Machinery and Appliances.

IMPROVED "VERTICAL EXHAUST" OPENER AND LAP MACHINE.

MESSRS. LORD BROTHERS, CANAL STREET WORKS, TODMORDEN.

Following up our recent notices of Messrs. Lord Brothers' machinery we now come to a machine for which they have an old and widespread reputation. This is the opener. The type of Messrs. Lords' opener on the horizontal arrangement is well known, and also in combination with the pneumatic tube for the conveyance of cotton from distant mixings, which they were the first to introduce.

Lengthened experience has demonstrated the value of the pneumatic appliance in its proper sphere for conveying the material from a distance, and also for extracting sand, dust, dirt, small stones, and heavy or dangerous substances, which are dropped upon the bottom of the semi-cylindrical portion of the pneumatic tube. In the opener proper such a number of improvements in details, dictated by experience, have been introduced, and in the total constitute so large an improvement, that they demand the careful consideration of users. It is to these we wish to draw the attention of our readers in the present article.

The accompanying illustration, fig. 1, shows the most recent type of Messrs. Lord Brothers' opener, combined with the porcupine feeder, patent gridded trunk or cleaning boxes, and the pneumatic tube. It will be observed that the feeder is represented as placed upon the floor of an upper mixing room. In connection with this machine we have to notice amongst recent changes for the better the introduction of an improved porcupine cylinder composed of cast chilled rings, which are less liable to be broken by the presence of any hard matter, such as pieces of iron, &c., in the raw material. In the event, however, of any damage accruing it can only be small—say to the spikes or teeth of one ring, which can easily be removed and replaced at little expense. Permanent or extensive damage and the cost of renewal are thus both prevented—an advantage that will be appreciated. This cylinder, illustrated in fig. 2, is intended for use in connection with short stapled, heavily compressed, and dirty cottons. For finer and better qualities another type of cylinder shown in fig. 3, having steel teeth, is supplied as being more suitable for the purpose.

Coming to the patent trunk or clearing boxes, it may be mentioned that the grids of the semi-circular sections are now made of a finer guage than formerly, which prevents any loss of fibre as sometimes was liable to occur with th former arrangement when using the shortest staples of cotton.

The porcupine feed table and the opener proper can be placed 1,000 feet apart and will do their work well; and there is no reason to infer that they would not be equally satisfactory at four times that length. At the junction with the opener the pneumatic tube has been fitted with an automatic valve, and this, through suitable connections with the lap machine at the front, on the stoppage of the latter by means of the geared sectors close the tube, at the same time opening spaces by which air is admitted to satisfy the demands of the fan. This obviates any accumulation of cotton in the tube or near the cylinder, whilst at the same time any injurious results to the casing from the creation of a vacuum is prevented by the free admission of air from another source.

It will be seen that in the new type the makers have adopted the vertical arrangement of the beater instead of the horizontal. This, though subject to some drawbacks, on the whole possesses more advantages than the latter. The chief defect to which we allude is that great fault of all vertical shafts: the liability of the footstep to heat, and which with ordinary makes of this machine has necessitated the provision of special arrangements—a channel by which water can be conducted to the footstep to cool it when heated. In order to obviate this risk Messrs. Lord Brothers have provided an improved footstep, which has been applied to a considerable number of machines, and has never yet been known to heat. The new footstep consists of a cast-iron shell fitted with a brass bush. This receives a brass washer which passes to the bottom of the shell, and on this the foot of the shaft rests. The bush has three vertical grooves cut upon its outer surface. Near the bottom of these, holes are drilled, leading into the interior of the bush near the washer. The latter is also grooved in the same way, and grooves are cut in two directions at right angles across its diameter. By means of these the oil finds its way across the bottom of the shaft, the foot of which is thus thoroughly and constantly lubricated. To satisfy the scruples of users, the makers continue to supply the appliance for the conduct of water to the foot in the event of its heating but with the improved step it has never yet been called into requisition.

The present type of machine is fitted with their new patent double exhaust and spreading fans. These fetch the cotton any distance through the tubes, and the introduction of a second ensures a better and more uniform distribution of the cotton, which makes a more even lap. The delivery of the cotton to the cages is regulated by a damper, and if this does not yield a satisfactory result the fans can easily be adjusted to do so.

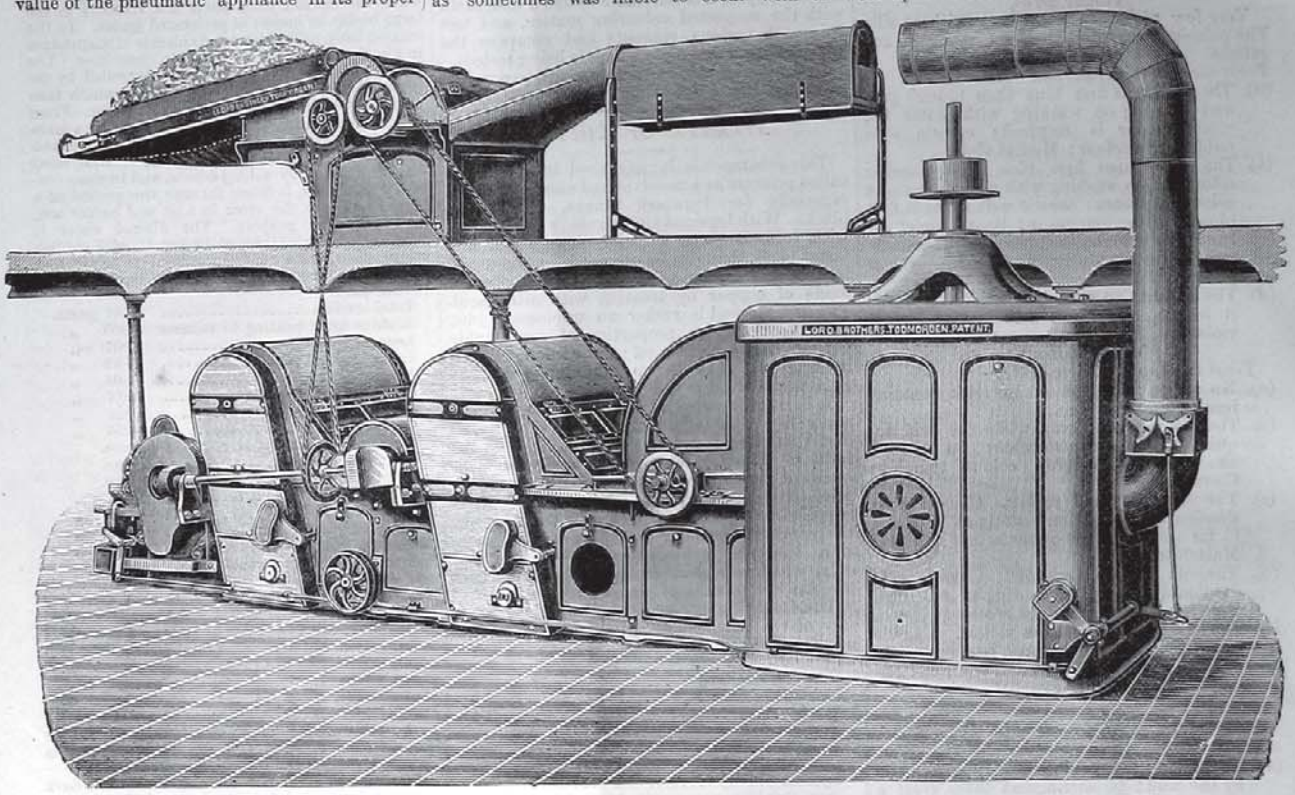


FIG. 1.—PATENT "VERTICAL-CYLINDER" EXHAUST OPENER COMBINED WITH SINGLE BEATER SCUTCHER, AND LAP MACHINE.—MESSRS. LORD BROTHERS, TODMORDEN.

In order to maintain harmonious action between the porcupine feeder and the opener, the former is driven from the latter by means of ropes over grooved carrier pulleys, so that when the opener stops, the feeder immediately ceases work. By a second connection of a similar kind the lattice table of the porcupine is driven from the lap machine, and by this means on the completion of a lap the feed table of the porcupine is instantly stopped. This prevents any accumulation of cotton in the tubes, and indicates to the attendant the finish of the lap and the stoppage of the machine, thus promptly calling for his attention in that direction.

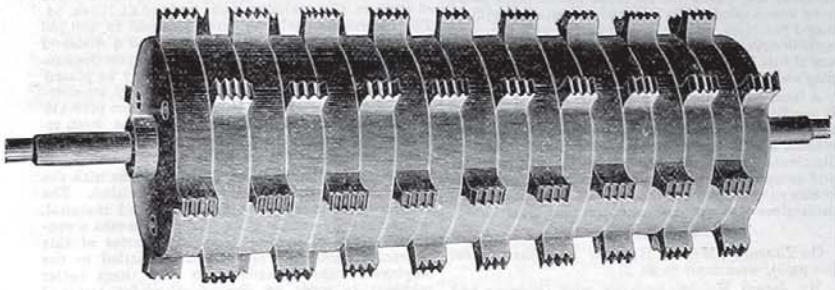


FIG. 2. SPECIAL COMB-TOOTH CYLINDER.

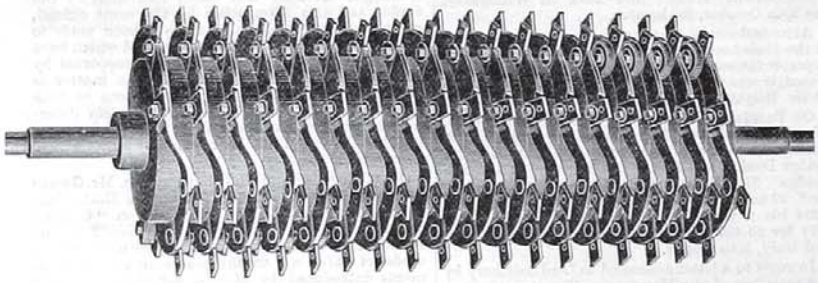


FIG. 3. SPECIAL STEEL-TOOTH CYLINDER.

There are many other improvements beside those we have enumerated, but as they are common to the scutcher as well as the opener, we leave them over for description in connection with that machine.

All the parts are of new patterns, with numerous improvements in detail, dictated by a large and ever widening experience.

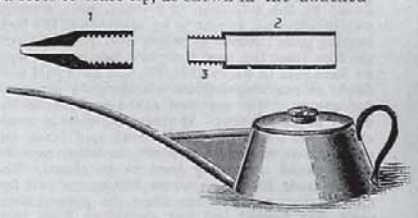
In conclusion we may safely leave the improvements we have described to the judgment of our practical readers, confident that they will agree with us that Messrs. Lord Brothers' new type of opener is a first-class machine well adapted in every respect to accomplish in the most perfect manner its intended purpose, and give full satisfaction to its users. Should any further information be desired, the firm will be pleased to give it to inquiries addressed as above.

A NEW TWINE MAKING PROCESS.—Articles of incorporation of the United States Fibre Twine Manufacturing Company, of Chicago, with a capital of 1,000,000 dols., have been filed at Springfield, Ill. The company has secured a patent for making binding twine by a cheap process out of common prairie grass for the use of wheat growers. If successful, this new process will play sad havoc with the Jute Trust, which is said to be coining money. One harvester concern in Chicago last year handled 7,000 tons of twine, and another has 1,000,000 dols. invested in a plant for the manufacture of twine.

THE WOLSELEY SHEEP SHEARING MACHINE.—A large company were invited to the residence of Lord Wolseley, Ranger's House, Blackheath, on Friday week for the purpose of witnessing an exhibition of the working of a shearing machine invented by Mr. F. V. Wolseley (Lord Wolseley's brother). Among those present were Sir. H. Cartwright, Colonel North, Dr. Muirhead, Dr. Desatge, and Messrs. James Alexander, W. Baxter, J. H. Davidson, E. M. Nelson, A. E. Scott, A. Scott, P. S. Philips, Oliver Jones, and Hugh McLeod. The work done by the machine was of a very satisfactory character. Its general principle is, of course, not altogether new, as it has been before embodied in horse-clipping machines. The Wolseley sheep-shearing machine, however, is in its mechanical details a distinct departure from, and a marked improvement upon all its predecessors. The main features are the way in which the rotary motion of the main spindle is converted into the reciprocating motion imparted to the cutter and the method of putting the necessary pressure upon the cutter. There is a steel comb, which is about 2in. broad at the points of the teeth, which are slightly curved underneath. This comb is stationary, being fixed to the handle, which is held in one hand by the shearer when at work, while with the other he holds down the sheep. On the face of the comb is the cutter, which is trident shaped and about 1¼in. wide; when in operation this cutter moves to and fro at the rate of about 200 vibrations per minute, motion being imparted to it through a flexible shaft. The cutter has an oscillating arm pivotted near the back of the casing which encloses the mechanism. This arm has motion imparted to it through the fork by means of a spherical ended stud, or "mushroom-piece," as it is called. This stud is surmounted by an external cap, which can be screwed down so as to adjust the pressure on the cutter. The edge of the cap is milled, and when the desired degree of pressure has been put on, the cap is locked by a simple spring arrangement. The rotation of the shaft causes the cutter to move rapidly to and fro across the face of the comb, so that when applied to a sheep the wool is clipped off as fast as it is brought between the teeth of the comb and those of the cutter. In the exhibition of its capabilities yesterday two sheep were shorn. The wool was taken off very evenly and thoroughly. A letter was read from one of the best-known Australian sheep farmers, Mr. William Alison, of Canonbar, under date of September 3rd, in which he stated that he was using 60 of the machines in one of his sheds, and these had done up to 115 sheep a day each. "I sheared a couple with the machine," he also stated, "after they had been shorn by the shears, and got 6oz. of wool from the one and 6¼oz. from the other." In experiments at Melbourne sheep were sheared and trimmed off in from 3min. 45sec. to 5min. 15sec.

IMPROVED OIL CAN.

Mr. Walter Royle, Kirkhall-lane, Leigh, Lancashire, has invented and is introducing an improved oil-can designed to prevent the frequent injury or destruction of the oil can tubes through their clogging up with dirt. It consists of a steel or brass tip, as shown in the annexed



illustration, which is securely fastened to the end of the spout, and constitutes an extremity which cannot be tampered with in the usual way. Should the spout get clogged the tip is screwed off, the tube cleaned, and the tip replaced. Cans thus fitted economise oil, need less repairs, and last much longer than ordinary ones.

News in Brief,

FROM LOCAL CORRESPONDENTS AND CONTEMPORARIES.

ENGLAND.

Ashton.

The fancy trade is a little more busy in this town speaking generally, but at several large firms numerous looms are stopped for orders, and it is to be hoped the cotton corner having collapsed the weaving will get into its ordinary healthy channel.

Barking.

Acting upon the advice of a local agitator, the women and girls employed at the Barking Jute Works have recently combined by forming a union, and one of the first results of this has been a difference between the women and the manager of the works as to the rate of payment. The manager offered 6d. per dozen spindles, which, he states, is more than is paid at other works. This offer was refused by the hands, who demanded 7d., and as the operations at the works were disorganized by a number of girls going out on strike, the works have been entirely closed. If the terms offered by the manager are not accepted the works will be closed altogether, and several hundreds of people will be thrown out of employment.

Blackburn.

Mr. Alderman Alker, reed manufacturer, of Sunny Bank, Wilpshire, has sent in his resignation as an alderman of the borough of Blackburn.

Bolton.

The strike of weavers at Messrs. Ashworth's New Eagley Mills terminated this week. The employers offered 5 per cent. on the Blackburn list, and at a meeting of the weavers the offer was accepted. The hands have been out three months.

The action "Barlow and Jones v. Johnson and Others" was mentioned on Tuesday in the Chancery Division. As stated by Mr. Bryne, Q.C., who applied for the defendants for a postponement of the hearing of the action until certain summonses in the matter were ready, the case relates to the use of the word "Osman" in connection with the manufacture and sale of Turkish towels, the action being brought to restrain an alleged infringement by the defendants of the word as a trade mark for such goods. The plaintiffs, through Mr. Romer, Q.C., opposed the motion, on the ground that it was made for the purpose of defraying the trial.—Mr. Justice Chitty thought there was not sufficient ground shown for postponing the hearing, and made no order.

Bristol.

The strike fever spread last week to the operatives employed at the Great Western Cotton Works here. A deputation of female operatives interviewed the managing director, demanding an advance of 10 per cent. in wages and a reduction of two hour in daily labour. The application was refused, the directors considering it very unreasonable. The women, numbering 1,600, came out on strike, and the mill