No. 855,025. PATENTED MAY 28, 1907.

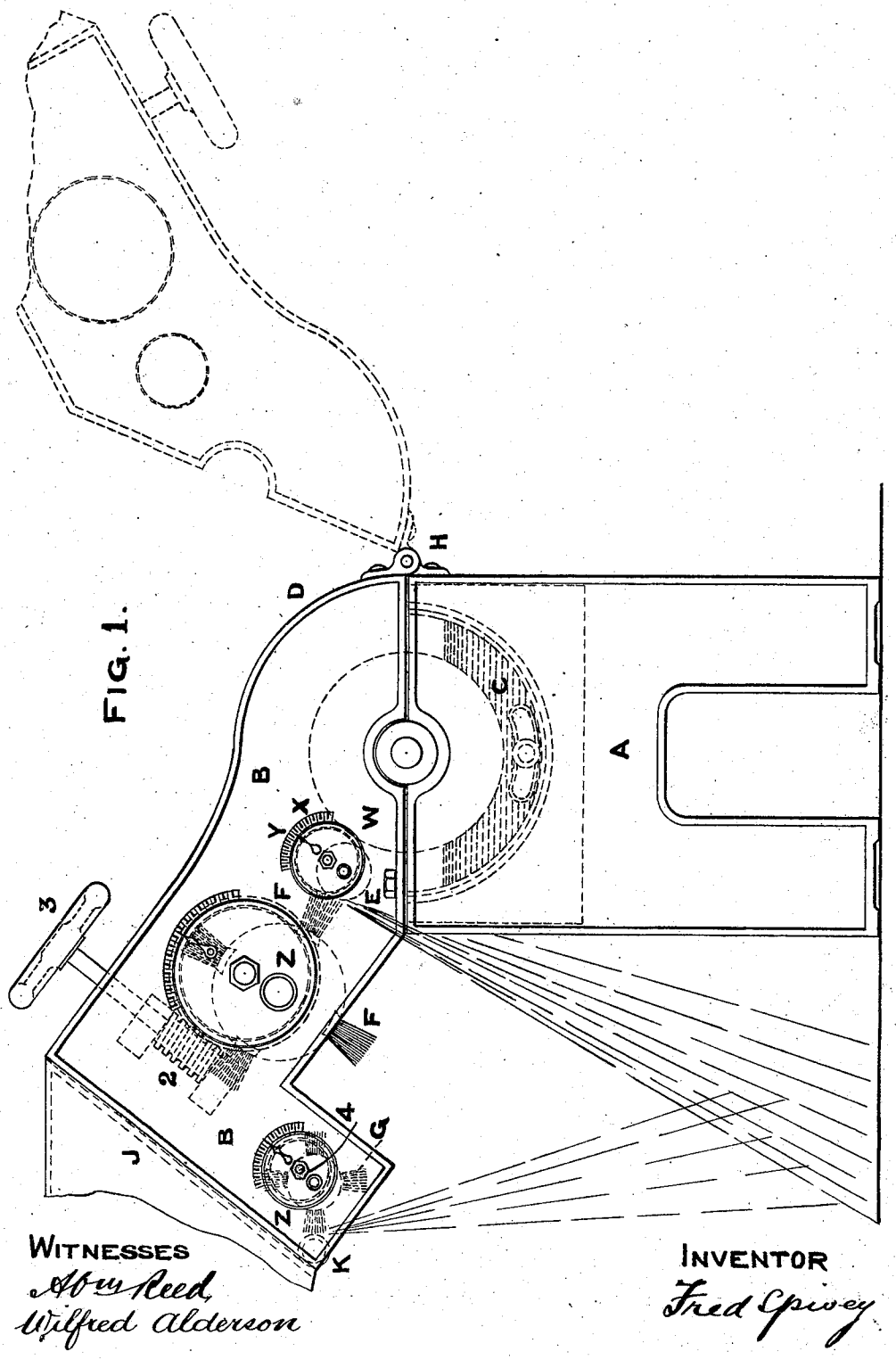
F. SPIVEY.

FIBER OILING MACHINE.

APPLICATION FILED NOV. 4, 1905.

3 SHEETS—SHEET 1.

FIG. 1.



WITNESSES

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3 SHEETS—SHEET 2.

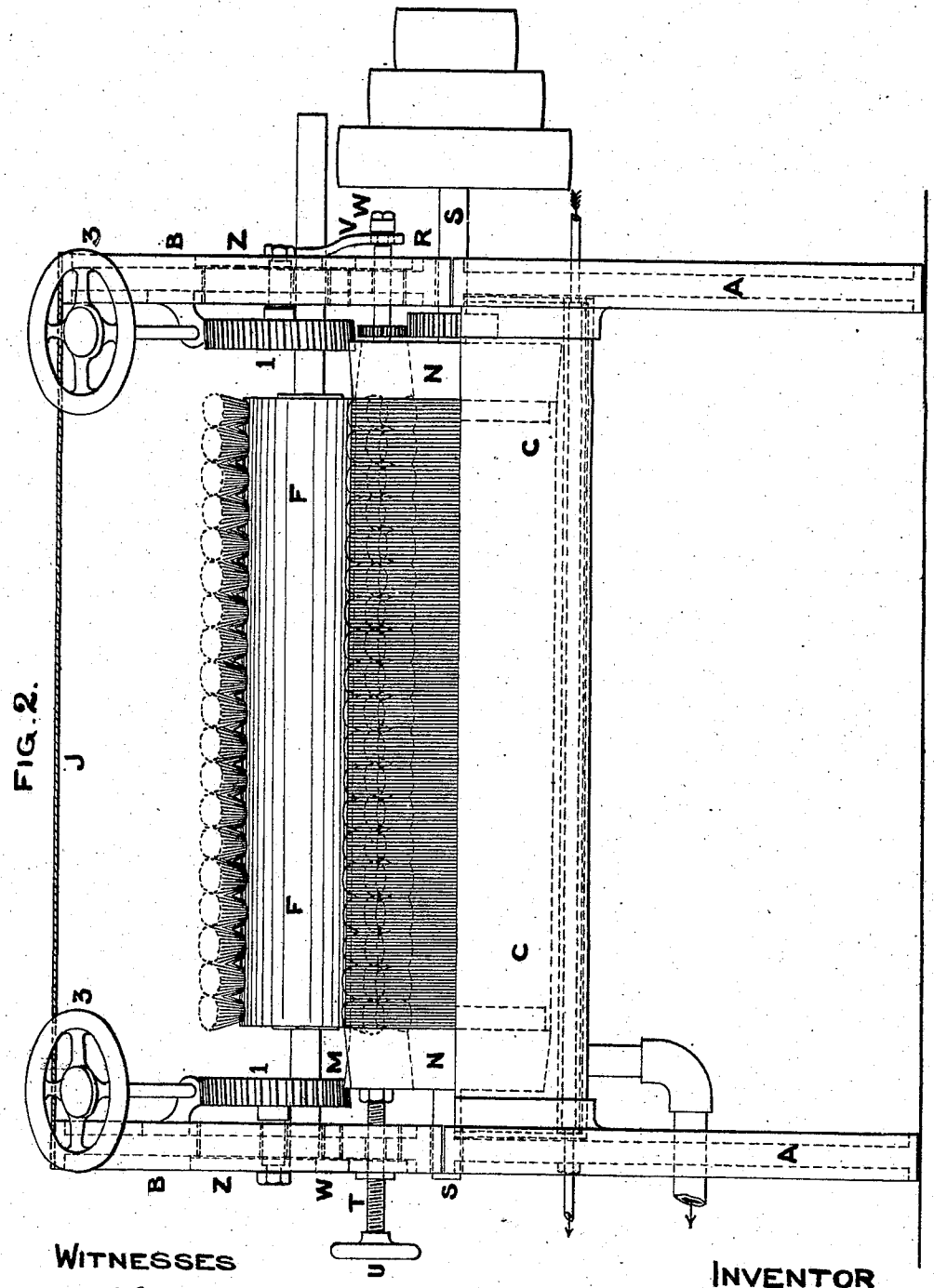


FIG. 2.

WITNESSES

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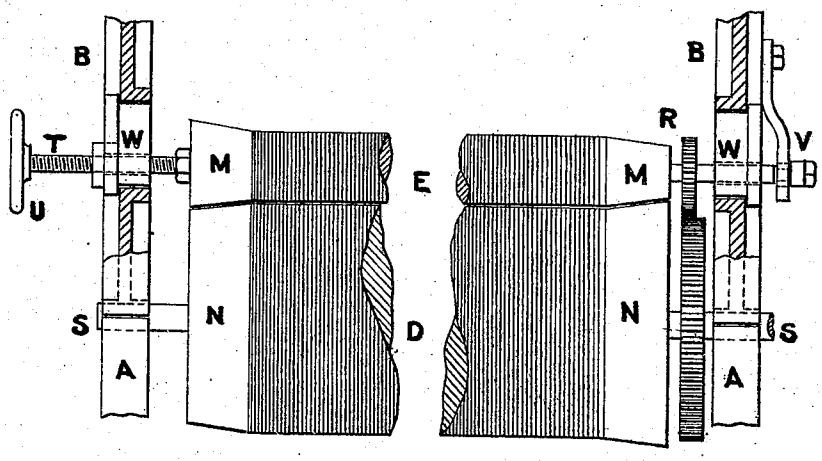
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3 SHEETS—SHEET 3.

FIG. 3.



WITNESSES

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UNITED STATES PATENT OFFICE.

FRED SPIVEY, OF HECKMONDWIKE, ENGLAND.

FIBER-OILING MACHINE.

No. 855,025. Specification of Letters Patent. Patented May 28, 1907.

Application filed November 4, 1905. Serial No. 285,857.

To all whom it may concern:

Be it known that I, FRED SPIVEY, general engineer, a subject of the King of Great Britain, residing at Heckmondwike, in the county of York, England, whose postal address is Low Mills, Heckmondwike aforesaid, have invented certain new and useful Improvements in Fiber-Oiling Machines, of which the following is a specification.

This invention relates to machinery or apparatus for distributing oil or other liquids upon fibers, and is a further improvement upon U. S. Patent No. 499,603. In the apparatus covered by Patent 499,603, a considerable amount of oil is thrown by the distributing or dewing brush against the inside of cover and trickling down, falls in drops upon the fibers beneath. Further, there are no means of regulating the supply of oil to the distributing brush, and the area of distribution is too great to insure the uniformity desired.

The object of my invention is, firstly to more directly distribute the oil upon the fibers, secondly, to more effectually distribute the oil by preventing the same falling in drops from the cover or hood, thirdly, to adjust or regulate the amount of oil supplied to the distributing or dewing brushes, fourthly, to adjust the distributing brushes in order to regulate the quantity of oil distributed, or compensate for wear of the brushes, fifthly, to construct the rollers of the oil supply so as to obtain a better and more uniform supply of oil or the like, and sixthly, to produce a more effective, convenient and accessible machine than hitherto.

According to my invention the oil is taken off the taking up roller revolving in the oil trough by a smaller or licking off roller, which supplies the required oil to the distributing or dewing brush. This brush is mounted in a frame set at an angle with the frame supporting the oil trough and taking up roller, in order to cause the brush to throw the oil more directly on to the fibers beneath. Also the brushes and licker off roller are provided with suitable adjusting mechanism by which the supply of oil, or quantity to be distributed, may be regulated. Should any oil be projected against the inside of cover, it drains on to a steam pipe running along and attached to the lower edge of said cover, where it is taken off by a second distributing brush and distributed on to the fibers.

The angular or oblique portion of the standard or framework, that is to say, the upper part carrying the licker off roller and brushes, is made to hinge upon the upright portion carrying the oil trough and taking up roller, and may be turned over or back to facilitate examination, or give better access to the taking up roller, oil trough, or other parts of the machine.

Description of drawings.—Figure 1 is a side elevation of my improved apparatus for distributing oil or other liquids upon fibers showing the upper part of the frame in dotted lines and in its raised position. Fig. 2 is a back elevation of Fig. 1. Fig. 3 is a side view of taking up and licker-off rollers showing means for adjusting or regulating the oil supply.

In constructing my improved machine, I preferably form the standard or supporting frame in two parts A. B, the lower or vertical frame A carries the oil trough C and taking up roller D, while the upper part B supports a licker off roller E and the distributing or dewing brushes F, G, with their adjusting and regulating mechanism. The part B hinges upon the part A at H, and so may be turned back as shown in dotted lines at Fig. 1. to give easy access to the oil trough and taking up roller, or to other parts of the apparatus. Further, the said part B projects at an oblique angle to the part A in order that the dewing brush may have a more direct action in distributing the oil or other liquids upon the fibers beneath.

The oil is taken off the taking up roller by the roller E which revolves in contact with the rotary brush F rotating in an opposite direction; this brush receives the oil from the roller E and distributes it in a very fine spray or dew upon the fibers below.

Should any oil or the like be thrown against the underside of cover or hood J, it trickles or drains down to a steam heated pipe K forming, or passing along, the bottom edge of cover and across its whole width, where it is taken off by the second distributing brush G revolving in an opposite direction to brush F, which distributes such oil in a second fine spray upon the fibers, see Fig. 1. The steam pipe aforesaid counteracts any partial congealing of the oil on the cover by raising the oil to the desired temperature for effective distribution.

In order to more effectually and uniformly take up the oil, I preferably form the taking up roller D and licker-off roller E with a se-

ries of circumferential serrations or flutings of a fine nature across their whole width, and regulate the amount of oil taken off the roller D by the roller E, by constructing the said rollers with taper or conical ends or bearing surfaces M. N. The roller E rests against the roller D and is adjusted relatively with the latter by moving the cones M up or down the cones N of the taking-up roller, so moving the fluted surfaces more or less apart and diminishing or increasing the oil supply to the brush F accordingly. This adjustment is effected by a screwed rod or axle T operated by hand wheel U, a spring V bolted to the frame B acts upon the axle at the other end of roller E and puts the necessary tension upon the latter and prevents it from shifting its position after adjustment as well as assisting the screw on its return. In order to permit of this transverse movement of the roller E, I mount its axle or shaft eccentrically within a disk or drum bearing W, fixed loosely and movable within a corresponding recess in each side of the frame B, so that any strain put upon the roller shaft or axle by the hand wheel U causes the said drum bearings W to adjust themselves to the alinement of the shaft. A finger X upon the drum in combination with a marked plate Y upon the frame, serves to indicate the amount of adjustment made at each end, and by which it can be ascertained if both rollers are parallel.

I preferably mount the shafts of the distributing brushes in similar eccentric bearings Z, but in the case of the large or first distributing or dewing brush F, the adjustment is effected by means of worm wheel 1 actuated by worm 2 and hand wheel 3 upon each side of frame. In the smaller distributing brush G, the adjustment being rare, it may be effected by an ordinary wrench applied to the nut 4. By moving the brushes nearer to or farther away from the oil supply, a corresponding variation in the amount of oil distributed is the result. Similar indicating means are provided for both brushes, which, along with their bearings insures both brushes being set perfectly parallel with the roller E and pipe K; in this manner an uniform supply and distribution of oil throughout is obtained.

What I claim as my invention and desire to secure by Letters Patent is:—

1. In a fiber oiling machine, the combination, with a main supporting frame provided with an oil trough, and a taking-up roller dipping into the said trough; of an auxiliary frame hinged to the said main frame, and a licker-off roller and a distributing brush journaled in the said auxiliary frame.

2. In a fiber oiling machine, the combination, with a frame provided with a cover, a heating pipe arranged at the lower part of the said cover, and an oil trough carried by the said frame; of a taking-up roller dipping into the said trough, a licker-off roller and a distributing brush operating in connection with the said taking-up roller, and a second distributing brush operating in connection with the said pipe.

3. In a fiber oiling machine, the combination, with an oil trough, and a taking-up roller dipping into the said trough and provided with conical end portions; of a licker-off roller also provided with conical end portions, and means for adjusting the said licker off roller longitudinally so as to vary the distance between the said roller.

In testimony whereof I hereunto affix my signature in the presence of two witnesses.

FRED SPIVEY.

Witnesses:

ABM. REED,

WILFRED ALDERSON.