Machinery and Appliances.

IMPROVED "VERTICAL EXHAUST" OPENER AND LAP MACHINE.

MESSRS. LORD BROTHERS, CANAL STREET WORKS, TOTTENHAM.

Following up our recent notices of Messrs. Lord Brothers' machinery we now come to a machine of which they have an old and well-spread 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 mixing rooms, 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 such a large 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 pneumatic 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 porcelain 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 occurring it can only be small—say to the spiles 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 advance that will be appreciated. This cylinder, illustrated in fig. 2, is intended for use in connection with short staple, 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 cleaning boxes, it may be mentioned that the grids of the semi-circular sections are made of a finer gauge than formerly, which prevents any loss of fibre as sometimes liable to occur with the former arrangement when using the shortest staples of cotton.

The porcelain 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 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 earing 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 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 caprices of users, the makers continue to supply the appliance for the conveyance of cotton 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 dumper, and if this does not yield a satisfactory result the fans can easily be adjusted to do so.
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 to the latter table of the porcupine, it is driven from the lap machine, and by this means the completion of a lap of the food table of the porcupine is instantly stopped. This prevents any accumulation of cotton in the tube 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.

There are many other improvements beside those we have enumerated, but as they are common to the scather 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 Moses, 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 Twin Manufacturing Company, at Chicago, with a capital of $1,000,000, have been filed at Springfield, Ill.

The company has secured a patent for making binding twine by a cheap process out of common grass grass for the use of wheat growers. Successful, this new process will play havoc with the Jute Trust, which is said to be coming money.

Our harvest crop in Illinois last year has been about 7,000 tons of twine, and another has 3,000,000 tons, invested in a plant for the manufacture of twine.

**FIG. 2. SPECIAL COMB-TOOTH CYLINDER.**

**FIG. 3. SPECIAL STEEL-TOOTH CYLINDER.**

**IMPROVED OIL CAN.**

Mr. Walter Boyle, Kirkhill lane, Leith, Lanarkshire, has invented and is introducing an improved oil-can designed to prevent the frequent injury or destruction of the oil can through the dropping up with the bottle 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. So strongly is the neck corner having enclosed the wearing in its ordinary healthy channel.

**News in Brief.**

**ENGLAND.**

**Ashton.**

The fancy trade is a little more busy in this town of late, generally, but at certain seasons variously, and one of the first results of this has been a difference in the amount of orders made for the manufacturer of the works as to the ratio of payment. The manager offered 50 per cent, of the total price, which, he states, is more than is paid at other works. This offer was refused by the dealers, who demanded 72 per cent, of the price of the work, and change. The manager, after a number of girls went out on strike, the workmen have entirely closed. If the terms offered by the manufacturer are not acceptable, the works will be closed altogether, and several hundreds of people will be thrown out of employment.

**Blackburn.**

Mr. Allsop, of Allsop's (Ltd.), has given in his resignation as an alderman of the borough of Blackburn.

**Bottle.**

The strike of weavers at Mossley, Ashton-under-Lyne, has terminated with effect from last Saturday, and a meeting of the weavers the day after was accepted. The trade has been turned.

The action of "Backler and Jones v. Johnson and Others" was mentioned on Tuesday in the Chancery Division. As stated by Mr. Boyce, Q.C., who applied for the defendants, the nephew of the petitioners for the purpose of preventing the beating of the action until sufficient evidence in the matter was ready, the case relates to the trust of the word "Quan.

**Bristol.**

The strike of weavers at Moseley, Birmingham, has terminated with effect from last Saturday, and a meeting of the weavers the day after was accepted. The trade has been turned.

**Newcastle.**

A department of local government has been opened at the goods office of the manager of the company, demanding advances of 10 per cent on wages and a reduction of 10 per cent on the amount of work to be done. The application was refused, the directors considering it very unreasonable. The women, numbering 1,000, came out on strike, and the mill was thrown into a state of disorder.**