

# CONTENTS.

## Shedding Mechanisms.

|  | PAGE |
|--|------|
| The Knowles Shedding Mechanism .....   | 7    |
| Pattern Mechanism of the Knowles Loom .....  | 9    |
| Pattern Mechanism for Knowles Narrow Ware Looms in which Reverse Gears are Not Used.....                       | 9    |
| Mechanism for Operating Shedding and Drop-Box Pattern Indicators for Knowles Looms.....                        | 10   |
| Attachment to the Shedding Mechanism of the Knowles Loom.....  | 13   |
| Back View of the Knowles Shedding Mechanism Driven from Bottom Shaft.....                                      | 13   |
| The Knowles Selvage Motion.....  | 14   |
| Shedding Mechanism for Fabrics Produced by Two Weaves.....   | 14   |
| Device for Open-Shed Fancy Looms for Evening the Harnesses.....  | 16   |
| Wicks' and Roy's Shedding Mechanism.....   | 17   |
| Improved Construction of Harness Levers in Connection with Lifter and Depressor, etc., for Crompton Looms..... | 18   |
| The Crompton Harness-Frame Moving Device for Witch-Top Looms.....  | 18   |
| Scheid's Shedding Mechanism.....   | 19   |
| Birchall's Harness Leveling Device.....  | 20   |
| Alvord's Shedding Mechanism.....   | 21   |
| Ingraham's Shedding Mechanism.....   | 22   |
| Eastwood's Shedding Mechanism.....   | 23   |
| Eccles's Harness Mechanism for Open-Shed Looms .....   | 24   |
| Oldham's Shedding Mechanism.....   | 25   |
| Goodyear's Shedding Mechanism.....   | 26   |
| Evans's Shedding Mechanism.....  | 27   |
| Perham's Shedding Mechanism.....   | 29   |

## Box Motions and Shuttle Boxes.

|   |    |
|---|----|
| The Knowles Gingham Box Motion.....                           | 30 |
| Multiplier Mechanism for Knowles Looms .....                  | 30 |
| The Knowles Four Chain Multiplier.....                        | 35 |
| The Knowles Shawl Loom Box Pattern Mechanism .....            | 41 |
| Hutchin's Fancy Cotton and Silk Dobby Pattern Mechanism ..... | 41 |
| Box Motion for Witch Looms.....                               | 44 |
| Shuttle Box Motion for Plain Looms.....                       | 45 |
| Shuttle Box Mechanism for Crompton Looms.....                 | 46 |
| Ingraham's Drop Box Mechanism.....                            | 47 |
| Goodyear's Shuttle Box Operating Mechanism.....               | 49 |
| Scheid's Shuttle Box Operating Mechanism .....                | 49 |
| DuFaur and Gartner's Shuttle Box Mechanism.....               | 50 |
| DuFaur's Multiplier.....                                      | 51 |
| Luscomb's Shuttle Box Mechanism .....                         | 53 |
| Shuttle Box for Plain Looms .....                             | 55 |
| Northrop's Shuttle Check for Plain Looms.....                 | 56 |
| Shuttle Box for Northrop Looms.....                           | 56 |
| Werner's Shuttle Check.....                                   | 57 |
| Cowgill's Shuttle Binder.....                                 | 58 |
| Nolan & Wilkie's Mouthpiece for Loom Shuttle Boxes .....      | 58 |
| Gartner's Self Adjustable Shuttle Box Supporting Rod.....     | 59 |

## Let-Off Mechanisms.

|   |    |
|---|----|
| The Knowles Friction Let-Off Motion.....    | 60 |
| The Knowles Warp Slackener.....             | 60 |
| The Mascn Whip-Roll.....                    | 62 |
| Pratt's Let-Off Mechanism.....              | 63 |
| Waite's Let-Off Mechanism.....              | 63 |
| Folsom's Let-Off Mechanism.....             | 64 |
| Talbot's Let-Off Mechanism.....             | 65 |
| Palmer's Let-Off Mechanism.....             | 66 |
| Pierce's and McAllen's Warp Beam Brake..... | 67 |

## Take-Up Mechanisms.

|  | PAGE |
|--|------|
| The Knowles Ratchet-Ring Take-Up.....                    | 68   |
| The Knowles Worm Take-Up.....                            | 68   |
| Take-Up Attachment for the Knowles Narrow Ware Loom..... | 69   |
| The Mason Adjustable Guide for Cloth Roll Stands .....   | 69   |
| Sullivan's Cloth Guide .....                             | 70   |
| Brady's Take-Up and Drop-Box Governing Mechanism .....   | 71   |
| Kastler's Conditional Take-Up Mechanism .....            | 72   |

## Warp Beams.

|   |    |
|---|----|
| The Knowles Warp Beam and Ratchet Beam Head .....                                     | 73 |
| The Knowles Warp Beam for Extra Heavy Built Looms.....                                | 74 |
| Adjustable Head for Warp Beams.....   | 74 |
| The Fairmount Machine Company's Adjustable Beam Head for Gingham Loom Warp Beams..... | 75 |

## Stop-Motions.

|   |    |
|---|----|
| The Knowles Center Stop-Motion.....               | 76 |
| McMichael's Filling Stop-Motion.....              | 76 |
| Warp Stop-Motion for Northrop Looms.....          | 78 |
| Northrop's Filling Stop-Motion.. ..               | 78 |
| Mommer's Electric Warp Stop-Motion for Looms..... | 79 |

## Picking Mechanisms.

|   |    |
|---|----|
| Kritler's Sweep-Stick for Connecting the Sweep-Arm and Picking-Stick of a Loom..... | 80 |
| The Knowles Picking Motion for Equal Geared Looms.....                              | 81 |
| The Mason Picking Mechanism .....   | 81 |
| Werner's Picker and Relief Motions .....  | 82 |
| Paige's Picker Mechanism.....   | 84 |
| Perham's Picker Operating Mechanism.....  | 84 |
| Barselou's Rocker and Shoe Connection for Picker-Sticks.....                        | 85 |
| Doyle's Picker-Check .....  | 86 |
| Sartwell's Picker-Stick Check.....  | 86 |
| Mooney's Picker Check-Strap .....   | 87 |
| Durkin's Picker Mechanism .....   | 88 |
| Lemaire's Picker-Strap .....  | 88 |
| Lahue's Picker-Strap .....  | 89 |
| Warren's Picker Staff Strap .....   | 90 |
| Ashby's Picker-Strap .....  | 90 |
| Livsey's Lug-Strap.....   | 91 |
| Device for Securing Pickers to Loom Picker-Staffs.....                              | 92 |
| Keith's Picker-Stick .....  | 92 |
| Bearing for Loom Picker-Sticks .....  | 93 |
| Languirand's Picker-Staff.....  | 93 |
| Holbrook's Picker.....  | 94 |
| Gleason's Picker .....  | 94 |
| Wardwell's Picker.....  | 95 |
| Wilkins' Loom Picker.....   | 95 |

## Shuttles.

|   |     |
|---|-----|
| Draper's Self-Threading Shuttle for Northrop Looms .....                | 96  |
| Another Improvement in Shuttles for Northrop Looms .....                | 96  |
| Bobbin Holder for Draper Shuttles .....                                 | 97  |
| Cop-Skewer for Shuttles for Northrop Looms.....                         | 97  |
| The Litchfield Shuttle.....   | 98  |
| Sergeson's Shuttle.....   | 99  |
| Another Sergeson's Shuttle.....   | 100 |
| Sergeson's Cop-Shuttle.....   | 100 |
| Sutcliffe & Marshall's Shuttle .....                                    | 100 |
| Morrison's Shuttle.....   | 101 |
| Nason's Self-Threading Shuttle.....                                     | 102 |
| Allen's Two Bobbin Shuttle.....   | 102 |
| Todd's Shuttle for Narrow Ware Looms.....                               | 103 |
| Daudelin's Self Threading Tension Device for Shuttles.....              | 104 |
| Nason's Tension Device for Shuttles.....                                | 104 |
| Howard & Pitton's Tension Device for Shuttles.....                      | 104 |
| Sweeney & Stroble's Automatic Tension Device for Shuttles.....          | 105 |
| Hamblin & Cornell's Tension Device for Shuttles.....                    | 106 |
| Hamblin & Damon's Tension Device for Shuttles.....                      | 106 |
| Hamblin & Damon's Improved Tension Device for Shuttles.....             | 107 |
| Grant's Tension Device for Shuttles.....                                | 107 |
| Whitley's Tension Device for Shuttles for Weaving Broad Silk Goods..... | 108 |

|   | PAGE |
|---|------|
| Koester's Tension Device for Shuttles for Ribbon Looms .....  | 109  |
| Todd's Tension Device for Shuttles for Narrow Ware Looms..... | 109  |
| Rigby's Conductor for Shuttles for Narrow Ware Looms.....     | 110  |
| Dolber's Shuttle-Threader.....                                | 111  |

### Temples.

|  |     |
|--|-----|
| The Knowles Temple.....                | 112 |
| Painchaud's Temple.....                | 112 |
| The Dutcher Temple.....                | 113 |
| Improved Dutcher Temple.....           | 114 |
| The Dutcher Thread-Cutting Temple..... | 114 |
| Claus's and Ludlam's Temple.....       | 116 |
| Sykes's Temple.....                    | 116 |
| Sykes's Improved Temple.....           | 117 |
| Mason's Temple.....                    | 118 |

### Reeds and Reed Motions.

|   |     |
|---|-----|
| Adamson's Reed.....                               | 119 |
| Liotard's Reed .....                              | 119 |
| The Crompton Reed for Weaving Tufted Fabrics..... | 119 |
| Albinson's False Reed.....                        | 120 |
| Reed for Douping .....                            | 121 |
| Davenport's Reed for Warping.....                 | 121 |
| The Knowles Loose-Reed Motion for Silk Looms..... | 122 |

### Heddles and Harnesses.

|   |     |
|---|-----|
| Redding's Doup-Heddle for Leno Weaving.....   | 123 |
| Hampson's Harness for Weaving Leno Goods..... | 124 |
| Harness Shifter and Adjuster.....             | 124 |
| Harness Connection for Plain Looms.....       | 125 |

### Jacquards and Card-Cutting Machinery.

|   |     |
|---|-----|
| Halton's Jacquard Mechanism.....  | 126 |
| The Knowles Open-Shed Jacquard.....   | 126 |
| The Knowles Double Cylinder Single-Lift or Rise-and-Drop Jacquard .....                         | 127 |
| The Knowles Marseilles Quilt Jacquard.....  | 128 |
| The Knowles Twill Jacquard.....   | 129 |
| The Knowles Double Acting Open-Shed Jacquard Machine.....                                       | 129 |
| The Knowles Jacquard for Two Weave Fabrics.....   | 130 |
| Halton's Jacquard for Two Weave Fabrics.....  | 132 |
| Device to Insure the Proper Guidance of the Rear Ends of the Needles of a Jacquard Machine..... | 133 |
| Jackson's Jacquard Mechanism .....  | 134 |
| The Knowles Jacquard Box Chain Indicator Mechanism.....   | 135 |
| Stafford's Lingo .....  | 135 |
| Butcher's Jacquard Heddle.....  | 135 |
| Comberboard to Permit Change of Texture.....  | 136 |
| Jacquard Loom with Shaft-Harness Attached.....  | 137 |
| Royle's Piano-Machine for Punching Jacquard Cards.....  | 138 |
| Royle's Machine for Punching and Stacking Jacquard Cards.....                                   | 140 |
| Wire Rod for Jacquard Cards.....  | 142 |

### Spooling, Winding, Warping and Reeling Machinery.

|  |     |
|--|-----|
| The Furbush Automatic Stop-Motion for Spooling Machinery.....      | 143 |
| Draper's Spooling Machine.....                                     | 144 |
| Lord's Spooling Machine .....                                      | 145 |
| Draper's Spooler-Guide.....  | 145 |
| Draper's Bobbin-Holder for Spoolers .....                          | 146 |
| Bunch-Arresting Yarn-Guide for Spooling Machines.....              | 146 |
| Shell-Holder for Spooling Machines.....                            | 147 |
| Thread Guide for Spooling and Winding Machines.....                | 148 |
| The Altemus Filling Winder.....                                    | 148 |
| Bowman's Bobbin Holder or Clamp for Horizontal Bobbin Winders..... | 150 |
| Machine for Winding Yarn from Chains onto Filling Bobbins.....     | 151 |
| The Universal Method of Winding.....                               | 152 |
| Furbush's Dressing, Warping or Reeling Machine .....               | 153 |
| Atherton's Warp Beaming Machine.....                               | 154 |
| Machine for Dressing or Beaming Cotton Warps.....                  | 155 |
| The Denn Electric Stop-Motion for Warping Machines.....            | 155 |
| Self Registering Stop-Motion Mechanism for Warpers.....            | 156 |
| Tension Regulator for Yarn Beams.....                              | 157 |
| Warp Compressor .....  | 157 |
| Risk's Indicator for Winding and Warping Machines.....             | 158 |
| Atwood's Reel.....   | 159 |
| Lord's Reel and Support.....                                       | 160 |

## Miscellaneous.

|  |     |
|--|-----|
| Improvements for the Mason Loom.....   | 161 |
| The Mason Brake Mechanism.....   | 162 |
| Clutch Operating Mechanism for Crompton Looms.....   | 163 |
| Filling Cutting Device for Northrop Looms.....   | 164 |
| Filling Carriers for Northrop Looms.....   | 164 |
| Locating Shipper-Handle in Cotton Looms at the Opposite End of Belt Pulley.....                          | 165 |
| Scott's Lappet Loom.....   | 166 |
| Knowles Lappet Motion.....   | 166 |
| Reversing Mechanism for Knowles Carpet Looms in Connection with their Filling Stop-Motion.....           | 168 |
| Bardsley's Leno Motion.....  | 170 |
| Loom for Weaving Pile Fabrics.....   | 171 |
| McMichael's Smash Protector.....   | 172 |
| Poshnert's Smash Protector.....  | 173 |
| The Knowles Cloth Separator.....   | 173 |
| Zuppinger's Cloth Separator.....   | 174 |
| Bosworth's Automatic Pick-Counter.....   | 174 |
| Laucaster's Pick-Measuring Device.....   | 176 |
| Lutton's Pattern-Chain Support.....  | 176 |
| Patman for Looms.....  | 177 |
| Loom Gear.....   | 178 |
| Pile-Wire for Looms.....   | 178 |
| The Altemus Method of Gearing for Transforming Uniform Rotary Motion into Differential Rotary Motion.... | 179 |
| An Ingenious Apparatus for Removing Wrapping-Cord from Yarn Chains.....                                  | 179 |
| Bobbin for Silk Weaving.....   | 180 |
| Fisher's Bobbin.....   | 180 |
| Blackburn's Bobbin.....  | 181 |
| Spool-Head.....  | 182 |
| Graduated Yarn Templet.....  | 182 |
| Graduated Cloth-Weight Templet.....  | 183 |
| Cloth and Yarn Calculating Rule.....   | 183 |
| Scale-Beam for Ascertaining the Counts of Yarn.....  | 184 |

**E. F. HOUGHTON & CO.,**

240-50 W. Somerset St.,  
Philadelphia.

**GENERAL**

**MILL FURNISHERS,**

**EVERYTHING**

**FOR THE MILL.**

**STAINLESS LOOM OILS,  
WOOL OILS,**

**SPINDLE OILS,  
BELT DRESSINGS.**