	0
58	6	10	2	2	1	3	6	8	0	2	0	3
60	7	1	0	2	1	2	6	10	2	2	0	3
62	7	2	3	2	1	1	7	0	1	2	0	2
64	7	4	2	2	1	0	7	2	0	2	0	1
66	7	6	0	2	0	2	7	3	2	2	0	0
68	7	8	2	2	0	2	7	6	0	2	0	0
70	7	11	1	2	0	2	7	8	2	1	11	3
72	8	1	3	2	0	2	7	11	0	1	11	3
74	8	4	1	2	0	2	8	1	2	1	11	3
76	8	7	0	2	0	2	8	4	0	1	11	3
78	8	9	2	2	0	2	8	6	1	1	11	2
80	9	0	0	2	0	1	8	9	0	1	11	2
82	9	2	2	2	0	1	8	11	1	1	11	2
84	9	5	0	2	0	1	9	1	3	1	11	2
86	9	8	2	2	0	2	9	5	0	1	11	3
88	10	0	0	2	0	2	9	8	2	1	11	3
90	10	3	1	2	0	2	9	11	3	2	0	0

	15 Per cent.						17½ Per cent.					
	Per Lb.			Per Sp.			Per Lb.			Per Sp.		
No.	S.	D.	F.	S.	D.	F.	S.	D.	F.	S.	D.	F.
92	10	8	2	2	1	1	10	4	2	2	0	2
94	11	1	2	2	1	3	10	9	2	2	1	0
96	11	6	2	2	2	0	11	2	2	2	1	1
98	11	11	2	2	2	1	11	7	2	2	1	2
100	12	4	3	2	2	3	12	0	2	2	2	0
102	12	10	0	2	3	1	12	5	2	2	2	2
104	13	3	0	2	3	2	12	10	1	2	2	3
106	13	8	0	2	3	3	13	3	1	2	3	0
108	14	1	1	2	4	1	13	8	1	2	3	2
110	14	6	1	2	4	2	14	1	1	2	3	3
112	15	1	0	2	5	0	14	7	3	2	4	1
114	15	8	0	2	5	3	15	2	2	2	4	3
116	16	2	3	2	6	1	15	9	0	2	5	1
118	16	9	2	2	6	3	16	3	2	2	5	3
120	17	4	1	2	7	1	16	10	1	2	6	2
122	17	11	0	2	7	3	17	4	3	2	6	3
124	18	6	0	2	8	1	17	11	2	2	7	1
126	19	0	3	2	8	3	18	6	0	2	7	3
128	19	7	2	2	9	1	19	0	2	2	8	1
130	20	2	1	2	9	2	19	7	1	2	8	3
132	20	10	3	2	10	1	20	3	2	2	9	1
134	21	7	1	2	10	3	20	11	3	2	9	3
136	22	3	3	2	11	2	21	8	0	2	10	2
138	23	0	1	3	0	0	22	4	1	2	11	0
140	23	8	3	3	0	3	23	0	2	2	11	2

	20 Per cent.						22½ Per cent.					
	Per Lb.			Per Sp.			Per Lb.			Per Sp.		
No.	S.	D.	F.	S.	D.	F.	S.	D.	F.	S.	D.	F.
40	5	2	1	2	4	0	5	0	2	2	3	1
42	5	4	0	2	3	2	5	2	0	2	2	2
44	5	6	0	2	3	0	5	3	2	2	2	0
46	5	7	1	2	2	1	5	5	1	2	1	2
48	5	8	3	2	1	3	5	6	3	2	1	0
50	5	10	2	2	1	2	5	8	1	2	0	2
52	6	0	0	2	1	0	5	9	3	2	0	0
54	6	1	3	2	0	2	5	11	2	2	0	0
56	6	3	1	2	0	1	6	1	0	1	11	2
58	6	5	2	2	0	0	6	3	1	1	11	2
60	6	8	0	2	0	0	6	5	2	1	11	1
62	6	9	3	1	11	3	6	7	0	1	11	0
64	6	11	1	1	11	2	6	8	3	1	10	3
66	7	0	3	1	11	1	6	10	1	1	10	1
68	7	3	1	1	11	0	7	0	2	1	10	1
70	7	5	2	1	11	0	7	2	3	1	10	1
72	7	8	0	1	11	0	7	5	1	1	10	1
74	7	10	2	1	11	0	7	7	2	1	10	1
76	8	0	3	1	11	0	7	9	3	1	10	1
78	8	3	1	1	11	0	8	0	1	1	10	1
80	8	5	3	1	10	3	8	2	2	1	10	1
82	8	8	0	1	10	3	8	4	3	1	10	1
84	8	10	2	1	10	3	8	7	3	1	10	1
86	9	1	2	1	11	0	8	10	1	1	10	1
88	9	5	0	1	11	1	9	1	1	1	10	2
90	9	8	0	1	11	1	9	4	2	1	10	2

	25 Per cent.						27½ Per cent.					
	Per Lb.			Per Sp.			Per Lb.			Per Sp.		
No.	S.	D.	F.	S.	D.	F.	S.	D.	F.	S.	D.	F.
92	10	0	3	1	11	2	9	9	0	1	11	0
94	10	5	2	2	0	0	10	1	3	1	11	2
96	10	10	2	2	0	2	10	6	2	1	11	3
98	11	3	1	2	0	3	10	11	0	2	0	0
100	11	8	0	2	1	1	11	3	3	2	0	2
102	12	0	3	2	1	2	11	8	1	2	0	3
104	12	5	3	2	2	0	12	1	0	2	1	0
106	12	10	2	2	2	1	12	5	3	2	1	2
108	13	3	1	2	2	2	12	10	1	2	1	3
110	13	8	0	2	2	3	13	3	0	2	2	0
112	14	2	2	2	3	2	13	9	0	2	2	2
114	14	8	3	2	4	0	14	3	1	2	3	0
116	15	3	1	2	4	1	14	9	2	2	3	2
118	15	9	2	2	5	0	15	3	3	2	4	0
120	16	4	0	2	5	2	15	10	0	2	4	2
122	16	10	2	2	5	3	16	4	1	2	5	0
124	17	4	3	2	6	1	16	10	1	2	5	2
126	17	11	1	2	6	3	17	4	2	2	5	3
128	18	5	3	2	7	1	17	10	3	2	6	1
130	19	0	0	2	7	2	18	5	0	2	6	2
132	19	8	0	2	8	1	19	0	3	2	7	0
134	20	4	0	2	8	3	19	8	2	2	7	3
136	21	0	0	2	9	2	20	4	1	2	8	1
138	21	8	0	2	10	0	21	0	0	2	8	3
140	22	4	0	2	10	2	21	7	3	2	9	2

	25 Per cent.						27½ Per cent.					
	Per Lb.			Per Sp.			Per Lb.			Per Sp.		
No.	S.	D.	F.	S.	D.	F.	S.	D.	F.	S.	D.	F.
40	4	10	2	2	2	1	4	8	2	2	1	2
42	5	0	0	2	1	3	4	10	0	2	1	0
44	5	1	2	2	1	1	4	11	2	2	0	1
46	5	3	0	2	0	3	5	1	0	2	0	0
48	5	4	2	2	0	1	5	2	2	1	11	2
50	5	6	0	1	11	3	5	4	0	1	11	0
52	5	7	2	1	11	2	5	5	1	1	10	2
54	5	9	0	1	11	0	5	6	3	1	10	1
56	5	10	2	1	10	3	5	8	1	1	10	0
58	6	0	3	1	10	3	5	10	2	1	9	3
60	6	3	0	1	10	2	6	0	2	1	9	3
62	6	4	2	1	10	1	6	2	0	1	9	2
64	6	6	0	1	10	0	6	3	2	1	9	1
66	6	7	2	1	9	3	6	5	0	1	9	0
68	6	9	3	1	9	3	6	7	0	1	9	0
70	7	0	0	1	9	2	6	9	1	1	9	0
72	7	2	1	1	9	2	6	11	2	1	9	0
74	7	4	2	1	9	2	7	1	2	1	9	0
76	7	6	3	1	9	2	7	3	3	1	8	3
78	7	9	0	1	9	2	7	6	0	1	8	3
80	7	11	1	1	9	2	7	8	1	1	8	3
82	8	1	2	1	9	2	7	10	1	1	8	3
84	8	3	3	1	9	2	8	0	2	1	8	3
86	8	6	3	1	9	2	8	3	2	1	8	3
88	8	9	3	1	9	3	8	6	1	1	9	0
90	9	0	3	1	9	3	8	9	1	1	9	0

	25 Per cent.						27½ Per cent.					
	Per Lb.			Per Sp.			Per Lb.			Per Sp.		
No.	S.	D.	F.	S.	D.	F.	S.	D.	F.	S.	D.	F.
92	9	5	1	1	10	1	9	1	2	1	9	2
94	9	9	3	1	10	2	9	6	0	1	10	0
96	10	2	1	1	11	0	9	10	1	1	10	1
98	10	6	3	1	11	1	10	2	2	1	10	2
100	10	11	1	1	11	2	10	7	0	1	10	3
102	11	3	3	2	0	0	10	11	1	1	11	1
104	11	8	1	2	0	1	11	3	3	1	11	2
106	12	0	3	3	0	2	11	8	0	1	11	3
108	12	5	1	2	1	0	12	0	1	2	0	0
110	12	9	3	2	1	1	12	4	3	2	0	2
112	13	3	3	2	2	0	12	10	2	2	0	3
114	13	9	3	2	2	1	13	4	1	2	1	1
116	14	3	3	2	2	3	13	10	0	2	1	3
118	14	9	3	2	3	1	14	4	0	2	2	1
120	15	3	3	2	3	2	14	9	3	2	2	3
122	15	9	3	2	4	0	15	3	2	2	3	0
124	16	3	3	2	4	2	15	9	1	2	3	2
126	16	9	3	2	4	3	16	3	0	2	4	0
128	17	3	3	2	5	1	16	9	0	2	4	1
130	17	9	3	2	5	3	17	2	3	2	4	3
132	18	5	1	2	6	1	17	10	1	2	5	1
134	19	0	3	2	6	3	18	5	1	2	5	3
136	19	8	1	2	7	1	19	0	2	2	6	1
138	20	3	3	2	7	3	19	7	3	2	6	3
140	20	11	1	2	8	1	20	3	0	2	7	1

	30 Per cent.						32½ Per cent.					
	Per Lb.			Per Sp.			Per Lb.			Per Sp.		
No.	S.	D.	F.	S.	D.	F.	S.	D.	F.	S.	D.	F.
40	4	6	3	2	0	3	4	4	3	1	11	3
42	4	8	0	2	0	1	4	6	0	1	11	1
44	4	9	2	1	11	2	4	7	2	1	10	3
46	4	10	3	1	11	0	4	8	3	1	10	1
48	5	0	1	1	10	2	4	10	0	1	9	3
50	5	1	2	1	10	1	4	11	2	1	9	2
52	5	3	0	1	9	3	5	0	3	1	9	0
54	5	4	2	1	9	2	5	2	1	1	8	3
56	5	5	3	1	9	0	5	3	2	1	8	2
58	5	8	0	1	9	0	5	5	2	1	8	2
60	5	10	0	1	9	3	5	7	2	1	8	1
62	5	11	2	1	8	2	5	9	0	1	8	0
64	6	0	3	1	8	2	5	10	1	1	7	3
66	6	2	1	1	8	1	5	11	2	1	7	2
68	6	4	1	1	8	1	6	1	3	1	7	2
70	6	6	2	1	8	1	6	4	0	1	7	2
72	6	8	2	1	8	0	6	5	3	1	7	2
74	6	10	3	1	8	0	6	7	3	1	7	2
76	7	0	3	1	8	0	6	9	3	1	7	2
78	7	2	3	1	8	0	6	11	3	1	7	2
80	7	5	0	1	8	0	7	1	3	1	7	2
82	7	7	0	1	8	0	7	3	3	1	7	1
84	7	9	0	1	8	0	7	5	3	1	7	1
86	8	0	0	1	8	1	7	8	2	1	7	2
88	8	2	3	1	8	1	7	11	1	1	7	2
90	8	5	2	1	8	1	8	2	0	1	7	2

	30 Per cent.						32½ Per cent.					
	Per Lb.			Per Sp.			Per Lb.			Per Sp.		
No.	S.	D.	F.	S.	D.	F.	S.	D.	F.	S.	D.	F.
92	8	9	3	1	8	3	8	6	0	1	8	0
94	9	2	0	1	9	0	8	10	0	1	8	1
96	9	6	0	1	9	2	9	2	0	1	8	3
98	9	10	1	1	9	3	9	6	0	1	9	0
100	10	2	0	1	10	0	9	10	1	1	9	1
102	10	6	3	1	10	2	10	2	1	1	9	2
104	10	11	0	1	10	3	10	6	1	1	9	3
106	11	3	0	1	11	0	10	10	1	1	10	1
108	11	7	1	1	11	1	11	2	1	1	10	2
110	11	11	2	1	11	2	11	6	2	1	10	3
112	12	5	0	2	0	0	11	11	3	1	11	0
114	12	10	3	2	0	2	12	5	1	2	11	2
116	13	4	1	2	0	3	12	10	3	2	0	0
118	13	10	0	2	1	1	13	4	0	2	0	2
120	14	3	2	2	1	3	13	9	2	2	1	0
122	14	9	0	2	2	1	14	2	3	2	1	1
124	15	2	3	2	2	2	14	8	1	2	1	3
126	15	8	1	2	3	0	15	1	3	2	2	0
128	16	2	0	2	3	1	15	7	0	2	2	1
130	16	7	2	2	3	3	16	0	2	2	2	3
132	17	2	2	2	4	1	16	7	1	2	3	1
134	17	9	2	2	4	3	17	2	0	2	3	3
136	18	4	2	2	5	1	17	8	3	2	4	1
138	18	11	2	2	5	3	18	3	2	2	4	2
140	19	6	2	2	6	1	18	10	1	2	5	0

	35 Per cent.						37½ Per cent.					
	Per Lb.			Per Sp.			Per Lb.			Per Sp.		
No.	S.	D.	F.	S.	D.	F.	S.	D.	F.	S.	D.	F.
40	4	2	3	1	10	3	4	0	3	1	10	0
42	4	4	0	1	10	1	4	2	0	1	9	2
44	4	5	1	1	9	3	4	3	1	1	9	0
46	4	6	3	1	9	2	4	4	2	1	8	2
48	4	8	0	1	9	0	4	5	3	1	8	1
50	4	9	1	1	8	3	4	6	0	1	7	3
52	4	10	2	1	8	1	4	8	1	1	7	2
54	4	11	3	1	8	0	4	9	2	1	7	1
56	5	1	1	1	7	3	4	10	3	1	7	0
58	5	3	0	1	7	2	5	0	3	1	6	3
60	5	5	0	1	7	2	5	2	2	1	6	3
62	5	6	1	1	7	1	5	3	3	1	6	2
64	5	7	3	1	7	0	5	5	0	1	6	1
66	5	9	0	1	6	3	5	6	1	1	6	0
68	5	11	0	1	6	3	5	8	1	1	6	0
70	6	0	3	1	6	3	5	10	0	1	6	0
72	6	2	3	1	6	3	6	0	0	1	6	0
74	6	4	3	1	6	3	6	1	3	1	6	0
76	6	6	3	1	6	3	6	3	3	1	6	0
78	6	8	2	1	6	2	6	5	3	1	6	0
80	6	10	2	1	6	2	6	7	2	1	5	3
82	7	0	2	1	6	2	6	9	1	1	5	3
84	7	2	2	1	6	2	6	11	2	1	6	0
86	7	5	0	1	6	2	7	1	3	1	6	0
88	7	7	3	1	6	3	7	4	3	1	6	0
90	7	10	1	1	6	3	7	6	3	1	6	1

	35 Per cent.						37½ Per cent.					
	Per Lb.			Per Sp.			Per Lb.			Per Sp.		
No.	S.	D.	F.	S.	D.	F.	S.	D.	F.	S.	D.	F.
92	8	2	0	1	7	1	7	10	2	1	6	2
94	8	6	0	1	7	2	8	2	1	1	6	3
96	8	10	0	1	7	3	8	6	0	1	7	1
98	9	2	0	1	8	1	8	9	1	1	7	1
100	9	5	3	1	8	2	9	1	2	1	7	3
102	9	9	3	1	8	3	9	5	1	1	8	0
104	10	1	2	1	9	0	9	9	0	1	8	1
106	10	5	2	1	9	1	10	0	3	1	8	2
108	10	9	1	1	9	2	10	4	2	1	8	3
110	11	1	1	1	9	3	10	8	1	1	9	0
112	11	6	2	1	10	1	11	1	1	1	9	2
114	11	11	3	1	10	3	11	6	1	1	9	3
116	12	15	0	1	11	1	11	11	1	1	10	1
118	12	10	0	1	11	2	12	4	1	1	10	3
120	13	3	1	2	0	0	12	9	1	1	11	0
122	13	8	2	2	0	1	13	2	1	1	11	1
124	14	1	3	2	0	3	13	7	1	1	11	3
126	14	7	0	2	1	0	14	0	1	2	0	0
128	15	0	0	2	1	1	14	5	1	2	0	2
130	15	5	1	2	1	3	14	10	1	2	0	3
132	15	11	1	2	2	1	15	3	2	2	1	0
134	16	6	1	2	2	3	15	10	3	2	1	2
136	17	0	3	2	3	1	16	5	0	2	2	0
138	17	7	1	2	3	2	16	10	3	2	2	2
140	18	1	3	2	4	0	17	5	1	2	3	0

	40 Per cent.						42½ Per cent.					
	Per Lb.			Per Sp.			Per Lb.			Per Sp.		
No.	S.	D.	F.	S.	D.	F.	S.	D.	F.	S.	D.	F.
40	3	10	3	1	9	1	3	9	0	1	8	1
42	4	0	0	1	8	2	3	10	0	1	7	3
44	4	1	1	1	8	1	3	11	1	1	7	1
46	4	2	2	1	7	3	4	0	1	1	7	0
48	4	3	2	1	7	1	4	1	2	1	6	2
50	4	4	3	1	7	0	4	2	3	1	6	1
52	4	6	0	1	6	3	4	3	3	1	6	0
54	4	7	1	1	6	2	4	5	0	1	5	3
56	4	8	2	1	6	1	4	6	0	1	5	2
58	4	10	1	1	6	0	4	7	3	1	5	1
60	5	0	0	1	6	0	4	9	2	1	5	1
62	5	1	1	1	5	3	4	11	3	1	5	0
64	5	2	2	1	5	1	4	10	3	1	4	3
66	5	3	2	1	5	1	5	1	0	1	4	3
68	5	5	2	1	5	1	5	2	3	1	4	2
70	5	7	1	1	5	1	5	4	2	1	4	2
72	5	9	0	1	5	1	5	6	1	1	4	2
74	5	10	3	1	5	1	5	8	0	1	4	2
76	6	0	3	1	5	1	5	9	3	1	4	2
78	6	2	2	1	5	1	5	11	1	1	4	2
80	6	4	1	1	5	1	6	1	0	1	4	2
82	6	6	0	1	5	1	6	2	3	1	4	2
84	6	7	3	1	5	1	6	4	2	1	4	2
86	6	10	1	1	5	1	6	6	3	1	4	2
88	7	0	3	1	5	2	6	9	0	1	4	2
90	7	3	0	1	5	2	6	11	2	1	4	3

	45 Per cent.						47½ Per cent.					
	Per Lb.			Per Sp.			Per Lb.			Per Sp.		
No.	S.	D.	F.	S.	D.	F.	S.	D.	F.	S.	D.	F.
92	7	6	2	1	5	3	7	3	0	1	5	0
94	7	10	1	1	6	0	7	6	1	1	5	1
96	8	2	0	1	6	2	7	9	3	1	5	2
98	8	5	2	1	6	3	8	1	1	1	5	3
100	8	9	0	1	7	0	8	4	3	1	6	1
102	9	0	3	1	7	1	8	8	0	1	6	2
104	9	4	1	1	7	2	8	11	2	1	6	2
106	9	7	3	1	7	3	8	3	0	1	7	0
108	9	11	2	1	8	0	9	6	2	1	7	0
110	10	3	0	1	8	1	9	10	0	1	7	1
112	10	7	3	1	8	2	10	2	2	1	7	2
114	11	0	3	1	9	0	10	7	0	1	8	0
116	11	5	2	1	9	1	10	11	1	1	8	2
118	11	10	1	1	9	3	11	4	1	1	8	3
120	12	3	0	1	10	1	11	9	0	1	9	1
122	12	7	3	1	10	2	12	1	2	1	9	2
124	13	0	3	1	10	3	12	6	0	1	9	3
126	13	5	2	1	11	0	12	10	3	1	10	1
128	13	10	1	1	11	2	13	3	1	1	10	2
130	14	3	0	1	11	3	13	8	0	1	10	3
132	14	9	0	2	0	1	14	1	3	1	11	1
134	15	3	0	2	0	3	14	7	2	1	11	3
136	15	9	0	2	1	0	15	1	1	2	0	0
138	16	3	0	2	1	2	15	7	0	2	0	2
140	16	9	0	2	1	3	16	0	3	2	0	3

	45 Per cent.						47½ Per cent.					
	Per Lb.			Per Sp.			Per Lb.			Per Sp.		
No.	S.	D.	F.	S.	D.	F.	S.	D.	F.	S.	D.	F.
40	3	7	0	1	7	2	3	5	0	1	6	2
42	3	8	0	1	7	0	3	6	0	1	6	0
44	3	9	1	1	6	2	3	7	0	1	5	2
46	3	10	1	1	6	0	3	8	0	1	5	0
48	3	11	1	1	5	3	3	9	1	1	5	0
50	4	0	2	1	5	2	3	10	1	1	4	2
52	4	1	2	1	5	1	3	11	1	1	4	1
54	4	2	2	1	4	3	4	0	1	1	4	0
56	4	3	3	1	4	3	4	1	2	1	4	0
58	4	5	2	1	4	2	4	3	0	1	3	3
60	4	7	0	1	4	2	4	4	2	1	3	3
62	4	8	0	1	4	1	4	5	2	1	3	2
64	4	9	1	1	4	0	4	6	3	1	3	2
66	4	10	1	1	4	0	4	7	3	1	3	1
68	5	9	0	1	4	0	4	9	1	1	3	1
70	5	1	2	1	3	3	4	10	3	1	3	1
72	5	3	1	1	3	3	5	0	2	1	3	1
74	5	5	0	1	3	3	5	2	0	1	3	1
76	5	6	2	1	3	3	5	3	2	1	3	0
78	5	8	1	1	3	3	5	5	0	1	3	0
80	5	10	0	1	3	3	5	6	3	1	3	0
82	5	11	2	1	3	3	5	8	1	1	3	0
84	6	1	0	1	3	3	5	10	0	1	3	0
86	6	3	3	1	4	0	6	0	0	1	3	0
88	6	5	2	1	4	0	6	2	0	1	3	1
90	6	7	3	1	4	0	6	4	0	1	3	2

	45 Per cent.						47½ Per cent.					
	Per Lb.			Per Sp.			Per Lb.			Per Sp.		
No.	S.	D.	F.	S.	D.	F.	S.	D.	F.	S.	D.	F.
92	6	11	0	1	4	1	6	7	1	1	3	2
94	7	2	2	1	4	2	6	10	2	1	3	3
96	7	5	3	1	4	3	7	1	3	1	4	0
98	7	9	0	1	5	0	7	4	3	1	4	1
100	8	0	1	1	5	2	7	8	0	1	4	2
102	8	3	2	1	5	2	7	11	0	1	4	3
104	8	7	0	1	5	3	8	2	1	1	5	0
106	8	10	1	1	6	0	8	5	2	1	6	1
108	9	1	2	1	6	1	8	8	2	1	5	2
110	9	4	3	1	6	2	8	11	3	1	5	3
112	9	9	1	1	6	3	9	4	0	1	6	0
114	10	1	2	1	7	1	9	8	0	1	6	1
116	10	6	0	1	7	2	10	0	1	1	6	3
118	10	10	2	1	8	0	10	4	2	1	7	0
120	11	2	3	1	8	1	10	8	3	1	7	1
122	11	7	1	1	8	3	11	1	0	1	7	3
124	11	11	0	1	8	3	11	5	0	1	8	0
126	12	4	0	1	9	1	11	9	1	1	8	1
128	12	8	2	1	9	2	12	1	2	1	8	2
130	13	1	3	1	9	3	12	5	3	1	8	3
132	13	6	1	1	10	1	12	11	0	1	9	1
134	13	11	3	1	10	2	13	4	1	1	9	2
136	14	5	1	1	11	0	13	9	2	1	10	0
138	14	10	3	1	11	2	14	2	3	1	10	1
140	15	4	1	1	11	3	14	8	0	1	10	3

	50 Per cent.						52½ Per cent.					
	Per Lb.			Per Sp.			Per Lb.			Per Sp.		
No.	S.	D.	F.	S.	D.	F.	S.	D.	F.	S.	D.	F.
40	3	3	0	1	5	2	3	1	0	1	4	2
42	3	4	0	1	5	1	3	2	0	1	4	1
44	3	5	0	1	4	3	3	3	0	1	4	0
46	3	6	0	1	4	2	3	4	0	1	3	3
48	3	7	0	1	4	1	3	5	0	1	3	2
50	3	8	0	1	4	0	3	5	3	1	3	0
52	3	9	0	1	3	3	3	6	3	1	3	0
54	3	10	0	1	3	2	3	7	3	1	2	2
56	3	11	0	1	3	1	3	8	3	1	2	2
58	4	0	2	1	3	0	3	10	0	1	2	1
60	4	2	0	1	3	0	3	11	2	1	2	1
62	4	3	0	1	2	3	4	0	2	1	2	0
64	4	4	0	1	2	3	4	1	2	1	2	0
66	4	5	0	1	2	2	4	2	2	1	1	3
68	4	6	2	1	2	2	4	3	3	1	1	3
70	4	8	0	1	2	2	4	5	1	1	1	3
72	4	9	2	1	2	2	4	6	3	1	1	3
74	4	11	0	1	2	2	4	8	0	1	1	3
76	5	0	2	1	2	2	4	9	2	1	1	3
78	5	2	0	1	2	2	1	1	0	1	1	3
80	5	3	2	1	2	1	5	0	3	1	1	3
82	5	5	0	1	2	1	5	1	3	1	1	2
84	5	6	2	1	2	1	5	3	1	1	1	2
86	5	8	2	1	2	2	5	5	0	1	1	2
88	5	10	2	1	2	2	5	7	0	1	1	3
90	6	0	2	1	2	2	5	9	0	1	1	3

	50 Per cent.						52½ Per cent.					
	Per Lb.			Per Sp.			Per Lb.			Per Sp.		
No.	S.	D.	F.	S.	D.	F.	S.	D.	F.	S.	D.	F.
92	6	3	2	1	2	3	5	11	3	1	2	0
94	6	6	2	1	3	0	6	2	3	1	2	1
96	6	9	2	1	3	2	6	5	2	1	2	2
98	7	0	2	1	3	2	6	8	1	1	2	3
100	7	3	2	1	3	3	6	11	1	1	3	0
102	7	6	2	1	4	0	7	2	0	1	3	1
104	7	9	2	1	4	1	7	5	0	1	3	2
106	8	0	2	1	4	2	7	7	3	1	3	2
108	8	3	2	1	4	3	7	10	2	1	3	3
110	8	6	2	1	4	3	8	1	2	1	4	0
112	8	10	2	1	5	0	8	5	1	1	4	1
114	9	2	2	1	5	2	8	9	0	1	4	2
116	9	6	2	1	5	3	9	0	3	1	5	0
118	9	10	2	1	6	0	9	4	3	1	5	1
120	10	2	2	1	6	2	9	8	2	1	5	2
122	10	6	2	1	6	3	10	0	1	1	5	3
124	10	10	2	1	7	0	10	4	0	1	6	0
126	11	2	2	1	7	1	10	7	3	1	6	1
128	11	6	2	1	7	2	10	11	3	1	6	2
130	11	10	2	1	7	3	11	3	2	1	6	3
132	12	3	2	1	8	0	11	8	1	1	7	1
134	12	8	2	1	8	2	12	1	0	1	7	2
136	12	1	2	1	8	3	12	5	3	1	7	3
138	13	6	2	1	9	1	12	10	2	1	8	1
140	13	11	2	1	9	2	13	3	1	1	8	2

	55 Per cent.						57½ Per cent.					
	Per Lb.			Per Sp.			Per Lb.			Per Sp.		
No.	S.	D.	F.	S.	D.	F.	S.	D.	F.	S.	D.	F.
40	2	11	0	1	3	3	2	9	1	1	3	0
42	3	0	0	1	3	2	2	10	0	1	2	2
44	3	1	0	1	3	1	2	11	0	1	2	2
46	3	1	3	1	2	3	2	11	3	1	2	0
48	3	2	3	1	2	2	3	0	2	1	1	3
50	3	3	3	1	2	1	3	1	2	1	1	2
52	3	4	2	1	2	0	3	2	1	1	1	1
54	3	5	2	1	1	3	3	3	0	1	0	3
56	3	6	1	1	1	2	3	4	0	1	0	3
58	3	7	3	1	1	2	3	5	1	1	0	3
60	3	9	0	1	1	2	3	6	2	1	0	3
62	3	10	0	1	1	2	3	7	2	1	0	2
64	3	10	3	1	1	1	3	8	1	1	0	2
66	3	11	3	1	1	0	3	9	1	1	0	1
68	4	1	0	1	1	0	3	10	2	1	0	1
70	4	2	2	1	1	0	3	11	3	1	0	1
72	4	3	3	1	1	0	4	1	0	1	0	1
74	4	5	0	1	1	0	4	2	1	1	0	1
76	4	6	2	1	1	0	4	3	2	1	0	1
78	4	7	3	1	1	0	4	4	3	1	0	1
80	4	9	1	1	1	0	4	6	0	1	0	1
82	4	10	2	1	1	0	4	7	1	1	0	1
84	5	0	0	1	1	0	4	8	2	1	0	1
86	5	1	3	1	1	0	4	10	1	1	0	1
88	5	3	2	1	1	0	5	0	0	1	0	1
90	5	5	1	1	1	0	5	1	3	1	0	1

	55 Per cent.						57½ Per cent.					
	Per Lb.			Per Sp.			Per Lb.			Per Sp.		
No.	S.	D.	F.	S.	D.	F.	S.	D.	F.	S.	D.	F.
92	5	8	0	1	1	1	5	4	3	1	0	2
94	5	10	3	1	1	2	5	6	3	1	0	3
96	6	1	2	1	1	3	5	9	1	1	1	0
98	6	4	0	1	2	0	5	11	3	1	1	1
100	6	6	3	1	2	1	6	2	2	1	1	2
102	6	9	2	1	2	2	6	5	0	1	1	3
104	7	0	1	1	2	2	6	7	2	1	1	3
106	7	3	0	1	2	3	6	10	0	1	2	0
108	7	5	2	1	3	0	7	0	2	1	2	1
110	7	8	1	1	3	1	7	3	1	1	2	1
112	8	0	0	1	3	2	7	6	2	1	2	2
114	8	3	2	1	3	3	7	10	0	1	3	0
116	8	7	0	1	4	0	8	1	2	1	3	1
118	8	10	3	1	4	1	8	4	3	1	3	2
120	9	2	1	1	4	2	8	8	1	1	3	3
122	9	6	0	1	4	3	8	11	2	1	4	0
124	9	9	2	1	5	0	9	3	0	1	4	1
126	10	1	0	1	5	1	9	6	2	1	4	2
128	10	4	3	1	5	2	9	9	3	1	4	2
130	10	8	1	1	5	3	10	1	1	1	4	3
132	11	0	3	1	6	1	10	5	2	1	5	1
134	11	5	1	1	6	2	10	9	3	1	5	2
136	11	9	3	1	6	3	11	2	0	1	5	3
138	12	2	1	1	7	0	11	6	1	1	6	0
140	12	6	3	1	7	2	11	10	2	1	6	1

	60 Per cent.						62½ Per cent.					
	Per Lb.			Per Sp.			Per Lb.			Per Sp.		
No.	S.	D.	F.	S.	D.	F.	S.	D.	F.	S.	D.	F.
40	2	7	1	1	2	0	2	5	1	1	1	1
42	2	8	0	1	1	3	2	6	0	1	1	0
44	2	9	0	1	1	2	2	6	3	1	0	3
46	2	9	3	1	1	1	2	7	2	1	0	2
48	2	10	2	1	1	0	2	8	1	1	0	1
50	2	11	1	1	0	3	2	9	0	1	0	0
52	3	0	0	1	0	2	2	9	3	1	0	0
54	3	0	3	1	0	1	2	10	2	0	11	2
56	3	1	3	1	0	1	2	11	1	0	11	2
58	3	2	3	1	0	0	3	0	2	0	11	1
60	3	4	0	1	0	0	3	1	2	0	11	1
62	3	4	3	1	0	0	3	2	1	0	11	1
64	3	5	3	0	11	3	3	3	0	0	11	0
66	3	6	2	0	11	3	3	3	3	0	11	0
68	3	7	3	0	11	2	3	5	0	0	11	0
70	3	8	3	0	11	2	3	6	0	0	11	0
72	3	10	9	0	11	2	3	7	1	0	11	0
74	3	11	1	0	11	2	3	8	1	0	11	0
76	4	0	2	0	11	2	3	9	2	0	11	0
78	4	1	3	0	11	2	3	10	2	0	11	0
80	4	2	3	0	11	2	3	11	3	0	10	3
82	4	4	0	0	11	2	4	0	3	0	10	3
84	4	5	1	0	11	2	4	2	0	0	10	3
86	4	6	3	0	11	2	4	3	2	0	11	0
88	4	8	2	0	11	2	4	5	0	0	11	0
90	4	10	0	0	11	2	4	6	2	0	11	0

	60 Per cent.						62½ Per cent.					
	Per Lb.			Per Sp.			Per Lb.			Per Sp.		
No.	S.	D.	F.	S.	D.	F.	S.	D.	F.	S.	D.	F.
92	5	0	2	1	0	0	4	8	3	0	11	0
94	5	2	3	1	0	0	4	11	0	0	11	1
96	5	5	1	1	0	1	5	1	1	0	11	2
98	5	7	3	1	0	2	5	3	3	0	11	2
100	5	10	0	1	0	2	5	5	3	1	0	0
102	6	0	2	1	0	3	5	8	0	1	0	1
104	6	2	3	1	1	0	5	10	1	1	0	1
106	6	5	1	1	1	1	6	0	2	1	0	2
108	6	7	3	1	1	1	6	2	3	1	0	2
110	6	10	0	1	1	2	6	5	0	1	0	3
112	7	1	1	1	1	3	6	8	0	1	1	0
114	7	4	2	1	2	0	6	11	0	1	1	1
116	7	7	3	1	2	1	7	2	0	1	1	2
118	7	10	3	1	2	2	7	5	0	1	1	3
120	8	2	0	1	2	3	7	8	0	1	2	0
122	8	5	1	1	3	0	7	11	0	1	2	1
124	8	8	2	1	3	1	8	2	0	1	2	1
126	8	11	3	1	3	2	8	5	0	1	2	2
128	9	2	3	1	3	2	8	8	0	1	2	3
130	9	6	0	1	3	3	8	11	0	1	3	0
132	9	10	0	1	4	0	9	2	3	1	3	1
134	10	2	0	1	4	1	9	6	2	1	3	2
136	10	6	0	1	4	2	9	10	1	1	3	3
138	10	10	0	1	4	3	10	2	0	1	4	0
140	11	2	0	1	5	0	10	5	3	1	4	1

Explanation of the Forty-Ninth Table.

The first page of the following Table shews the List Price of the pound and spyndle of India Twist Cotton Yarn, at any number, from number 140, to number 200; the other pages of the table shew the neat cost of the pound and spyndle of every two numbers, at any discount from 10 per cent. to 60 per cent. by 2½ per cent. The column marked on the head No. contains the number of the yarn, the other columns marked on the head per Lb. and per Sp. contain the price of the pound and spyndle at the discount marked on the head of the columns.

EXAMPLE.

Suppose number 150, the List Price of the pound is 36s. 6d. and of the spyndle 4s. 4½. what is the neat cost, the discount being 52½ per cent.; look on the head of the pages for 52½ per cent. then look in the column marked on the head No. and you will find 150, and in the same line of the other columns under 52½ per cent. you will find the price of the pound to be 17s. 4d. and the spyndle 2s. 1d. which is the neat cost.

Note, By adding the prices of any two numbers together, and then halving them, gives you the price of the No. betwixt them.

☞ India Twist is spun from the best wool, and is used for fine cambrics, lawns, mulls, books, &c.

List Price of India Twist.

	Per Lb.			Per Sp.				Per Lb.			Per Sp.		
No.	S.	D.	F.	S	D.	F.	No.	S.	D.	F.	S.	D.	F.
141	32	9	0	4	2	1	171	49	0	0	5	2	0
142	33	2	0	4	2	2	172	49	10	0	5	2	2
143	33	7	0	4	2	3	173	58	8	0	5	3	1
144	34	0	0	4	3	0	174	51	6	0	5	3	3
145	34	5	0	4	3	1	175	52	4	0	5	4	2
146	34	10	0	4	3	2	176	52	2	0	5	5	1
147	35	3	0	4	3	3	177	54	0	0	5	6	0
148	35	8	0	4	4	0	178	54	10	0	5	6	2
149	36	1	0	4	4	1	179	55	8	0	5	7	1
150	36	6	0	4	4	2	180	56	6	0	5	7	3
151	37	0	0	4	5	0	181	57	6	0	5	8	2
152	37	6	0	4	5	1	182	58	6	0	5	9	2
153	38	0	0	4	5	3	183	59	6	0	5	10	1
154	38	6	0	4	6	0	184	60	6	0	5	11	0
155	39	0	0	4	6	2	185	61	6	0	5	11	3
156	39	6	0	4	6	3	186	62	6	0	6	0	2
157	40	0	0	4	7	0	187	63	6	0	6	1	2
158	40	6	0	4	7	1	188	64	6	0	6	2	1
159	41	0	0	4	7	3	189	65	6	0	6	2	3
160	41	6	0	4	8	0	190	66	6	0	6	3	3
161	42	2	0	4	8	3	191	67	0	0	6	4	3
162	42	10	0	4	9	1	192	69	0	0	6	5	3
163	43	6	0	4	9	3	193	70	3	0	6	6	2
164	44	2	0	4	10	1	194	71	6	0	6	7	2
165	44	10	0	4	10	3	195	72	9	0	6	8	2
166	45	6	0	4	11	1	196	74	0	0	6	9	2
167	46	2	0	4	11	3	197	75	3	0	6	10	2
168	46	10	0	5	0	1	198	76	6	0	6	11	2
169	47	6	0	5	0	3	199	77	9	0	7	0	2
170	48	2	0	5	1	1	200	79	0	0	7	1	1

	20 Per cent.						22½ Per cent.					
	Per Lb.			Per Sp.			Per Lb.			Per Sp.		
No.	S.	D.	F.	S.	D.	F.	S.	D.	F.	S.	D.	F.
142	26	6	2	3	4	2	25	8	2	3	3	1
144	27	2	2	3	4	3	26	4	1	3	3	2
146	27	10	2	3	5	1	27	0	0	3	4	0
148	28	6	2	3	5	2	27	7	3	3	4	1
150	29	2	2	3	6	0	28	3	2	3	4	3
152	30	0	0	3	6	2	29	0	3	3	5	1
154	30	9	2	3	7	1	29	10	0	3	5	3
156	31	7	1	3	7	3	30	7	2	3	6	2
158	32	4	3	3	8	1	31	4	3	3	6	3
160	3	2	2	3	8	3	32	2	0	3	7	2
162	34	3	1	3	9	2	33	2	2	3	8	1
164	35	4	0	3	10	3	34	2	3	3	9	1
166	36	4	3	3	11	1	35	3	1	3	9	3
168	37	5	3	4	0	1	36	3	2	3	10	3
170	38	6	2	4	1	0	37	4	0	3	11	2
172	39	10	2	4	2	0	38	7	2	4	0	2
174	41	2	2	4	3	0	39	11	0	3	1	2
176	42	6	2	4	4	1	41	2	2	4	2	2
178	43	10	2	4	5	1	42	6	0	4	3	2
180	45	2	2	4	6	1	43	9	2	4	4	2
182	46	9	2	4	7	2	45	4	0	4	5	3
184	48	4	3	4	8	3	46	10	3	4	7	0
186	50	0	0	4	10	0	48	5	1	4	8	1
188	51	7	1	4	11	1	50	0	0	4	9	1
190	53	2	2	5	0	2	51	6	2	4	10	3
192	55	2	2	5	2	1	53	5	3	5	0	1
194	57	2	2	5	3	2	55	5	0	5	1	2
196	59	2	2	5	5	1	57	4	1	5	3	1
198	61	2	2	5	6	3	59	3	2	5	4	3
200	63	2	2	5	8	1	61	2	3	5	6	0

	25 Per cent.						27½ Per cent.					
	Per Lb.			Per Sp.			Per Lb.			Per Sp.		
No.	S.	D.	F.	S.	D.	F.	S.	D.	F.	S.	D.	F.
142	24	10	2	3	2	0	24	0	2	2	0	2
144	25	6	0	3	2	1	24	7	3	2	1	0
146	26	1	2	3	2	3	25	3	0	3	1	1
148	26	9	0	3	3	0	25	10	1	3	1	3
150	27	4	2	3	3	2	26	5	2	3	2	0
152	28	1	2	3	4	0	27	2	1	3	2	2
154	28	10	2	3	4	2	27	11	0	3	3	1
156	29	7	2	3	5	0	28	7	3	3	3	3
158	30	4	2	3	5	2	29	4	2	3	4	0
160	31	1	2	3	6	0	30	1	0	3	4	2
162	32	1	2	3	6	3	31	0	3	3	5	2
164	33	1	2	3	7	3	32	0	2	3	6	2
166	34	1	2	3	8	1	33	0	0	3	6	3
168	35	1	2	3	9	1	33	11	2	3	7	3
170	36	1	2	3	10	0	34	11	0	3	8	3
172	37	4	2	3	10	3	36	1	2	3	9	1
174	38	7	2	3	11	3	37	4	0	3	10	1
176	39	10	2	4	1	0	38	6	2	3	11	1
178	41	1	2	4	1	3	39	9	0	4	0	1
180	42	4	2	4	2	3	40	11	2	4	1	0
182	43	10	2	4	4	0	42	5	0	4	2	1
184	45	4	2	4	5	1	43	10	2	4	3	2
186	46	10	2	4	6	1	45	3	3	4	4	2
188	48	4	2	4	7	2	46	9	1	4	5	3
190	49	10	2	4	8	3	48	2	2	4	7	0
192	51	9	0	4	10	1	50	0	1	4	8	1
194	53	7	2	4	11	2	51	10	0	4	9	2
196	55	6	2	5	1	0	53	7	3	4	11	0
198	57	4	2	5	2	2	55	5	2	5	0	2
200	59	3	0	5	4	0	57	3	1	5	1	3

	30 Per cent.						32½ Per cent.					
	Per Lb.			Per Sp.			Per Lb.			Per Sp.		
No.	S.	D.	F.	S.	D.	F.	S.	D.	F.	S.	D.	F.
142	23	2	2	2	11	2	22	4	3	2	10	0
144	23	9	2	2	11	3	22	11	2	2	10	2
146	24	4	2	3	0	0	23	6	1	2	10	3
148	24	11	2	3	0	2	24	1	0	2	11	0
150	25	6	2	3	0	3	24	7	3	2	11	2
152	26	3	0	3	1	1	25	3	3	3	0	0
154	26	11	2	3	1	3	26	0	0	3	0	2
156	27	7	3	3	2	1	26	8	0	3	1	0
158	28	4	1	3	2	3	27	4	0	3	1	1
160	29	0	2	3	3	1	28	0	1	3	1	3
162	29	11	3	3	4	0	28	11	0	3	2	2
164	30	11	0	3	4	3	29	9	3	3	3	1
166	31	10	1	3	5	1	30	8	2	3	3	3
168	32	9	2	3	6	1	31	7	2	3	4	3
170	33	8	2	3	6	3	32	6	1	3	5	1
172	34	10	2	3	7	3	33	7	3	3	6	1
174	36	0	0	3	8	2	34	9	1	3	7	0
176	37	2	2	3	9	3	35	10	3	3	8	0
178	38	4	2	3	10	2	37	0	1	3	8	3
180	39	6	2	3	11	2	38	1	3	3	9	3
182	40	11	2	4	0	3	39	6	0	3	11	0
184	42	4	1	4	1	3	40	10	0	4	0	0
186	43	9	0	4	2	3	42	2	0	4	1	0
188	45	1	3	4	3	3	43	6	2	4	2	0
190	46	6	2	4	5	0	44	10	3	4	3	0
192	48	4	2	4	6	2	46	7	0	4	4	2
194	50	0	2	4	7	3	48	3	1	4	5	3
196	51	9	2	4	9	0	49	11	2	4	7	0
198	53	6	2	4	10	2	51	7	3	4	8	1
200	55	8	2	4	11	3	53	4	0	4	9	2

	35 Per cent.						37½ Per cent.					
	Per Lb.			Per Sp.			Per Lb.			Per Sp.		
No.	S.	D.	F.	S.	D.	F.	S.	D.	F.	S.	D.	F.
142	21	6	3	2	8	3	20	8	3	2	7	2
144	22	1	1	2	9	1	21	3	0	2	7	3
146	22	7	3	2	9	2	21	9	1	2	8	1
148	23	2	1	2	9	3	22	3	2	2	8	2
150	23	8	3	2	10	1	22	9	3	2	8	3
152	24	4	2	2	10	2	23	5	1	2	9	1
154	25	0	1	2	11	0	24	0	3	2	9	3
156	25	8	0	2	11	2	24	8	1	2	10	1
158	26	4	0	3	0	0	25	3	3	2	10	2
160	26	11	3	3	0	2	25	11	1	2	11	0
162	27	10	0	3	1	0	26	9	1	2	11	2
164	28	8	2	3	1	3	27	7	1	3	0	2
166	29	7	0	3	2	1	28	5	1	3	0	3
168	30	5	1	3	3	1	29	3	1	3	1	3
170	31	3	1	3	3	3	30	1	1	3	2	1
172	32	4	3	3	4	2	31	1	3	3	3	0
174	33	5	3	3	5	2	32	2	1	3	3	3
176	34	6	3	3	6	2	33	2	3	3	4	3
178	35	7	3	3	7	1	34	3	1	3	5	2
180	36	8	3	3	8	0	35	3	3	3	6	1
182	38	0	1	3	9	1	36	6	3	3	7	2
184	39	4	0	3	10	1	37	9	3	3	8	1
186	40	7	2	3	11	0	39	0	3	3	9	1
188	41	11	0	4	0	0	40	3	3	3	10	1
190	43	2	3	4	1	1	41	6	3	3	11	1
192	44	10	1	4	2	2	43	1	2	4	0	2
194	46	5	3	4	3	3	46	3	0	4	1	3
196	48	1	1	4	5	0	47	9	3	4	3	0
198	49	3	3	4	6	1	48	8	0	4	4	1
200	51	4	2	4	7	2	49	4	2	4	5	1

	40 Per cent.						42½ Per cent.					
	Per Lb.			Per Sp.			Per Lb.			Per Sp.		
No.	S.	D.	F.	S.	D.	F.	S.	D.	F.	S.	D.	F.
142	19	10	3	2	6	1	19	1	0	2	5	0
144	20	4	3	2	6	2	19	6	2	2	5	1
146	20	10	3	2	7	0	20	0	2	2	5	2
148	21	4	3	2	7	1	20	6	1	2	6	0
150	21	10	3	2	7	2	21	0	0	2	6	1
152	22	6	0	2	8	0	21	6	3	2	6	2
154	23	1	1	2	8	2	22	1	3	2	7	1
156	23	8	2	2	8	3	22	8	2	2	7	2
158	24	3	2	2	9	1	23	3	2	2	7	3
160	24	10	3	2	9	2	23	10	2	2	8	1
162	25	8	2	2	10	1	24	7	2	2	9	0
164	26	6	0	2	11	0	25	4	3	2	9	2
166	27	3	2	2	11	2	26	2	0	2	10	0
168	28	1	2	3	0	1	26	11	1	2	10	3
170	28	10	3	3	0	3	27	8	2	2	11	1
172	29	10	3	3	1	2	28	8	0	3	0	0
174	30	10	3	3	2	1	29	7	2	3	0	3
176	31	10	3	3	3	1	30	7	0	3	1	2
178	32	10	3	3	4	0	31	6	2	3	2	1
180	33	10	3	3	4	3	32	6	0	3	3	0
182	35	1	1	3	5	3	33	7	3	3	4	0
184	36	3	2	3	6	2	34	9	2	3	4	3
186	37	6	0	3	7	2	35	11	1	3	5	3
188	38	8	2	3	8	2	37	1	2	3	6	3
190	39	10	3	3	9	2	38	3	0	3	7	2
192	41	4	3	3	10	3	39	8	1	3	8	3
194	42	10	3	3	11	3	41	1	2	3	9	3
196	44	4	3	4	1	0	42	6	3	3	10	3
198	45	10	3	4	2	0	44	0	0	4	0	0
200	47	4	3	4	3	1	45	5	1	4	1	0

	45 Per cent.						47½ Per cent.					
	Per Lb.			Per Sp.			Per Lb.			Per Sp.		
No.	S.	D.	F.	S.	D.	F.	S.	D.	F.	S.	D.	F.
142	18	3	0	2	3	3	17	5	0	2	2	2
144	18	8	2	2	4	1	17	10	1	2	2	3
146	19	0	2	2	4	2	18	3	2	2	3	0
148	19	3	2	2	4	7	18	8	3	2	3	1
150	19	11	3	2	5	0	19	2	0	2	3	2
152	20	7	2	2	5	1	19	8	1	2	4	0
154	21	2	1	2	5	3	20	2	2	2	4	2
156	21	9	1	2	6	1	20	9	0	2	4	3
158	22	3	1	2	6	2	21	3	1	2	5	0
160	22	10	0	2	6	3	21	9	2	2	5	2
162	23	6	3	2	7	2	22	6	0	2	6	0
164	24	3	2	2	8	0	23	2	1	2	6	2
166	25	0	1	2	8	2	23	10	3	2	7	1
168	25	9	0	2	9	1	24	7	0	2	7	3
170	26	6	0	2	9	3	25	3	2	2	8	2
172	27	5	0	2	10	2	26	2	0	2	8	3
174	28	4	0	2	11	1	27	0	2	2	9	2
176	29	3	0	3	0	0	27	11	0	2	10	3
178	30	2	0	3	0	3	28	9	2	2	10	0
180	31	1	0	3	1	1	29	8	0	2	11	2
182	32	2	1	3	2	1	30	8	2	3	0	2
184	33	3	1	3	3	0	31	9	1	3	1	1
186	34	4	2	3	4	0	32	9	3	3	2	0
188	35	5	3	3	4	3	33	10	2	3	3	0
190	36	7	0	3	5	2	34	11	0	3	3	3
192	37	11	2	3	6	3	36	2	3	3	4	3
194	39	4	0	3	7	3	37	6	2	3	5	3
196	40	8	2	3	8	3	38	10	1	3	6	3
198	42	1	0	3	10	0	40	2	0	3	7	3
200	43	5	2	3	11	0	41	5	3	3	8	3

	* 52½ Per cent.						55 Per cent.					
	Per Lb.			Per Sp.			Per Lb.			Per Sp.		
No.	S.	D.	F.	S.	D.	F.	S.	D.	F.	S.	D.	F.
142	15	9	0	2	0	0	14	11	1	1	10	3
144	16	1	3	2	0	1	15	3	3	1	11	0
146	16	6	2	2	0	2	15	8	1	1	11	1
148	16	11	1	2	0	3	16	0	3	1	11	2
150	17	4	0	2	1	0	16	5	1	1	11	2
152	17	9	3	2	1	1	16	10	2	2	0	0
154	18	3	1	2	1	3	17	4	0	2	0	1
156	17	9	1	2	2	0	17	9	1	2	0	2
158	19	3	0	2	2	1	18	2	3	2	0	3
160	19	8	2	2	2	2	18	8	1	2	1	1
162	20	4	1	2	3	1	19	3	1	2	1	3
164	20	11	3	2	3	3	19	10	2	2	2	1
166	21	7	2	2	4	1	20	5	3	2	2	3
168	22	3	0	2	4	2	21	1	0	2	3	0
170	22	10	2	2	5	0	21	8	1	2	3	2
172	23	8	0	2	5	3	22	5	1	2	4	0
174	24	5	2	2	6	1	23	2	1	2	4	3
176	25	3	0	2	7	0	23	11	1	2	5	1
178	26	0	2	2	7	2	24	8	1	2	6	0
180	26	10	0	2	8	1	25	5	1	2	6	2
182	27	9	2	2	9	0	26	4	0	2	7	1
184	28	9	0	2	9	3	27	2	3	2	8	0
186	29	8	1	2	10	2	28	1	2	2	8	2
188	30	7	3	2	11	1	29	0	1	2	9	2
190	31	7	0	3	0	0	29	11	1	2	10	0
192	32	9	1	3	1	0	31	0	3	2	11	0
194	33	11	2	3	1	3	32	2	1	2	11	3
196	35	1	3	3	2	3	33	3	3	3	0	3
198	36	4	0	3	3	3	34	5	1	3	1	2
200	37	6	1	3	4	2	35	6	3	3	2	1

* For 50 per cent. take the half of the List Price.

	57½ Per cent.						60 Per cent.					
	Per Lb.			Per Sp.			Per Lb.			Per Sp.		
No.	S.	D.	F.	S.	D.	F.	S.	D.	F.	S.	D.	F.
142	14	1	1	1	9	2	13	3	1	1	8	1
144	14	5	2	1	9	3	13	7	1	1	8	2
146	14	9	3	1	10	0	13	11	1	1	8	2
148	15	2	0	1	10	0	14	3	1	1	8	3
150	15	6	1	1	10	1	14	7	1	1	9	0
152	15	11	1	1	10	3	15	0	0	1	9	1
154	16	4	2	1	11	0	15	4	3	1	9	2
156	16	9	2	1	11	1	15	9	3	1	10	0
158	17	2	2	1	11	2	16	2	2	1	10	0
160	17	7	3	1	11	3	16	7	1	1	10	2
162	18	2	2	2	0	1	17	1	3	1	11	0
164	18	9	1	2	0	3	17	8	0	1	11	2
166	19	4	0	2	1	1	18	2	2	1	11	3
168	19	11	0	2	1	2	18	8	3	2	0	0
170	20	5	3	2	2	0	19	8	0	2	0	2
172	21	2	1	2	2	2	19	11	1	2	1	0
174	21	10	3	2	3	0	20	7	1	2	1	2
176	22	7	1	2	3	3	21	3	1	2	2	0
178	23	3	3	2	4	1	21	11	1	2	2	2
180	24	0	1	2	4	3	22	7	1	2	3	0
182	24	10	2	2	5	2	23	4	3	2	3	0
184	25	8	2	2	6	1	24	2	2	2	4	2
186	26	6	3	2	6	3	25	0	0	2	5	0
188	27	5	0	2	7	2	25	9	3	2	5	3
190	28	3	1	2	8	1	26	7	1	2	6	1
192	29	4	0	2	9	0	27	7	1	2	7	0
194	30	4	3	2	9	3	28	7	1	2	7	3
196	31	5	2	2	10	3	29	7	1	2	8	2
198	32	6	1	2	11	2	30	7	1	2	9	2
200	33	7	0	3	0	1	31	7	1	2	10	0

THE

MANUFACTURER, WEAVER,

AND

WARPER'S

ASSISTANT.

Setting of Heddles.

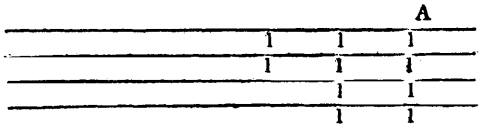
AS few mechanics, comparatively, are in possession of variety of Heddles sufficient for to weave a warp in any particular Reed for which they may engage, the setting of Cambs (or Heddles) to Reeds in a proper manner, is certainly, to him, of the greatest utility; for except the Heddles of difference betwixt the Camb and Reed be exactly distributed so as to make the yarn in the Heddles stand exactly at the same breadth as in the Reed, the yarn which stands oblique, will be more stretched than that which stands parallel, and of course will be more liable to break, and put the weaver to a very great disadvantage; I shall, therefore, give a few easy examples, which may prevent those who have little experience, from falling into errors of this kind.

RULE.

First, know how many hundreds, half hundreds or Porters of difference there is betwixt your Camb and your Reed, and for every hundred, half hundred or Porter there is of difference, draw a long stroke; then begin at the right hand, dotting down over the strokes a dot for every hundred, half hundred or Porter in your Reed, then count up the dots upon each stroke, the number of dots upon each stroke signify the number of drafts drawn over the Camb betwixt setting.

EXAMPLE.

First in whole Hundreds. Suppose you are to set a 1400 Camb to a 1000 Reed, the odds of difference is 400; draw 4 long strokes, the hundreds in your Reed are 10, begin at A, and count up over the strokes 10, thus:

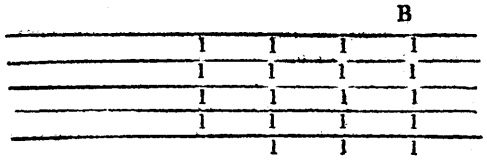


Which shews that you must draw 3 drafts 2 times and set, and 2 drafts 2 times and set, that is, 3 drafts and set; 3 drafts and set; 2 drafts and set, and 2 drafts and set.

EXAMPLE.

Second, in half hundreds. Suppose you are to set a 1200 Camb to a 900½ Reed, the odds is 5 half hundreds, draw 5 strokes; the half hundreds in your

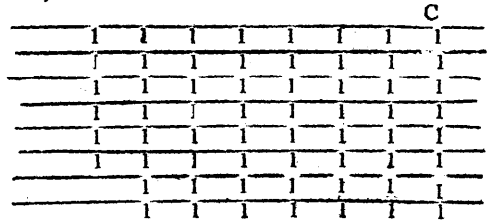
Reed are 19, begin at B and count up over the strokes 19; thus,



Which shews that you must draw 4 drafts 4 times and set, and 3 drafts 1 time and set.

EXAMPLE.

3d in Porters. Suppose you are to set a 1400 Camb to a 1200 and 2 Porter Reed, the odds is 8 Porters, draw 8 strokes; the Porters in your Reed are 62, begin at C and count up over the strokes 62; thus,



Which shews that you must draw 8 drafts, 6 times and set, 7 drafts 2 times and set.

Note. The foregoing examples will set any Camb, provided the Camb and Reed be counted upon the same breadth; it is no matter how many leaves

are in the Camb, provided you draw even drafts over the Camb, and when you set, set a heddle on every leaf over the Camb.

In the foregoing, the Camb and Reed are counted upon ell, (or 27 inches.)

Examples for Beaming.

Rule.—Multiply the number of pinfuls in the web by 16, the nails in an ell, and divide by the nails to be in the breadth of the web; then for every ten in the quotient subtract one, which makes the allowance for building of the heads, then divide by 20, which gives the scores and pins upon ell of the evener required.

EXAMPLE.

Suppose a web having 240 pinfuls, what evener is necessary for the beaming of the same 5-4ths?

240 pinfuls.
16 nails in an ell.

1440
240

20)3840(

192
19 the ones for every 10 in the quotient.

20)1713(

Answer 8—13

so that a web having 240 pinfuls will require an evener 8 score and 14 pins upon ell to beam it 5-4ths; or what is called by some a 17 hundred and 3 pins.

A shorter method may be taken with different breadths (as nine-eights, five quarters, six-quarters, &c. are expressed in fractions, thus: $\frac{9}{8}$, $\frac{4}{5}$, $\frac{11}{8}$, $\frac{6}{4}$, &c.) by multiplying the pinfuls in the web, by the under part of the fraction, and dividing by the upper part, then subtract one pinful for every 10, the allowance for building heads, and divide by 20, to reduce the quotient to scores.

I shall take the foregoing example for proof.

240 pinfuls beamed 5-4ths.

4

5)960(

192
19

210)1713(

Answer 8—13

by this you will see that the answer is the very same as the former.

Calculation of Cotton Warps.

Rule.—Multiply the porters in the breadth of the web by 36 (because 36 threads of cotton yarn gives one porter's warp to one ell) then multiply by the ells in the length of the web, divide by 80, the threads in one skeen; by 7, the skeens in one number; and by 18, the numbers in one spyndle, which gives the spyndles.

EXAMPLE.

Suppose 140 ells of a web, having 58 porter's warp, how much yarn will it take for a web?

58 porters.
36

348
174

2088
140

83520
2088

310)2923210

7)9654

18)522

29 spyndles.

To find when the breadth and spyndles are given, how many ells will be produced from the same?

Rule.—First multiply the spyndles by 18, by 7, and by 80, which reduces them to threads; then divide the threads by 36 (the threads which gives one porter to one yard) and divide the quotient by the porters in the breadth of the web, which gives the ells.

The foregoing question reversed. If 29 spyndels of yarn be made into a web having 58 porters warp, how many ells will there be in the web?

29 spyndles.
18
232
29
522 numbers.
7
3654 skeens.
80
36)292320 threads.
58)8120
140 ells produced.

Calculation of Cotton Warps, and no allowance for waste.

Rule.—Multiply the porters by the length of the web, and divide by 16 to find the numbers, then divide by 18 to find the spyndles, but if there are odd splits in the web, reduce the whole to splits, multiply by the length of the web, divide by 20, by 16, and by 18, which gives the spyndles.

EXAMPLE.

Suppose a web 144 ells long, having 36 porters warp, how much yarn is there in the web?

36 porters.
144
144
144
36
16)5184
18)324
18 spyndles.

The foregoing question reversed. If 18 spyndles of yarn be made into a web having 36 porters warp, how many ells will there be in the web?

18 spyndles.
18 Nos. in a spyndle.
144
18
234 Nos. in 18 spyndles.
16
1944
324
36)5184 Porters one No. gives.
144 ells produced.

Calculation of Linen Warps, with allowance for waste.

If a web having 72 porters warp, he made 140 ells long; how much yarn will it take for the web?

72 porters.
140
2880
72
70)10080(144 hanks or 36 spyndles.
70
308
280
280
280

Question reversed. If 36 spyndles of yarn be made into a web having 72 porters; how many ells will be produced.

36 spyndles.
4

144
70

72)10080(140 ells.
72 ··

288
288

··· 0

Calculation of linen warps without allowance for waste.

If a web having 90 porters warp be made 144 ells long; how much yarn is in the web?

144 ells.
90

79)12960(180 hanks or 45 spyndles.
72 ··

576
576

··· 0

Question reversed. If 45 spyndles of yarn be made into a web having 90 porters; how many ells will there be in the web.

45 spyndles.
4

180
72

360
1260

90)12960(144 ells.
90 ··

396
360

360
360

Note. If tnere are odd splits in the breadth of the web, multiply by 20 to reduce the whole to splits, and in bringing splits to porters divide by 20, and in reducing porters to hanks divide porters by 70, in reducing hanks to porters multiply by 70, in reducing spyndles to hanks multiply by 4, in reducing hanks to spyndles divide by 4, &c. &c.

Cambing or Setting Cotton Yarn to Reeds.

Rule.—Place that number on the right hand which is of the same kind with the number sought, and consider from the nature of the question whether the answer ought to be greater or less than the number sought, if greater, place the least of the other numbers upon the left hand, and the remaining number in the middle, but if less, place the greater

number on the left hand, and the remaining number in the middle; square the hundreds of the reed, and multiply the middle number by the number on the right hand, and divide by the number on the left, which gives the answer.

EXAMPLE.

If a 1200 reed require number 38, what number will a 2400 reed require to make cloth of a similar fabric?

Reed.		Reed.		No.
12	:	24	: :	38
12		24		
144		96		
		48		
		576		
		38		
		4608		
		1728		

144)21888(152 No. of the yarn.
144
748
720
288
288

Question reversed. If a 2400 Reed require No 152 what No. will 1200 require.

Reed.		Reed.		No.
24	..	12	::	152
24		12		
96		144		
48		152		
576		288		
		720		
		144		

576)21888(38 No. of the yarn.
1728
4608
4608

The two foregoing questions reversed to find the Reed.

EXAMPLE.

If No. 152 work in a 2400 Reed, what Reed will No. 38 require to make cloth of a similar fabric?

No.		No.		Reed.
152	:	38	: :	24
		576		24
		228		96
		266		48
		190		576

152)21888(144 sqr. of the reed sought.
152
668
608
608
608

Extract the Square Root of 144 as follows.

1)1'44(12 the reed sought.
1 · ·

22) ·44
·44

If No. 38 work in a 1200 reed, what reed will No. 152 require to make cloth of a similar fabric?

No.		No.		Reed.
38	:	152	: :	12
		144		12
		608		144
		608		
		152		

38)21888(576 sqr. of reed sought.
190· ·

· 288
266

· 228
228

Extract the square root of 576 as follows.

2)5'76(24 the reed sought.
4

44)1'76
1'76

Cambing or setting of Linen Yarn to Reeds by the weight of the hank.

EXAMPLE.

If a 1200 reed require yarn 4 ounces per hank, what will a 1600 reed require to make cloth of a similar fabric?

Reed.		Reed.		Oz.
16	:	12	: :	4
16		12		
96		144		
16		4		
256	—	)576(2 ounces.		
		512		
		64		

16 the drams in an ounce.

384
64

256(1024(4 drams.
1024

——Ans. 2 ounces 4 drams.

Question reversed. If a 1600 reed requires yarn 2 ounces 4 drams per hank, what will a 1200 reed require?

Reed.		Reed.		oz.		dr.
12	:	16	:	2	:	4
12		16		16		
144		96		16		
		16		2		
		256		36		
		36				
		1536				
		768				
		16				
		144)9216(64(4 ounces.				
		864				
		576				
		576				

To find what Reed will do for any weight of Yarn.

EXAMPLE.

If yarn 2 ounces 4 drams per hank be woven in a 1600 reed, what reed will yarn 4 ounces per hank require to make cloth of a similar fabric?

Oz.	Oz.	Dr.		Reed.
4	2	4	: :	16
16	16			16
24	16			96
4	2			16
64	36			256
	256			
	216			
	180			
	72			
	64)9216(144 sqr. of the reed sought.			
	64			
	281			
	256			
	256			
	256			

Extract the Square Root of 144 as follows.

1)1'44(12 reed sought.
1

22) 44
44

If yarn, 4 ounces per hank, be woven in a 1200 reed, what reed will yarn, 2 ounces 4 drams per hank be woven into?

oz.	dr.		oz.		Reed.
2	4	:	4	: :	12
16			16		12
16			24		144
2			4		
36			64		
			144		
			256		
			256		
			64		

36)9216(256 sqr. of reed sought.
72 ··
201
180
· 216
216

Extract the Square Root of 256, as follows.

1)2'56(16 reed sought.
1
26)1'56
1'56

Cambing or setting by the heers in a pound weight.

EXAMPLE.

If 16 heers in the pound be woven in a 1000 reed, how many heers in the pound will be required to weave in a 1500 reed to make cloth of a similar fabric?

Reed.		Reed.		H.
10	:	15	: :	16
10		15		
100		75		
		15		
		225		
		16		
		1350		
		225		

100)3600(36 heers in the pound.
300
600
600

Question reversed. If yarn, 36 heers in the pound, be woven in a 1500 reed, how many heers

in the pound will be required to weave in a 1000 reed.

Reed.		Reed.		H.
15	:	10	::	36
15		10		
75		100		
15		36		
225		600		
		300		

225)3600(16 heers in the pound.
225·
1350
1350

If yarn, 16 heers in the pound, be woven in a 1000 reed, what reed will be required to weave yarn 36 heers in the pound into?

H.		H.		Reed.
16	:	36	::	10
		100		10
				100

16)3600(225 square of the reed sought.
32··
40
32
80
80

Extract the Square Root of 225 as follows.

1)2'25(15 reed sought.
1
25)1'25
1'25

If yarn, 36 heers in the pound, be woven in a 1500 reed, what reed will be required to weave yarn 16 heers in the pound into?

H.		H.		Reed.
36	:	16	::	15
		225		15
		80		75
		32		15
		32		225

36)3600(100 square of the reed sought.
36··
··00

Extract the Square of Root 100 as follows.

10)1'00(10 reed sought.
1
0)00

Setting of Linen Yarn to Reeds by the memory.

Suppose that you received a quantity of Linen Yarn to weave for shirting, weigh it and ascertain how many heers are in the pound, English, then ask how many times there is threes in the number of heers; add to the whole number of threes you find, 400, which shews you the reed required for your yarn; but if you want it a stout fabric, add 500 instead of 400, &c.

EXAMPLE.

Suppose that I receive yarn 24 heers in the pound weight, what reed am I to weave it into for shirting?

Heers.
3)24(
8
400
1200 Reed.

Example 2d. Heers.
3)18(
6
400
1000 Reed.

Example 3d. Heers. 500 added.
3)24(
8
500

Example 4th. Heers.
3)18(
6
500
1100 Reed.

you will see by these, that by knowing the number of heers in the pound weight, you may set Linen shirting without the knowledge of arithmetic.

EXAMPLES FOR WARPING.

Rule 1st. Reduce the porters of the web into splits, and divide by the number of runners, or bobbins, and the quotient is the bouts you are to run to make out the warp.

Rule 2d. Write down the number of runners, and multiply them by the number of bouts, which gives the answer in splits; divide by 20 which gives the Porters, and by 5, which gives the hundreds.

EXAMPLE.

How many bouts run with 72 runners will it take to give 50 porters and 8 splits warp?

P. S.
50 8
20
72)1008(14 bouts.
72
288
288

Question reversed. How much warp will 14 bouts give run with 72 runners?

Runners.
72
14
288
72
210)10018
50—8
Ans. 50 porters 8 splits.

EXAMPLES,

Shewing an easy method of finding the discount upon yarn, or any sum of money at any discount, when there is no respect to time.

Rule. Multiply the sum to be discounted by the rate per cent., and strike off by a dot the two figures upon the right hand, and reduce them always until they be reduced into the lowest denomination of current money; subtract the figures struck off upon the left hand from the original sum, and the product is the neat cost, or sum, after the discount is taken off.

Note. If there is any value upon the right hand figures after the reduction, it is so small that in business it is neglected.

EXAMPLE.

If the List, or stated, price of a pound weight of Cotton yarn be five shillings, what is the neat cost if 45 per cent. be discounted off?

Shillings.
5
45
25 Sum, - 5s. 0d.
20 Discount, 2s. 3d.
2'25 Neat cost, 2s. 9d.
12
3'00

Example 2d. at 6s. 6d. per lib.—Discount, 47½ per cent.

S. D.
½ of—6 6
47
305 6 Sum - 6s. 6d.
is— 3 3 Discount, 3s. 1d.
3'08 9 Neat cost. 3s. 5d.
12
1'05
4
'20 remainder.

THE

MANUFACTURER, WEAVER,

AND

WARPER'S

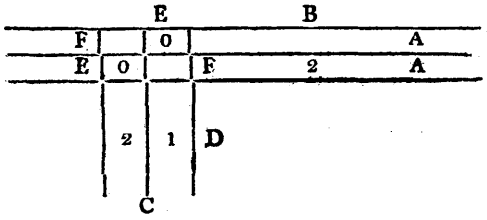
ASSISTANT.

AFTER giving a variety of Tables useful for the facilitating the various calculations which may occur both in Manufacturing and Weaving, and also Arithmetical Rules and Examples for those that are acquainted with that useful science; I shall now give a variety of Drafts and Cordings, which may tend to initiate the Mechanic in the first principles of the weaving trade, by instilling into his mind a complete theoretical knowledge of it, which when obtained, will make the practical part to him more easy.

It will not be thought, I presume, that this work can treat upon the various figures which are done in weaving, as that would be merely impracticable; but the design of the whole is, to shew the first principles of Figuring upon Cloth in the Loom; which is either done by Tweeling, Flushing, (Floating) or Twining, as every kind of figure weaved in the loom is done by some one or other of these, which, when the weaver understands, he will be in no difficulty of making any kind of figure by the combination of mountings, which is the way that every variation in weaving is made.

Explanation of the mode of Drawing the different parts of Cordings.

The leaves of the camb (or heddles) are represented by the space betwixt long strokes at AA, and the draft by the figures upon the leaves at B, the treadles are represented by the space betwixt upright strokes at C, and the tread by the figures at D, the sinking cords are represented by the cyphers at EE, where the camb and treadles cross at right angles, and the raising Cords by the blank squares at FF.



Note. The sinking cords are put upon the short marches, and the raising cords are put upon the long. In the above example, the number of blanks and cyphers are equal, so that either the blanks or cyphers may be made sinking or raising cords, but when it occurs that the blanks and cyphers are not equal, it is best to make the greatest number sinking cords, as it is much easier for the yarn, and throws the figure by the weft to the upper side of the web, as in the following example, having eight leaves and one treadle mounted upon them, taking six leaves down and raising two.

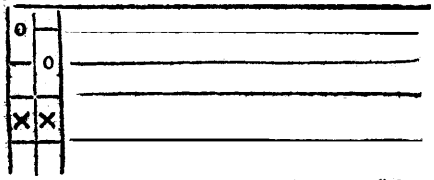
		Draft.
Sinking Cords,	0	1
	0	2
	0	3
	0	4
	0	5
Raising Cord,		6
Sinking Cord,	0	7
Raising Cord,		8

This shews that when the foot is trode there are six threads sunk, and two raised over the draft, which of course must throw the figure to the upper side of the web, as there is only $\frac{1}{4}$ of the warp raised, and $\frac{3}{4}$ taken down, but in the following example it is of no consequence whether the blanks or cyphers are made sinking or raising cords, as the numbers are alike, and put on alternately, which takes down the half of the warp and raises the other half.

	0	1
		2
A	0	3
		4
	0	5
B		6
	0	7
		8

In placing the marches, the short marches are

put above the long, and the cords that go betwixt the short marches, and treadles are taken up betwixt the long marches, and for every leaf of the camb, there must be a long and short march, and whatever leaf of the camb is to be taken down, the cord must be tied to the short march, exactly under it, as at A; the third leaf from the backside of the camb is taken down, the cord upon the short march must be the third from the backside; also, suppose the blank at B, a raising cord, which is the sixth from the backside, the sixth long march from the back-side is taken also; or, supposing the foregoing example as it stands, which is a leaf sunk and raised alternately, the cords are tied upon the long and short marches alternately; also, in raising flush leaves upon the cording, a cross is generally marked, and when a cord takes down two leaves as in nettings, mounted with jacks, they are set down thus:



I think that the foregoing examples are sufficient and any man of an ordinary capacity may easily understand them.

No. 1. **DUMB FLOWER CORD.** Fig. 1st.

Cording.						Draft.	
		0	0	0	0	III	III
0	0	0			0	III	III
0			0	0	0	III	III
0	0	0	0			III	III
	0		0	0	0	III	III
0	0	0		0		III	III
		0	0	0	0	III	
0	0	0			0	III	
3 5	2 6	1 4	3 5	2 6	1 4		

The way that this is trode is the numbers 1 and 1 6 shots, and so on with every two numbers of the same kind before you come to the highest, then to 1 and 1 again.

No. 2. **DIAMOND TWEEL CORD.** Fig. 2d.

Cording.								Draft.	
	0	0	0	0			0		1
0			0	0	0	0	0	14	2
0	0	0	0			0		13	3
		0		0	0	0	0	12	4
0	0	0	0		0			11	5
	0	0		0	0	0	0	10	6
0	0	0	0	0			0	9	7
0			0	0	0	0		8	
8	6 10	4 12	2 14	7 9	5 11	3 13	1		

By treading the treadles from 1 to 8 always makes a wave.

No. 3. **DUMB FLOWER CORD.** Fig. 3d.

Cording.									Draft.	
		0	0	0	0				5 3 1	1
	0	0	0	0	0				5 3 1	2
	0	0			0	0			5 3 1	3
		0	0	0	0	0			6 4 2	4
	0		0	0	0	0			6 4 2	5
	0	0	0	0					6 4 2	6
	0	0	0	0					5 3 1	7
	0	0	0	0	0				5 3 1	8
	0	0	0						5 3 1	9
	0	0	0	0					6 4 2	10
	0	0	0		0				6 4 2	11
	0	0	0	0					6 4 2	12
2 4	1 3 5									
	2 4	1 3 5								

In weaving this figure, 6 shots must be trode upon the 2 treadles of the same number.

No. 4—Fig. 4.

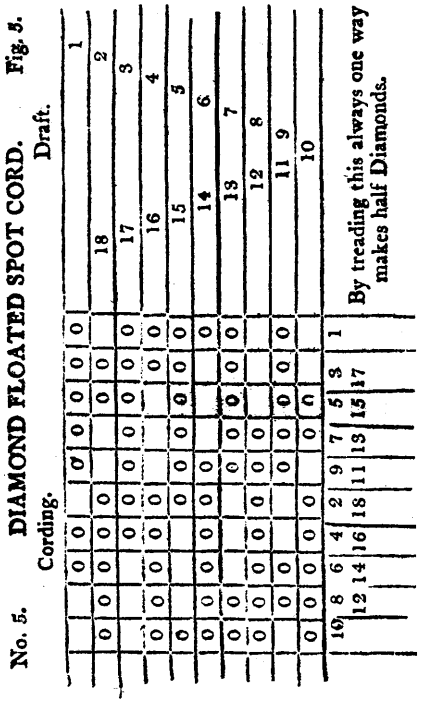
DIAMOND DOUBLE TWEEL CORD.

Cording.								Draft.
0	0	0	0				0	23. 9.1
			0	0	0	0	0	30.22.10.2
0	0	0	0			0		29.21.11.3
		0		0	0	0	0	28.20.12.4
0	0	0	0		0			27.19.13.5
	0			0	0	0	0	26.18.14.6
0	0	0	0	0				25.17.15.7
0				0	0	0	0	24. 16.8

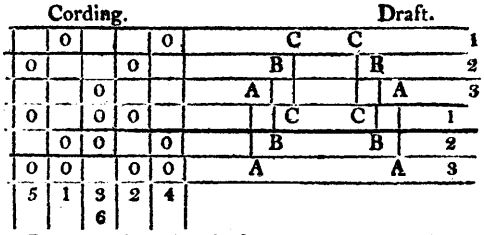
8	6	4	2	7	5	3	1
16	14	12	10	15	13	11	9
	18	20	22	17	19	21	23
24	26	28	30	25	27	29	

This by being trode so many times over the treadles one way, and the same times over the other way, doubles or trebles the tweel according to the tread.

No. 5. DIAMOND FLOATED SPOT CORD. Fig. 5.



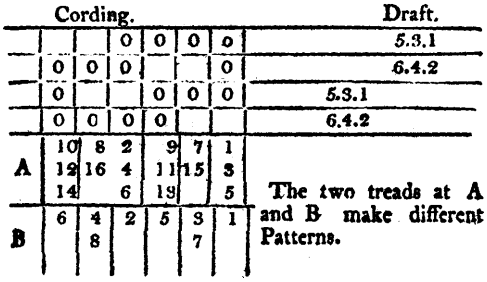
No. 6. DIMITY CORD.



By repeating the draft upon the same leaves makes the strips broad or narrow, the mounting above with jacks is the points of the lowest jack from the leaf A to A, the next above from B to B, and the uppermost jack from C to C upon both sides of the camb.

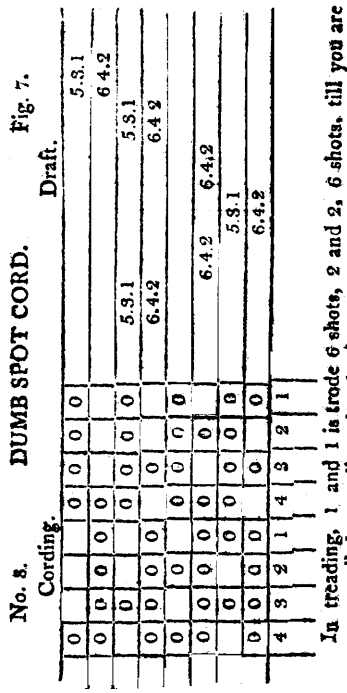
No. 7.—Fig. 6.

COMMON FLOATED SPOT CORD.



The two treads at A and B make different Patterns.

No. 8. DUMB SPOT CORD. Fig. 7.



In treading, 1 and 1 is trode 6 shots, 2 and 2, 6 shots, till you are over all the treadles, then back again.

No. 9. **CLUB DUMB SPOT.** Fig. 8.

Cording								Draft
			0	0	0	0	0	5.3.1
		0		0	0	0	0	5.3.1 5.3.1
0	0	0	0			0		6.4.2 6.4.2
0	0	0	0				0	6.4.2
	0			0	0	0	0	5.3.1
0				0	0	0	0	5.3.1 5.3.1
0	0	0	0	0				6.4.2 6.4.2
0	0	0	0		0			6.4.2
4	3	2	1	4	3	2	1	

In treading, 1 and 1 is trode 6 shots; 2 and 2, 6 shots; 1 and 1, 6 shots; 3 and 3, 6 shots; 4 and 4, 6 shots; and 3 and 3, 6 shots; which completes the spots.

No. 10. **DOUBLE DUMB SPOT.** Fig. 10.

Cording								Draft	
			0	0	0		0	B	5.3.1
0	0		0				0	A	6.4.2
		0		0	0	0		A	5.3.1
0	0	0				0		B	6.4.2
	0				0	0	0	D	5.3.1
	0	0	0		0			C	6.4.2
0				0		0	0	C	5.3.1
0		0	0	0				D	6.4.2
4	3	2	1	4	3	2	1		

See the explanation at No. 11.

No. 11. DOUBLE DUMB SPOT. Fig. 11.

Cording.								
			o	o	o		o	
o	o		o				o	
		o		o	o	o		
o	o	o				o		
o				o		o	o	
o		o	o	o				
	o				o	o	o	
	o	o	o		o			
4	3	2	1	4	3	2	1	

The draft and tread is the very same as No. 10, and may be both mounted above with jacks; the points of the lowest jack from the leaf A to A, next above from B to B, next set from C to C, and next from D to D, &c.

No. 12. EIGHT LEAF HIGH TWEEL CORD.

Cording.									Draft.
o	o			o	o	o	o		1
o	o	o	o	o			o		2
o			o	o	o	o	o		3
o	o	o	o			o	o		4
		o	o	o	o	o	o		5
o	o	o	o		o	o			6
	o	o		o	o	o	o		7
o	o	o	o	o	o				8
8	6 10	4 12	2 14	7 9	5 11	3 13	1		

This is trode over to the highest number, and then to number 1 again.

No. 13. Same as No. 12, put on the old way.

Cording.								Draft.
o	o	o	o		o		o	1
o	o	o		o		o	o	2
o	o		o		o	o	o	3
o		o		o	o	o	o	4
	o		o	o	o	o	o	5
o		o	o	o	o	o		6
	o	o	o	o	o		o	7
o	o	o	o	o		o		8
8	7 9	6 10	5 11	4 12	3 13	2 14	1	

The way that No. 12 is corded and trode, both feet are used with ease and propriety; but in No. 13, you must tread it all with one foot which was much practised once, but is very inconvenient, and cannot be trode with both feet owing to the way the cording is put on, to run from one side to the other; but No. 13 is the way that cordings ought to be put on at first, then it will be very easy to draw them off and place them in such a form that they will be conveniently trode; as in No. 12 of the same cording as No. 13.

No. 14. FOUR LEAF TWEELING AND PLAIN STRIP CORD.

Cording.				Tweel Draft.	Plain Draft.
		0	0		1
0	0				2
			0	1	
	0			3	
		0		2	
0				4	
4	2	3	1		

The two back leaves are the plain leaves, the four fore leaves for the tweel.

No. 15. DAMBOARD CORD. Fig. 16.

Cording.								Draft.	
0	0			0			0	D	1
0			0	0	0			C	2
0	0				0	0		B	3
	0	0		0	0			A	4
0			0			0	0	D	1
		0	0	0			0	C	2
	0	0				0	0	B	3
		0	0		0	0		A	4
		4	2			3	1		
4	2			3	1				

By repeating the draft upon the same leaves, and the tread upon the same treadles enlarges the figure, and may be mounted with jacks, the points of the lowest jack from the leaf A to A, the next above from B to B, &c.

No. 16. CHECKER BOARD SPOT. Fig. 17.

	Cording.				Draft.
	0		0	0	9.7.5.3.1
	0	0			10.8.6.4.2
			0	0	9.7.5.3.1
	0	0		0	10.8.6.4.2
A	3	1	2		
B		1	2	3	

A, the first tread which is repeated before the figure is square; B, the second tread, which is repeated in like manner, which embosoms the spot when the treadles No. 3 and 3 are trode, a shot of coloured yarn is put in, &c.

No. 17. VELVET CORD.

Cording.							Draft.
	0				0		1
		0			0		2
	0	0					3
	0				0		4
		0	0		0	0	5
	0	0		0			6
	8	6	4	2	3	1	
		1	7	5	11	13	
		14	10	9			
				12			
				15			

This cord is thick set, and is used for breeches.

No. 18. DUMB SPOT CORD. Fig. 9.

Cording. Draft.

	0		0	0	0								5.3.1
0	0	0		0									6.4.2
		0	0	0	0	5.3.1						5.3.1	
0	0	0			0	6.4.2						6.4.2	
0			0	0	0		5.3.1				5.3.1		
0	0	0	0				6.4.2				6.4.2		
	0		0	0	0			5.3.1		5.3.1			
0	0	0		0				6.4.2		6.4.2			
0		0	0	0	0				5.3.1				
0	0	0	0		0				6.4.2				
3	2 4	1	3	2 4	1								

In treading, No, 1 and 1 is trode 6 shots; 2 and 2, 6 shots; 3 and 3 6 shots; 4 and 4, 6 shots; then to No. 1 and 1 again.

No. 19. THICKSET CORD.

Cording. Draft.

0			0	0	5.3 1
	0				4 2
				0	9.7
	0	0			10.8.6
6	4	2 5	3	1	Thickset is used for Breeches.

No. 20. COMMON NET CORD.

Cording. Draft.
A

	—	0	0	9	5	1
				11	7	3
B	0	—	—	0	6	0
				12	0	0
	0	0—×	D	10-8		4-2
	1 3 5	2 4 -	6			

This may be mounted with jacks the same as a plain web, with a couper long and short march for the flush leaf, and the camb a common camb; the cyphers upon the draft are heddles set for every thread drawn upon the flush leaf, the cords at A and B, take down the two leaves at D, as the flush leaf and the cross signifies a cord on the long march.

No. 21. HIGH TWEEL WAVE and DENTED CORD. Fig. 18.

Fig. 19. Fig. 20. and Fig. 21.

No. 22. SEA-WAVE and PLAIN BACK CORD

The tread at C makes a wave figure, at D, a dotted figure, and at E, a diced figure.

No. 23. CHECK'D COMMON NETT CORD.

Strip Draft. Check Draft.

—	0	0	0	9 5 1	9 5 1
				11 7 3	11 7 3
0				0 6 0	0 6 0
				0	12 0 0
0	0	×	×	A 12 0	10-8-4-2
0	0	0	×	A 10-8—4-2	
1		2			
3		4		The strip tread.	
5	—	—	6		
—	—	—	—		
1	2				
3	4			The cross tread.	
5	—	—	6		

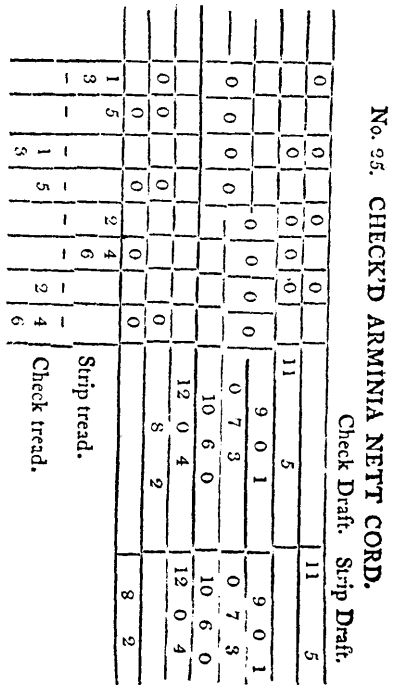
Note.—The four back leaves are the leaves of the camb, which may be a common camb, and the two fore leaves are the flush leaves; the camb may be mounted with jacks the same as a plain web, and the flush leaves are mounted with coupers long and short marches; the crosses opposite to AA signify cords on the long marches; the heddles on the flush leaves must either be run on the metland cord or spaced to the pattern; and the cyphers on the draft signify a heddle set on the camb for every thread drawn on the flush leaves.

No. 24. ARMINIA NETT CORD.

	0	0		11 5
		0	0	9 0 1
0	0			0 7 3
				10 6 0
				12 0 4
0			0	8 2
2	4	5	1	
	6		3	

Note.—This may be mounted with a double set of jacks, the one set above the other, and the uppermost set put upon the two flush leaves, which are the backmost and the foremost, the camb may be a common camb, and the cyphers upon the draft signify a heddle set on the camb for every thread drawn upon the flush leaves.

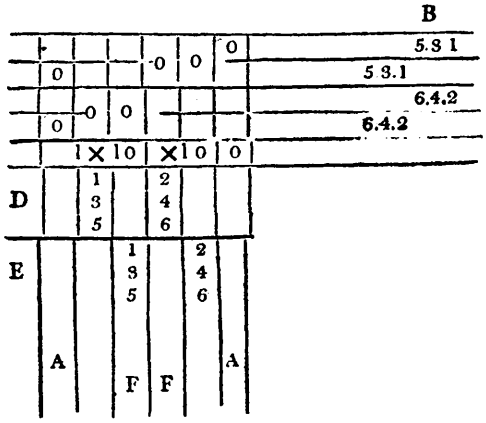
No. 25. CHECK'D ARMINIA NETT CORD.



Note.—The two back and two fore leaves are the flush leaves which must be run on the metland cord, or spaced to the pattern; the four mid leaves are the leaves of the camb, which is a common camb, and cyphers upon the draft signify heddles set upon the camb; for every thread drawn upon the flush leaves; the camb may be mounted with jacks as a plain web: also jacks may be put upon the flush leaves above the jacks of the camb.

☞ Nets must be set the same as jaconets, or even lighter, or else they will not show the figure.

No. 26. SINGLE FLUSHING CORD.



Note.—The fore leaf is the flush leaf, upon which the bords or strips in the web are drawn; and in drawing the flushing, draw a thread of the warp and

a thread upon the flush leaf time about, at the draft upon B, but when there is none to be drawn on the flush leaf, draw the same as upon the draft at B;—the camb may be a common camb, and the flushing heddles run or spaced to the pattern; by treading the tread at D, makes the ground of the web plain and takes the flush leaf up 6 shots; the tread at E makes the web plain, and takes the flush leaf down 6 shots, or as long as you continue upon the same treadles; when you throw your flushing across the web tread one of the treadles AA, and throw in a shot of flushing, then tread one of the ground treadles and throw in a shot of ground alternately during the making of the cross flushing; the crosses upon the cords signify cords upon the long marsh: but there is another plan which make the treadles FF unnecessary, as also the cords which are upon the flush leaf, that is by fastening a cord to the out end of the flush leaf couper, and bringing it down by the back of the sword of the lay, and taking it round a pully fastened upon the lay, exactly in a level with the upper side of the upper-shell or hand-staff of the lay, then bringing it along the top of the upper-shell or hand staff it is fastened to a small handle, that runs in a grove, which is made so, that by shifting a pin from one small hole to another, makes the shift long or short, so that by shifting the hand one way, raises the flush leaf, by the cord that is round the pully taking down the out-end of the flush leaf couper, raises the end at the centre of the loom along with the flush leaf to any height that is necessary, also a balance being fastened to the under side of the flush leaf, when the hand is shifted back, takes it down as low as the under part of the shed. If there are two flush leaves, the one to rise and the other sink alternately, as in double flushing, each flush leaf

must have a couper above, with a cord down from each end, and round a pully at each side of the lay, and fastened to each side of the handle upon the upper-shell; also a piece of wood for a balance to the flush leaves, with a screw pully near each end of it and cords tied to the under shaft of one flush leaf, then taken round the pullies and tied to the other flush leaf, so that when the handle is shifted from the one side to the other, the one leaf rises and the other sinks, and the piece of wood hung by the pullies to the under side of the flush leaves, keep them always on a balance. The latter plan is by far the best as it saves a great deal of the mounting below, and is much easier for the yarn drawn upon the flush leaves.

No. 27. DOUBLE FLUSHING CORD.

Cording.						Draft.
	0			0	0	1
		0		0	0	2
		0	0		0	3
	0		0		0	4
0	0			0		5
0		0		0		6
0		0	0			7
0	0		0			8
A	4	2	3	1	A	

Note.—The flush leaves are at the fore side of the camb, but there are no cords on them, as the handle on the lay is preferable; the treadles AA, are for the cross flushing, which are tramped alternately and a shot of one colour put in with one foot, and a shot of another colour put in with the other foot.

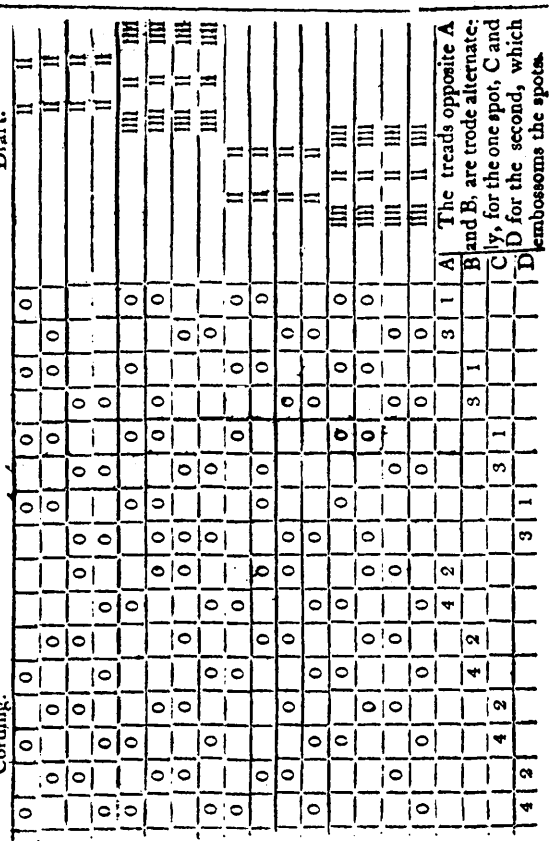
In drawing the warp flushing, there is a thread of one colour drawn on one flush leaf, and another colour on the other, (there is no ground goes along with double flushing) and four threads are put in the split, but as to the change of the flush, or variation of the colours, I leave it to the judgment and taste of the mechanic.

No. 28. THREE LEAF TWEELING AND PLAIN CORD.

						B	A
			0	0	0		1
0	0	0					2
	0				0	1	
		0	0			2	
0				0		3	
6	4	2	5	3	1		

Note.—A, the plain draft; B, the tweel draft; this cord may be mounted the very same as No. 14, and applied to the same purpose.

No. 29. JEAN AND SATIN TWEEL CORD. Fig. 15.



No. 30. DUMB SPOT CORD. Fig. 22.

Cording. Draft.

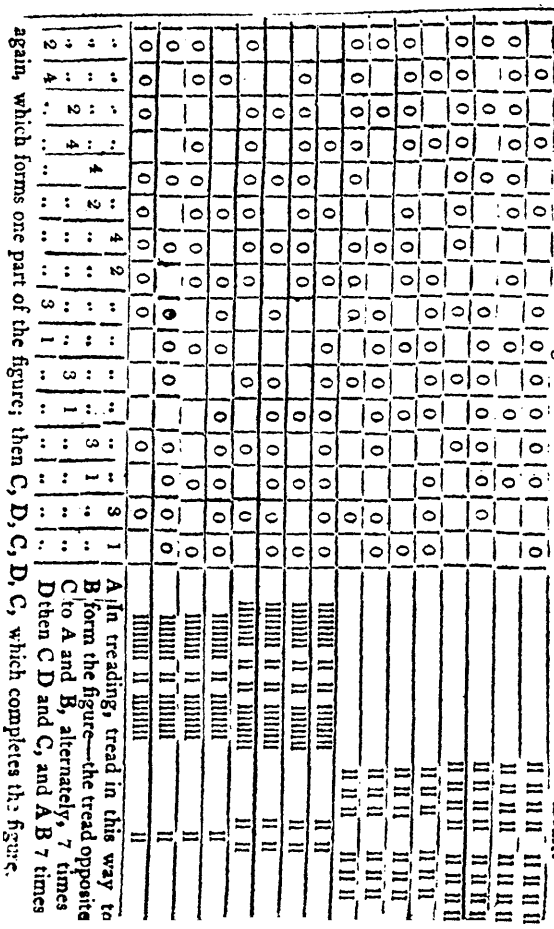
Opposite to A, is the tread for the first part of the figure, and opposite to B the second, tread two numbers of the same kind 6 shots, before you come to the highest, then return to 1 and 1 again, &c.

No. 31. STAR AND DIAMOND CORD. Fig. 23.

Cording. Draft.

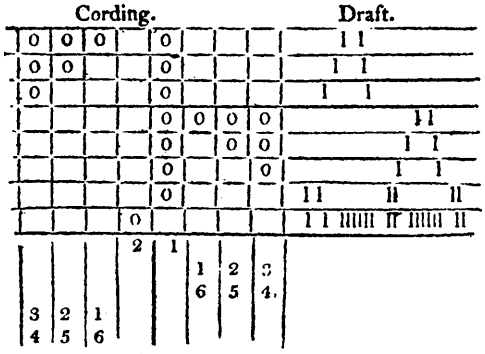
Tread up to the highest number, then return to 1 again, &c.

No 32. DOUBLE CHECKER BORD. Fig. 30.



A In treading, tread in this way to
B form the figure—the tread opposite
C to A and B, alternately, 7 times
D then C D and C, and A B 7 times
again, which forms one part of the figure; then C, D, C, D, C, which completes the figure.

No. 33. ROUND COMMON SPOT. Fig. 12.

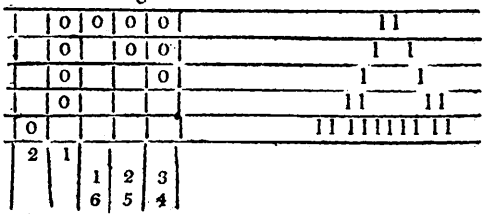


The two mid treadles are for the plain, and the treadles on each side, for the two different spots—in weaving common spots, there is put in two shots of plain and a shot of spoting, alternately, the spoting yarn is made coarser than the weft of the web, to cause it to have more appearance; the two fore leaves are the plain leaves, and are drawn upon alternately, according to the distance you are to have between them.

No. 34.—Fig. 12.

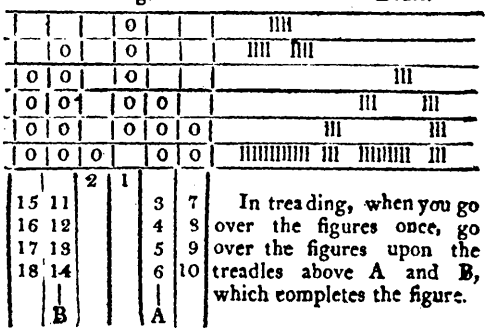
ROUND COMMON SPOT. Unembossom'd.

Cording. Draft.



No. 35. COMMON CLUB SPOT. Fig. 13.

Cording. Draft.

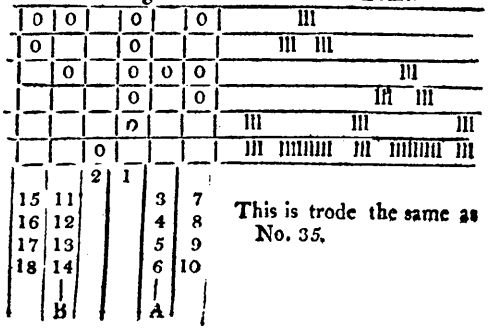


In treading, when you go over the figures once, go over the figures upon the treadles above A and B, which completes the figure.

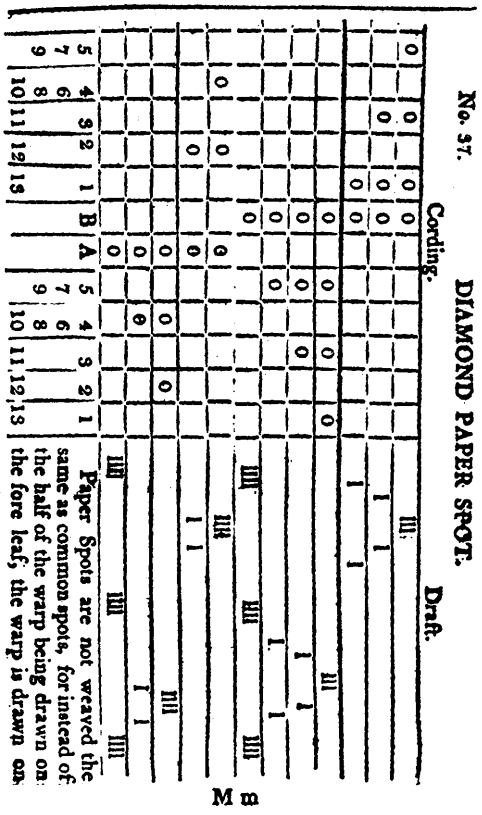
No. 35.—Fig. 14.

COMMON CLUB and DOTTED SPOT.

Cording. Draft.

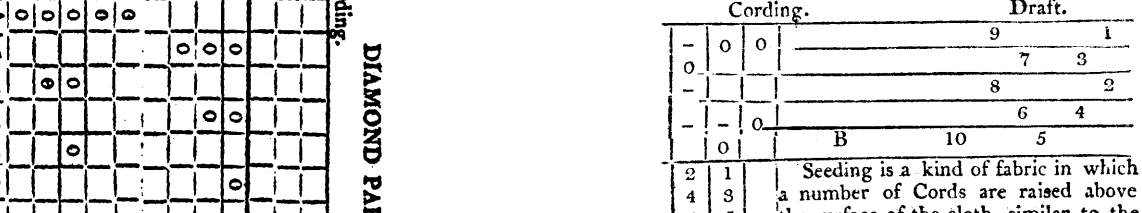


This is trode the same as No. 35.



two sets of mounting, and the spotting sheds are made by reversing, alternately, the back and fore leaves, and also a shot of spotting and a shot of ground are put in alternately, which makes paper spots closer and more solid than the common spots, and they have also a much better appearance.—The treadles marked A B, are for weaving the plain.

No. 38. PLAIN SEEDING CORD.



Seeding is a kind of fabric in which a number of Cords are raised above the surface of the cloth, similar to the slabb Cotton Wool Counterpanes; the seed yarn is made a number of folds, according as the appearance of the seed is wanted, sometimes till it be about the size of Number 5, 6, 7, or 8; the seeding yarn is put upon a roll, or small beam, and placed under the yarn behind the heddles, and the Seed yarn is taken in through betwixt the Heddles of the camb, and put into the heddles of the flush leaf, then put in through the reed, each thread in a split by itself.—The draft of the ground yarn is quite different from another plain draft, as a common draft would make some of the threads work up and down with the seed thread, which would be useless; but upon the draft above, you see that the thread on each side of the seed cord is drawn upon the same leaf which

makes them tread up and down alternately the reverse with the seed cord, and binds it on each side; B, the seed leaf, C and D, the plain treadles, which are trode alternately upon betwixt the raising of the seeds; E, the seeding treadle, which, when trode, takes down all the yarn to the race-rod of the lay, and raises the seed leaf, which, when done, take a shuttle to which a cord is attached, and throw it through under the seed cords, then work on till you come to the next place of raising the seeds, pull the cord attached to the shuttle out, and throw it in again, &c. but in pulling it out you must have a bobbin, or something of the like kind, placed out from the selvage of the web, upon the foreside of the lay, which you bring the cord that keeps up the seed round, this keeps it straight out from the selvage, and you have no more to do but pull it straight to you, which makes the process very easy. Seeding may be put into various forms by adding more seed leaves, or raising the seeds by the harness; but of these we leave to the mechanic to judge after he has obtained the theory.

No. 39. SATIN FACE MARSEILLE.

Cording.								Draft.
0	0	0	0	0	0		0	1
0	0	0		0	0	0	0	4
				0				2
		0					0	3
					0			5
0							0	6
6	4	2	3	1	5	7		
	8							
A	B	A	C	A	A	C	D	

Marseille is weaved with two kinds of weft, the fine for the face, and the coarse for the back; if the face be No. 40, the back must be No. 20, and there are two shots of the fine and two of the coarse put in alternately, when the treadles A are trode, the fine is put in, B and C the coarse, D is the stitching shot; there must be three threads in the split, two for the face and one for the back.

No. 40. DOUBLE TWEELED CORDUROY CORD.

Cording.							Draft.
		0	0	0	0		1
	0	0		0	0		2
0	0			0	0		3
0			0	0	0		4
		0	0	0	0		5
	0	0		0	0		6
0	0				0		7
0			0	0			8
8	6	4	2	3	1		
				7	5		

Corduroy, after it is weaved, the flushing is cut up with a plough made for the purpose, and it is the stoutness of the cloth keeps the flush from coming out.

No. 41.

PLAIN BACK VELVETEEN CORD.

Cording.							Draft.
				0		0	1
			0		0		2
						0	3
					0		4
		0				0	5
	0				0		6
						0	5
					0		8
6	4	2	5	3	1		

Velveteen is cut up in the same manner as Corduroy.

GAUZE.

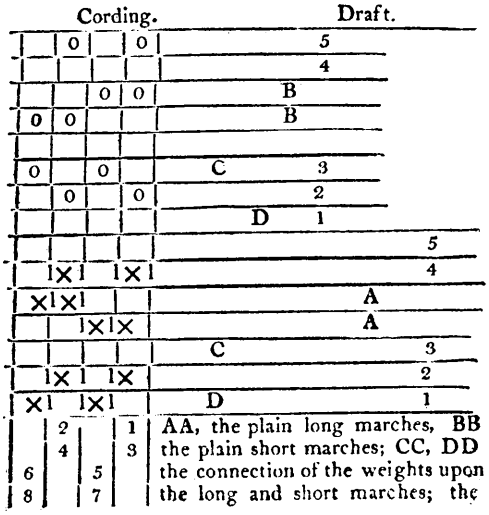
Gauze, which is the first principle of all cross weaving, and upon which all the other varieties in cross weaving are produced, (in plain weaving each thread of the warp rises and sinks alternately parallel to each other,) but in Gauze weaving each split of the warp is twined like a cord, first to the right, and a shot of weft put in, then to the left, and another shot put in, &c. (the shots of weft so put in preserves the twine received from going off,) the Gauze mounting consists of two plain back leaves, or back standards, which are made the very same as the heddles of a common camb, two fore standards, and two doups, Fig. 25, is a representation of the way that the heddles are made and connected with the fore standards, B, the standard next the foremost, A, the doup which is only a half leaf made of silk, and drawn in through the under part of the standard heddles, see Fig. 25. and a rod put into the double of the doup, represented by a dote at C, (to keep it into the standard before the yarn be put in, as the threads are put in through the double of the doups) F, the fore doup which is on the fore under side of the fore standard, and taken through the upper part of the standard heddle, and a rod put in at E, which is marked by a dote, and continue the process before all your doups are hung in their respective standards by the two rods, then proceed to the drawing in of the warp as follows. See Fig. 29, which is a representation of the way the standards are placed, A A the back standards; B B, the fore standards, D the back doup, which is on the upper side of the standard next the fore; E the fore doup, which is upon the under side of the fore standard; C, a space of about 2 or $2\frac{1}{2}$ inches kept betwixt the two back and two fore standards, for ease to the yarn in the crossing; F F, the first drawn thread which is drawn through the under part of the heddle upon the back standard at F, and through the under part of the standard next the foremost at F, then put through the double of the upper doup, and back through the standard next the foremost the very same way it was taken through, which doups that thread—The next thread is drawn through the upper part of the standard next the backmost at G, then put through under the last drawn thread, and drawn through the upper part of the fore standard at G, and put through the double of the under doup, then taken back through the fore standard the very same way it was taken in through, which doups that thread and completes the draft. Although this is the way threads are taken in, in the course of weaving, it is necessary to observe, that in drawing a whole web, it is drawn through the back leaves according to the above directions, and a new lease formed in front—to perform this, press down the back standard and raise the one next it, then put a rod in-

to the shed in front, the other shed is obtained by one of the rods in a contrary shed behind the standards, when the lease is formed before the two back standards, draw the web through the fore part of the mounting according to the above directions.—Fig. 26, is another form of building standards and connecting the doups with them by means of an eye, one half of the fore doup is in through the eye, and the other half under it, and the one half is in the eye and the other above it of the back doup, see the doups B and F, A the standard, C and E the connection of the doups with the eye; this mode of building the heddles is reckoned preferable to Fig. 25, as it goes more pleasant, and can be weaved with both feet on the treadles.—Fig. 28, is a representation of the connections of Gauze mounting below, D, the five short marches, numbered from the foreside, 1, 2, 3, 4, 5,—E, the five long marches numbered in the same manner; the short marches are placed above the long, the same as in plain weaving, No. 1 above No 1, &c. before you are over to No. 5—the couper cords are connected to the upper shafts of the heddles as in plain weaving, the long marches are connected to the couper after the same manner, and the short marches are hung to the under shafts of the heddles, the dots upon the treadles signify sinking cords, and the crosses raising cords, the blank squares signify neither sinking nor raising cords, as is the case in other cordings; treadle A the open shed treadle, which sinks the 2d and 5th short marches, and consequently the back standard and the fore, it also pulls down the 2d and 4th long marches, which raises the 2d standard, and the one next the backmost, B the cross shed treadle, which takes down the third short march, and sinks the standard next the foremost, it also pulls down the first long march and raises the fore standard; C, an additional treadle,

which being trode alternately with the treadle B, produces plain cloth; G G, two cords tied to the 1st and 3d short marches, which is fastened to each end of a bit of wood the breadth of the march, and rests upon the 1st and 3d long marches, at FF, the cord also comes from each end of the bit of wood, and passes on each side of the march; and to it a weight is suspended H H, at a convenient distance, to give the march freedom to play up and down, the use of the weights are to relieve the doups in treading the open shed. By means of Gauze and other mountings connected together, a great variety of patterns may be produced, such as—

No. 42.

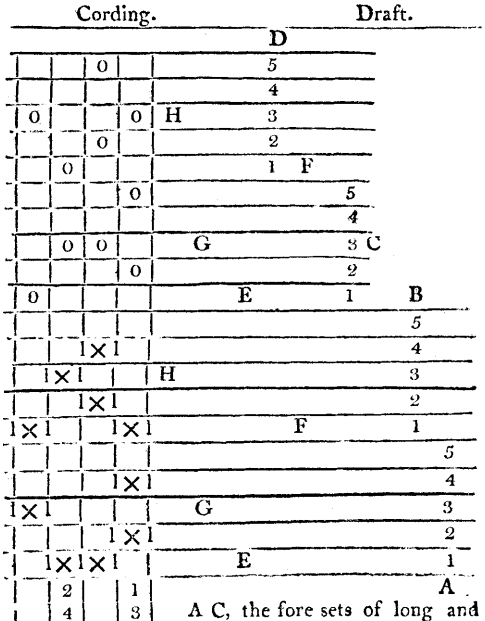
VEIN GAUZE and CAMBRIC STRIP CORD.



AA, the plain long marches, BB the plain short marches; CC, DD the connection of the weights upon the long and short marches; the

crosses are raising cords, and the cyphers sinking cords, the blank squares are neither.

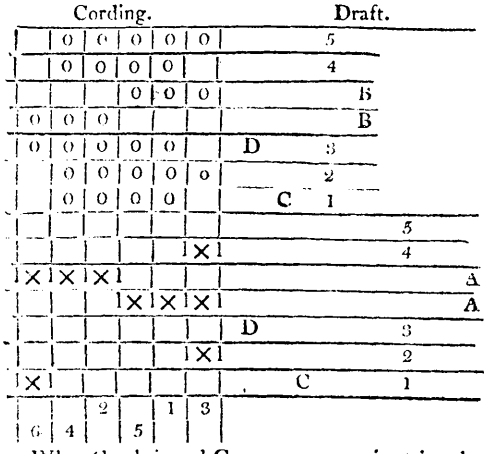
No. 43. CRAPE CORD.



A C, the fore sets of long and short marches; B,D, the back: FF, EE; GG, HH, the connection of the weights upon the long and short marches.

The cording of the Victory is the same as Crape, all the difference is, there is 5 splits of warp drawn upon each set of mounting in Victory, and 2 on each set of Crape; also you continue longer on the same treadles in weaving Victories; in Crapes and Victories when one set of mounting is twining, the other is weaving plain, alternately.

No. 44. CAMBRIC and GAUZE CORD.



When Cambric and Gauze are woven in strips, the Cambric ground is set as Cambric, and the Gauze ground is a split full and one empty, alternately; in crossing the weft, 2 shots are floated over the Gauze ground, and the 3d passes through both grounds — AA the plain short marches, BB the plain long—the marches numbered are for the Gauze ground, CC

D D, the connection of the weights to the marches, the crosses are raising cords, and the cyphers sinking cords, the blank squares are neither. If squares of Cambric and Gauze are to be formed, two sets of Gauze mounting and two sets of plain are required; the weft is floated over as in the foregoing, and when the Gauze squares are forming all the warp upon the plain leaves in the squares are dropped, (which is each alternate split) till the square is finished when it is reversed, and the other squares operate after the same manner. Gauze bords are after the same manner as Cambric and Gauze, only the ground is light set.

Fig. 27, is a representation of the manner of building heddles for Spider Nets, A and B, are two standards built after the same form as in Fig. 26, D, and C are two doups, the one part of the doup passes through the eye, and the other part of it passes through the upper part of the heddle, and are connected together by a bead or eye, through which the whip thread passes from E to F; the whip of spider net is raised alternately on each side of the ground split, which is drawn betwixt the standards at F, above the joining of the doups while the whip threads are below the warp of the web, and put in through the eye or bead at the joining: when the standard B is raised, the doup D is tight to the eye, and the doup C is slackened which brings the whip upon one side of the split, then 3 or 4 shots are put in, which keeps it up; when standard A is raised, the doup C is tight to the eye, and the doup D is slackened, which brings it up on the other side of the split, then 3 or 4 shots are put in to keep it up also, and so on throughout the course of weaving; spider net may be weaved along with a variety of fabrics; for, as I said before, all the varieties in weaving, are nothing more but combining different mountings together, and if the mechanic

understands single mountings, it is easy for him to connect them together, as each treadle has two cordings upon it, while if it were a simple mounting it would have only one cording. For example, I shall give the drafts and cordings of a 4 leaf shawl tweel, and a 4 leaf sheeting tweel, and then connect them together.

No. 45. SHAWL TWEEL.

Cording.				Draft.
0			0	1
	0		0	2
	0	0		3
0		0		4
4	2	3	1	

No. 46. SHEETING TWEEL.

Cording.				Draft.
			0	1
	0			2
		0		3
0				4
4	2	3	1	

No. 47. SHAWL AND SHEETING TWEELS CONNECTED.

Cordings.				Drafts.	
0			0	1	Shawl mounting.
	0		0	2	
	0	0		3	
0		0		4	
			0	1	Sheeting mounting.
	0			2	
		0		3	
0				4	
4	2	3	1		

So you see that the Shawl Tweel leaves are the 4 backmost, and the Sheeting Tweel the 4 fore leaves, the treadle No. 1, takes down the 2 back leaves of the back set, and the backmost of the fore, No. 2, the 2 mid leaves of the back set, and the one next the backmost of the fore, No. 3, the two fore leaves of the back set, and the one next the foremost of the fore, No. 4, the backmost and foremost of the back set, and the foremost of the fore set, &c. I think the example is sufficient, for by considering the single cordings, and the connection of them together, any 2 or more sets of mounting may be understood by the mechanic, as the combination of mountings are all done after the same form, &c.

PRESSURE HARNESS.

I have been showing the method of combining simple mountings together, which are done with leaves; I come now to the use of the Harness, which is to combine much mounting into little room, and exclude the use of shafts, and a great deal of wood work, which would otherwise be requisite. the Harness is a great multiplicity of cordage or twines, which are drawn through a board with as many holes in it as there are drafts or mails in the breadth of the web, this board reaches from the one side of the loom to the other and is called the *hole board*. the holes are generally 10 over in a row from the one side of the board to the other, with an angle so as to make the yarn stand exactly behind the respective splits it passes through, something similar to the way tweeling is drawn, that is, over and over; about the middle of the twines, below the hole board is an eye, made of the twine, copper, brass, or tin, these are called *mails*, also to each twine as far below the mails as be-

twixt the hole board and mails, is tied a small weight of lead, which takes down the yarn when the pull is over; suppose your pattern to be upon 5 design that is 5 times 10, or 50 spaces of the design paper, you lay aside or divide and tie up your Harness above the hole board in fifties, to see how many times the range of the pattern will be repeated in the breadth of the web, then after you know the parts to be repeated, begin and take them up thus, upon the foreside of the hole board, take the 1st, 51st, 101st, &c. and next row the 2d, 52d, 102, &c. before you complete 50 on each of the parts, the extent of the pattern, then tie each row so taken up over the parts to a cord, (also for the foregoing extent a box stands upon the top of the loom called the *Thorl Box*, containing 50 thorls and a little sloped towards the right side of the loom) this cord is carried up betwixt rollers under the thorl box, then over the thorls and carried horizontally a considerable way out, from the right side, and above the top of the loom and fastened nearly level with the thorl box, &c. (before all the cords necessary be up) these cords are called the *tail cords*, then another set of cords are tied to the tail about 4 inches out from the cape of the loom called *simple cords*

These simples pass from the tail nearly to the floor, where they are made tight to a cross bit of wood; there is another stout cord about 9 or 10 inches farther out from the side of the loom than the simple cords, and exactly opposite the middle of them, which reaches from the roof through the middle of the tail, and down to the floor, where it is made fast; after these operations, care must be taken to make all the cords tight and the mails of a proper height, and all alike, the warp is then to be taken in through the mails, as many into each mail as makes a complete draft of the fore camb, (or heddles) after the web is

mailed, make a lease in front of the mails by means of the rods that are in the backside, which you keep in before you draw it thro' the fore heddles, (it will be observed that the Harness is put thro' the hole board in succession the very same as an over and over tweel draft,) and over and over in the fore heddles also, the fore heddles are 4 in number, and are made with eyes somewhat larger than the depth of the shed, otherwise the spotting warp would not rise, there are sometimes 2 and sometimes 3 leaves remain stationary (when 3 remains stationary the figure appears more on the one than the other,) with varying the cording on the fore mounting the weft may either be inserted across the whole web, or only inserted into the spots and floated betwixt them; in this case the floated part is cut off and the spotting part remains.

No. 48. CORD FOR FLOATING PART OF THE WEFT.

Cording.								Draft.
	0		0		0	0		1
		0		0	0		0	2
0		0	0		0			3
0	0		0			0		4
	4		3		2		1	B
4		3		2		1		A

B, the ground shot; A, the spotting shot—there is a ground shot and a spotting shot put in alternately.

No. 49. CORD FOR INSERTING THE WEFT ALL OVER THE WEB.

Cording.				Draft.
X			0	1
	X	0		2
	0	X		3
0			X	4
4	3	2	1	

Upon the two foregoing and following cordings the cyphers are sinking cords, the crosses raising cords, the blank squares are the stationary leaves upon the different treadles, (one shuttle only necessary for No 49.

No. 50. CORD FLOATED AS No. 48. THREE LEAVES STATIONARY.

Cording.								Draft.
	0					0	0	1
				0	0		0	2
		0	0		0			3
0	0		0					4
	4		3		2		1	A
4		3		2		1		B

Weaved the same as No. 48.

The next thing that occurs is the reading on of the design, which is done by two persons, the pattern first being drawn upon design paper. Fig 24th is a representation of a flower, which, by counting the spaces upon the design paper, counts 30 by the breadth and 26 by the length, the former shews the number of mails in one flower, and also the number of tail and simple cords, as every square represents one, and by the length shews how many times the Harness must be shifted in the course of weaving the flower, as every square upon the paper represents a change, the changes are effected speedily by another set of cords called *Lashes*, which selects the simples at every change; the Lashes are put on thus, one person begins at the foot of the flower counting from the right, (every square that is black is to be taken up) and sees that there are 12 squares passed and 3 taken, 8 passed and 5 taken, so his instructions to the other person are passs 12 take 3, pass 8 take 5, &c. this is one

lash which is taken up and passed round every simple, according to the directions given by the other person, he then knots the lashes together, and connects the other end with the cord that is out from them so as to slide up and down freely, also a small cord is tied betwixt each lash which makes the one bring out the other. I shall give the whole instructions for reading on the flower, which, by comparing with the figure will show the principle, so that it may be wholly understood.

1st. Pass 12 take 3, pass 8 and take 5.
2d. Pass 13 take 4, pass 5 and take 7.
3d. Pass 13 take 2, pass 2 and take 9.
4th. Pass 14 take 2, pass 1 and take 12.
5th. Pass 14 take 2, pass 3 and take 9.
6th. Pass 15 take 1, pass 5 and take 6.
7th. Pass 19 take 2, pass 5 and take 4.
8th. Pass 16 and take 2.
9th. Pass 16 and take 3.
10th. Pass 16 and take 4.
11th. Pass 4 take 5, pass 7 take 5, pass 4 and take 3
12th. Pass 3 take 7, pass 5 take 3, pass 2 take 2, pas 1 and take 6.
13th. Pass 2 take 16, pass 3 and take 9.
14th. Take 13, pass 3 take 2, pass 4 and take 7.
15th. Pass 1 take 11, pass 3 take 2, pass 5 and take 6
16th. Pass 2 take 8, pass 5 take 2, pass 7 and take 3
17th Pass 4 take 5, pass 6 and take 2.
18th. Pass 14 take 2, pass 1 and take 2.
19th. Pass 14 take 2, pass 1 and take 2.
20th. Pass 9 take 6, pass 3 and take 6.
21st. Pass 7 take 8, pass 3 and take 8.
22d. Pass 6 take 8, pass 5 and take 8.
23d Pass 5 take 9, pass 5 and take 9.
24th. Pass 6 take 8, pass 7 and take 7.
25th. Pass 7 take 3, pass 11 and take 3.

I think the foregoing instructions may be sufficient to lead to the understanding of the nature of Harnesses, as a Harness is only a complicated machine calculated to raise any part of the warp which could not easily be effected with leaves.

CONTENTS.

Table.	Page.
Dedication,	3
1. Shews what weight of yarn made three-fold will do for Cambs (or Heddles) to Weave Muslin,	5
2. Shews how many Porters and Splits it will require to make Cloth stand any breadth when Weaved,	13
3. Shews how many Splits is upon any breadth ,	16
4. Shews how much Yarn it will take to be the warp of any web at any length and breadth,	19
18. Shewing how to Camb or set Cotton Cloth,	67
23. Shews how much warp any number of bouts will give run with any number of Runners,	71
24. Shews the quantity of flour and water required for the starching any weight of Mull Yarn in the hank,	92
25. Shews the quantity of flour and water required for the starching any weight of water twist yarn in the hank,	96
26. Shews the quantity of flour and water required for the starching any chain of a web,	99

Table.		Page.
27.	Shews the quantity of flour and water required for the starching any chain of a web that has been warped of the cops,	102
28.	Shews what Evener, (raith or ravel) will be required for the beaming off any web,	105
29.	Shews how to set Cambs or Heddles, to reeds,	131
30.	Shews the weight of the spyndle when there are so many numbers in a pound weight,	145
31.	Shews how much yarn it will require to one ell of Cloth, counting from 3 to 30 shots on the Glass,	147
32.	Shews the Manchester Stockport, Preston, and Blackburn, Muslin count of reeds,	152
12.	Tables Shewing how to camb or set different kinds of Linen Cloth,	154
45.	Shews the prices paid for Weaving Household or Customary Work in and about Perth,	157
46.	Shews how many spyndles and numbers are in 5 and 10 lb. Bundles of Cotton Yarn,	156
47.	Shews the List Price, and neat cost of water twist Cotton Yarn from 5 to 52½ per cent. off, at any No. from 20 to 70,	164
48.	Shews the List price and neat cost of Mull Twist cotton Yarn from 1¼ to 62½ per cent. off, at any No. from 40 to 140,	176
49.	Shews the List Price and neat cost of India Twist Cotton Yarn from 10 to 60 per cent. off, at any No. from 140 to 200,	205
Examples for setting Heddles to Reeds by strokes,		215
Arithmetical examples for beaming webs,		218
Calculation of Cotton Warps,		219
Calculation of Cotton Warps another way,		221

	Page.
Calculation of Linen Warps,	222
Calculation of Linen Warps another way,	223
Arithmetically cambing or setting cotton yarn to reeds. 1st. to find the yarn for any reed,	224
2d. to find the Reed for any No. of Yarn,	226
Arithmetically Cambing or setting of Linen Yarn to Reeds, by the weight of the hank,	228
To find what Reed will do for any weight of Yarn,	230
Ditto Cambing or setting by the heers in a pound weight,	232
Cambing or setting Yarn to Reeds by the memory,	235
Arithmetical examples for warping,	236
Arithmetical examples shewing an easy method how to find the discount upon yarn or any sum of money,	237

FINIS.

Edward Khull & Co. Printers,
5, Saltmarket, Glasgow.