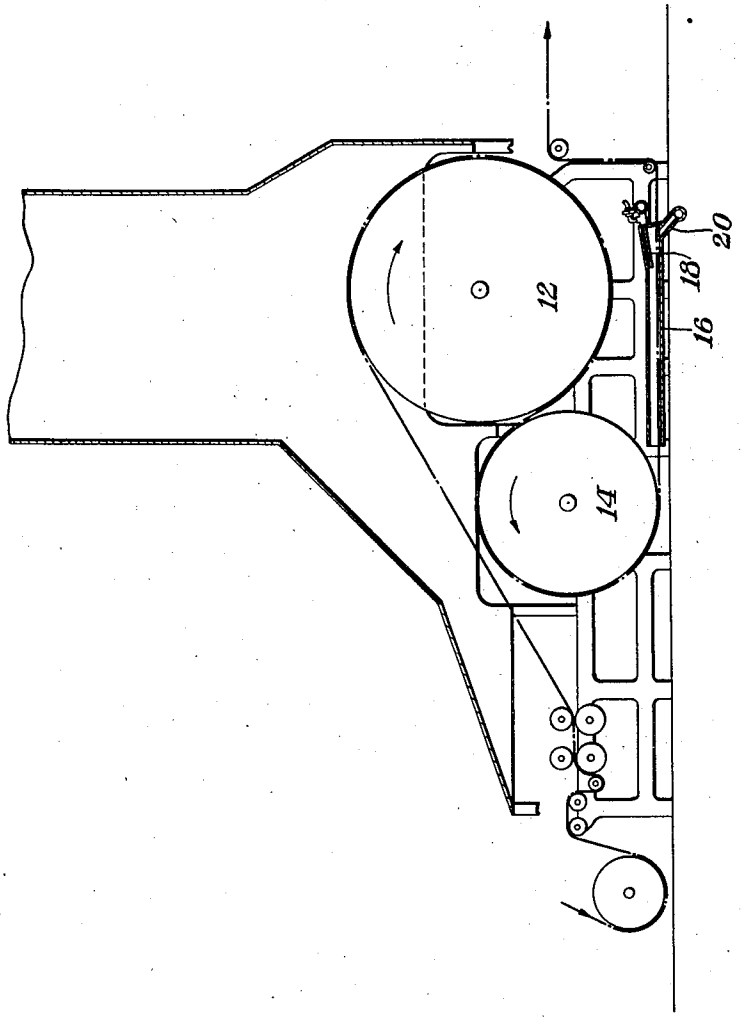
June 14, 1938. G. HILL 2,120,409

APPARATUS FOR TREATING COTTON AND YARNS

Filed Jan. 14, 1936



INVENTOR
George Hill
BY R. J. Dearborn
his ATTORNEY

Patented June 14, 1938

2,120,409

UNITED STATES PATENT OFFICE

2,120,409

APPARATUS FOR TREATING COTTON AND YARNS

George Hill, Wellford, S. C.

Original application February 14, 1934, Serial No. 711,141. Divided and this application January 14, 1936, Serial No. 59,040

2 Claims. (Cl. 28—28)

This invention relates to a machine for moistening raw cotton and other fibrous materials and is particularly adapted for use with machines used in manufacturing raw cotton and other fibrous materials into yarns or cloth in which form it is usually placed on the market. This application is a division of my pending application Serial No. 711,141, filed February 14, 1934.

The invention has for an object to provide a machine for moistening cotton or other fiber after it has been converted into threads.

Further objects and the advantages of the invention will become apparent as the description proceeds.

To simplify the description and to avoid needless repetition, the word cotton will be used, but the machine is designed to treat any similar fibrous material and should be so understood.

Referring to the accompanying drawing which is made a part hereof and on which similar reference characters indicate similar parts:

Fig. 1 is a partially diagrammatic and partially sectional view of a machine embodying the present invention.

In the drawing there is shown a machine commonly known as a slasher. The slasher includes a large copper drying cylinder 12 and a smaller copper drying cylinder 14, both of which are provided with suitable connections so that steam can be passed through the cylinders. Thread or yarn which has previously been passed through a bath in which a suitable sizing is contained in passed over cylinders 12 and 14 and is thoroughly dried by contact with the heated cylinders. As the sheet of thread or yarn passes from the cylinder 14 it ordinarily passes to a loom, but in accordance with the present invention there is provided between the cylinder 14 and the loom a relatively low tunnel shaped member 16 which is wide enough to accommodate the sheet of thread or yarn as it comes off the cylinder 14. During its passage through this tunnel the sheet of thread or yarn is subjected to the action of a conditioning fluid such, for example, as water, which is supplied by one or more jets or spray nozzles 18 which are so positioned as to provide a uniform and continuous spray across the entire width of the sheet of thread or yarn.

In order to provide a uniform and thorough distribution of the conditioning fluid, air is supplied to the tunnel from a suitable source and is introduced into the tunnel through the air line 20. Air entering the tunnel under slight pressure carries the conditioning fluid back into the tunnel and assists in distributing it evenly over the sheet of yarn. The nozzle or nozzles 18 are preferably positioned so as to project the conditioning fluid in a direction opposite to that in which the sheet of yarn is moving, so that the yarn is thoroughly coated with a film of the conditioning fluid which is evenly distributed over its surface.

The nozzle or nozzles may be of any desired type and, if desired, may take the form of that illustrated in Fig. 2 of my pending application Serial No. 711,141. The conditioning fluid supplied to the nozzles may be supplied by means of a suitable pump (not shown). The sheet of thread or yarn, after having passed through the tunnel and having had the conditioning fluid applied thereto, is then ready to pass from the tunnel to the loom where it is further acted upon in the process of forming it into a sheet. The yarn goes to the loom in a greatly improved condition by reason of the application of the conditioning fluid.

It will be obvious to those skilled in the art that various changes may be made in my invention without departing from the spirit thereof and therefore I do not limit myself to what is shown in the drawing and described in the specification, but only as indicated by the appended claims.

I claim:

1. In a machine for sizing and finishing warp-yarns, a tunnel through which said yarns travel in sheetlike form, a plurality of nozzles positioned adjacent the exit end of said tunnel, means for supplying water under pressure to said nozzles, said nozzles being directed to deliver water in a direction opposite to the direction of travel of the yarns, and means for supplying a blast of air to the water sprayed by the said nozzles to distribute the water evenly over the yarns, substantially as set forth.

2. In a machine for sizing and finishing warp-yarns, a relatively low tunnel shaped chambered member through which is passed a sheet of warp-yarn, means for projecting a conditioning fluid against said sheet of yarn in a direction opposite to the direction of travel of said sheet, and means for directing a blast of air through said chambered member to assist in the distribution of the moistening fluid over said sheet of yarn.

GEO. HILL.