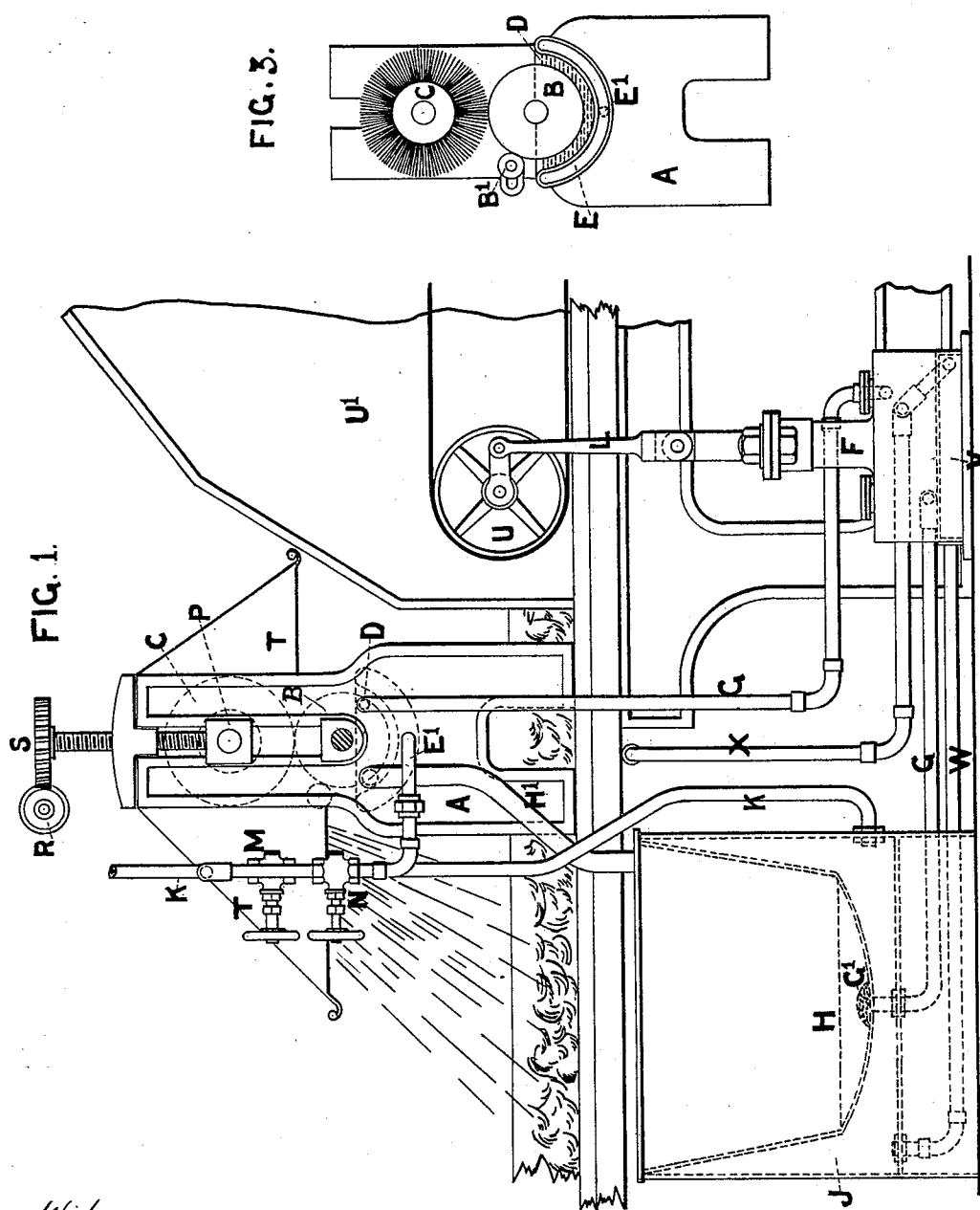


(No Model.)

2 Sheets—Sheet 1.

F. SPIVEY & C. HALMSHAW.
APPARATUS FOR DISTRIBUTING OIL OR OTHER LIQUIDS UPON FIBERS.
No. 499,603. Patented June 13, 1893.



Witnesses
Abraham Reed
C. F. Ward

Inventors
Fred Spivey
Charles Halmsshaw

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2 Sheets—Sheet 2.

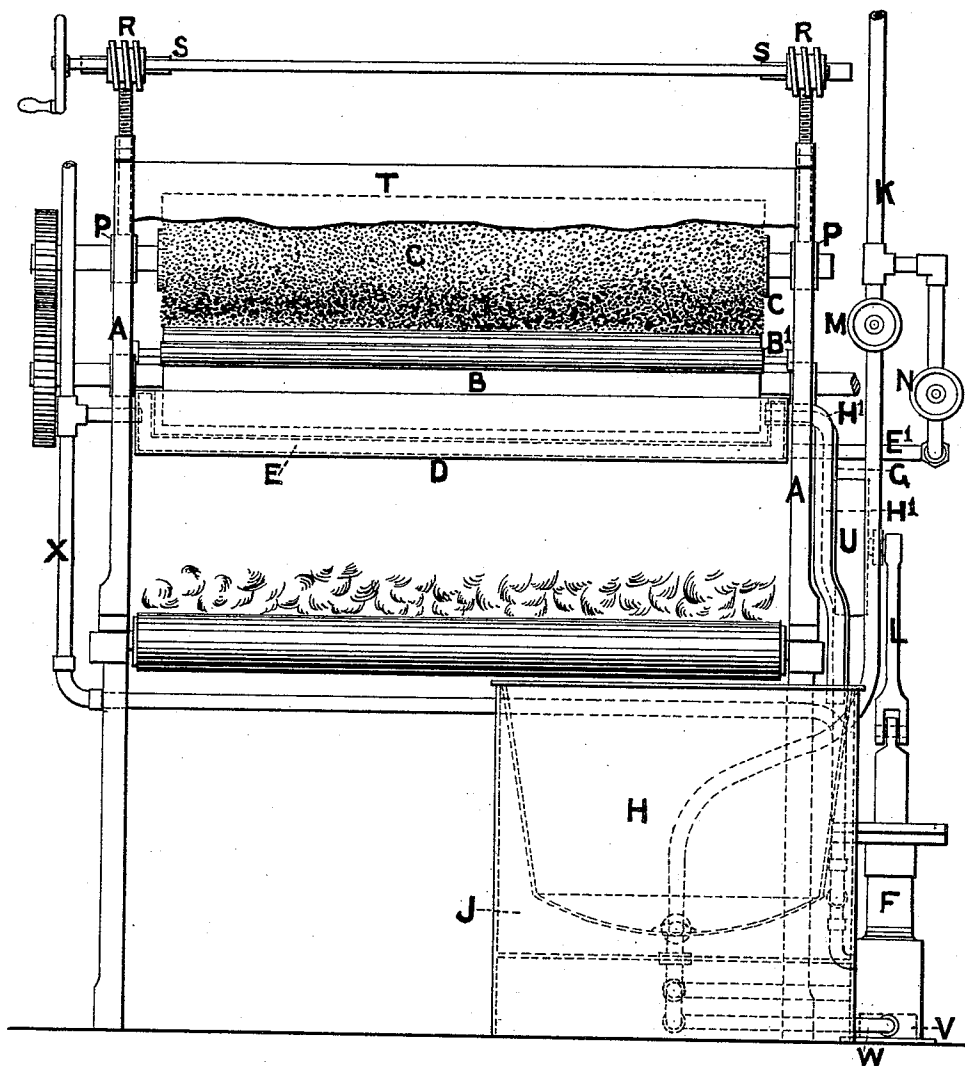
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FIG. 2.



Witnesses
Abraham Reed

Abraham Reed

C. F. Ward

Inventors

And Spivey.
Charles Holmsham

Charles Hahnshaw

UNITED STATES PATENT OFFICE.

FRED SPIVEY AND CHARLES HALMSHAW, OF HECKMONDWIKE, ENGLAND.

APPARATUS FOR DISTRIBUTING OIL OR OTHER LIQUIDS UPON FIBERS.

SPECIFICATION forming part of Letters Patent No. 499,603, dated June 13, 1893.

Application filed November 11, 1892. Serial No. 451,720. (No model.) Patented in England December 3, 1891, No. 21,084.

To all whom it may concern:

Be it known that we, FRED SPIVEY and CHARLES HALMSHAW, subjects of the Queen of Great Britain, residing at Heckmondwike, in the county of York, England, have invented new and useful Improvements in Apparatus for Distributing Oil or other Liquids upon Fibers, of which the following is a specification, and for which we have obtained a patent in Great Britain, No. 21,084, dated December 3, 1891.

The object of our invention is the equal and more regular distribution of oil or water or other liquids upon fibers, in the various machines such as willowing, combing, finishing, and the like.

In the drawings Figure 1 is an end elevation of our improved apparatus as applied to a tenter hook willy. Fig. 2 is a front elevation of Fig. 1. Fig 3 is a sectional view of trough, roller, and brush for distributing oil or other liquids.

Upon a suitable frame A, we place a plain roller B, above and in contact with which we place a circular brush C, (preferably having steel wire bristles) within adjustable bearings P, which bearings are adjusted by means of worms R and worm wheels S to the desired position, this brush C and roller B being driven from any suitable driving shaft. The said roller B revolves in an oil or other liquid trough D, jacketed or having an outer steam chamber E, the steam being applied by means of pipes E' from the pipe K hereinafter mentioned for heating or keeping the oil or other liquid at the required temperature. The said trough is supplied with oil or other liquids by means of a feed pump F and pipes G, having preferably a nozzle G' at one end, or by other means from a reservoir H. The said reservoir can also be kept heated to the required temperature by having a steam or water chamber J around it, and steam applied by means of pipes K from the boiler. The pump is operated by a crank L and pulley U from the driving shaft of the machine, or in any other suitable manner, so that when the machine stops, the distribution of oil or

other liquid ceases. An adjustable stripper roller B' is employed for regulating the supply of oil (by the roller B) to the brush C.

A steam chamber V at the bottom of the valve box of the pump F, insures a regular feed of oil or other liquid to the trough D, by keeping the oil thin or at a uniform density steam passing from the steam jacket J of the reservoir, by means of pipes W through the steam chamber V to the exhaust pipe X or other outlet, the said steam chamber keeping the oil thin and preventing it from congealing in cold weather.

By the arrangement of the several steam chambers, there are no stoppages of the apparatus in winter through the oil or other liquid becoming too stiff to be distributed, as is the case with the ordinary machines or apparatus. We are thus enabled to maintain a regular feed of the oil at all times and without regard to changes of temperature or weather.

Taps M and N regulate the supply of steam to the oil cistern or reservoir H, and trough D, thus varying the temperature of same as desired.

When there is a sufficient quantity of oil within the trough, the overflow passes through an opening, and by means of pipe H' passes again to the reservoir.

The action is as follows: The roller B takes up and carries around the supply of oil which is taken off it by the brush C (as it revolves) and distributes the same in a spray upon the fibers. An adjustable guard T is arranged to prevent the distribution extending too far; the amount of distribution can be regulated by speeding the roller and brush as required, or by adjusting the roller B'.

What we claim as the invention, and desire to secure by Letters Patent, is—

1. In an apparatus for distributing oil or other liquids upon fibers, the combination of the steam jacketed trough D for containing the liquid to be distributed, the feed roller B journaled in said trough, the rotary brush C supported above and in contact with the feed roller, and the adjustable stripper or lick-

off roller B' to regulate the transfer of liquid from the feed roller to the rotary brush, substantially as described.

2. In an apparatus for distributing oil or
5 other liquids upon fibers, the combination of the steam or hot jacketed oil trough D, the feed roller B journaled in said trough the rotary brush C in contact with the feed roller, the oil reservoir H having a steam or hot water jacket J, the pump F, pipes G G connect-
10 ing said pump with the oil reservoir H and trough D, and an overflow pipe H' leading

from the trough to the reservoir, substantially as described.

In testimony whereof we hereunto affix our 15 signatures in the presence of two witnesses.

FRED SPIVEY.

CHARLES HALMSHAW.

Witnesses:

JOHN E. WALSH,

Crossley Street, Halifax.

ABRAHAM REED,

Halifax.