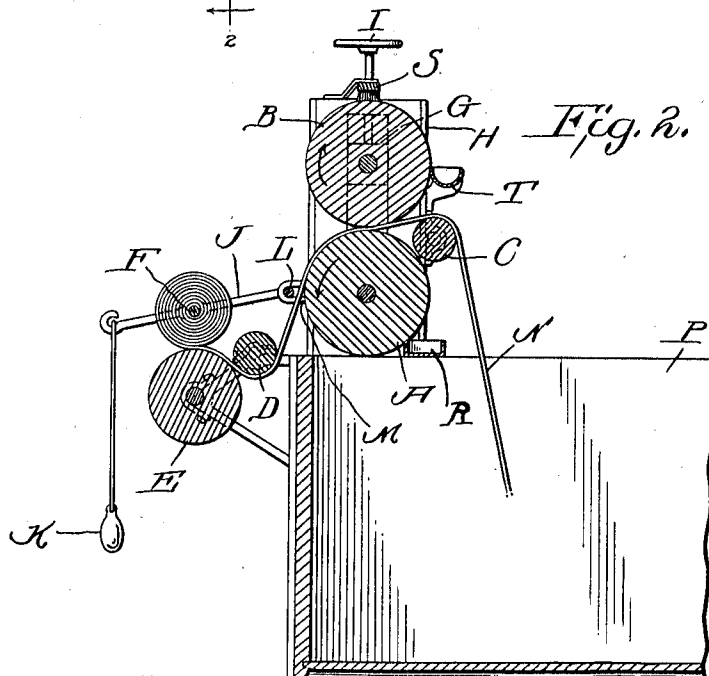
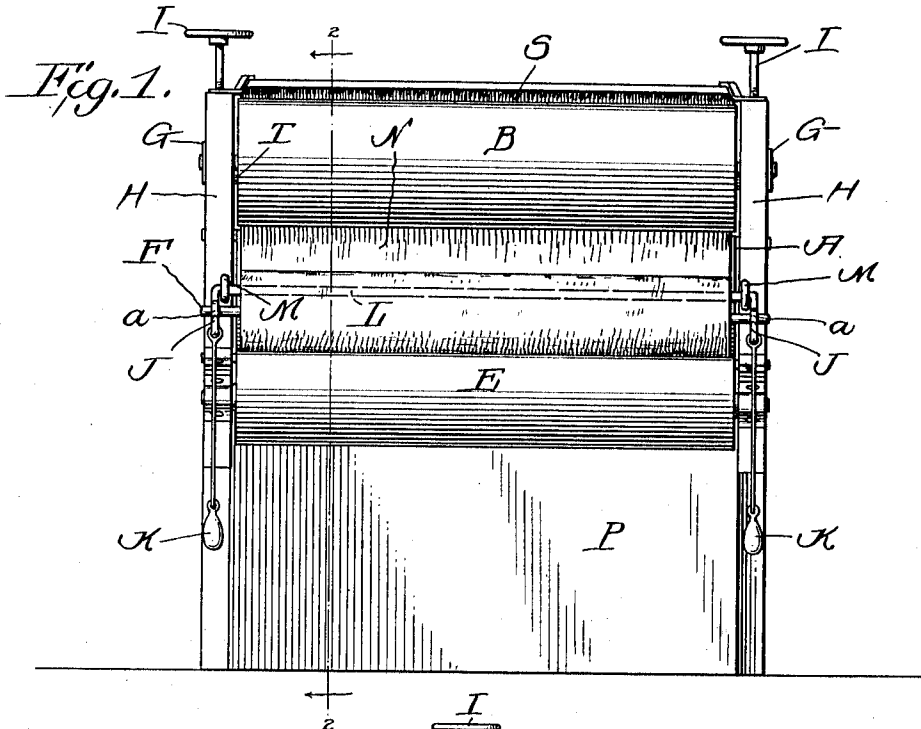


J. B. DUNN.
CLOTH FINISHING MACHINE.
APPLICATION FILED OCT. 13, 1910.

1,019,615.

Patented Mar. 5, 1912.



Witnesses

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UNITED STATES PATENT OFFICE.

JOHN B. DUNN, OF WOONSOCKET, RHODE ISLAND.

CLOTH-FINISHING MACHINE.

1,019,615.

Specification of Letters Patent.

Patented Mar. 5, 1912.

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To all whom it may concern:

Be it known that I, JOHN B. DUNN, citizen of the United States, residing at Woonsocket, in the county of Providence and State of Rhode Island, have invented new and useful Improvements in Cloth-Finishing Machines, of which the following is a specification.

My present invention has to do with the finishing of woolen and worsted cloth; and it has for its object to provide in combination with the ordinary squeeze rolls of a "crabbing" machine, means for stretching the cloth to its full width, and means for rolling the wet and stretched cloth into a hard, solid roll absolutely free from wrinkles, creases and the like, all in one continuous operation, the stretching and tight rolling of the cloth as it comes from between the squeeze rolls being materially advantageous, inasmuch as it assures the moistness of the cloth being uniform and affords no chance for evaporation with the result that the cloth is pliable and therefore amenable to perfect stretching and smooth rolling.

Other advantageous features of the invention will be fully understood from the following description and claims when the same are read in connection with the drawings, accompanying and forming part of this specification, in which:

Figure 1 is a front elevation of the machine constituting the best practical embodiment of my invention that I have as yet devised. Fig. 2 is a vertical section taken in the plane indicated by line 2—2 of Fig. 1, looking in the direction of the arrow.

Similar letters of reference designate corresponding parts in both views of the drawings.

In furtherance of my invention I provide in rear of the squeeze rolls A and B a cloth-stretching roll C, and in front of said squeeze rolls I provide a cloth-stretching roll D, a cloth supporting roll E, and a spindle F on which the cloth is rolled. The lower squeeze roll A and the rolls C, D and E are mounted in fixed bearings, and the upper squeeze roll B is mounted in vertically-movable bearing blocks G which are adjustable in standards H through the medium of screws I according as it is necessary to increase or diminish the pressure to be exerted on the cloth. It will also be noticed by comparison of the figures that the spindle F is removably ar-

ranged in bearings a in vertically-swinging arms J, which arms are provided with pendent weights K and are connected through a shaft L, journaled in bearings M on the standards H.

In the practical operation of the parts thus far described, the cloth N is drawn out of the tub P where it is suitably immersed in liquid, and first passes over the roll C which tends to stretch or open it to its full width. It then passes between the squeeze rolls A and B and is relieved of excess liquid, after which it passes under the stretching roll D and over the receiving or supporting roll E and is wound on the spindle F, in the order named. As it passes the roll D and between the same and roll E, the moisture-bearing and pliable cloth is stretched to its full width taking out all cockles, and in consequence is rolled into a perfectly tight and smooth roll on the spindle F without the formation of any creases or wrinkles.

When a piece of cloth is wound on the spindle F, the spindle is removed from the arms J in suitable manner, as by manipulating it endwise in the bearing apertures, and then the spindle may be drawn out of the roll of cloth and replaced in the arms J, or a new spindle may be placed in said arms to adapt the machine for another operation.

The practical advantages of my improvement will be better appreciated when it is stated that heretofore the common practice has been to fold the cloth as delivered from between the squeeze rolls of a "crabbing" machine, and then, if desired, take the cloth to another machine and roll it up. This required an extra operation, and an additional machine, and was also objectionable because the moisture in the cloth was permitted to evaporate and gave rise to the necessity of steaming the cloth precedent to rolling thereof, which operation was not completely successful on account of the outer layers of the cloth taking up more moisture than the inner layers thereof. I would also say that the usual manner of folding cloth as it is delivered from the squeeze rolls will not prevent the forming of wrinkles and cockles in the cloth, while in the operation of my machine the cloth as it comes from the rolls is stretched to its full width and is then rolled up into a solid, even and tight roll, and in such condition the cloth is allowed to "set" with the result that the formation of

wrinkles and cockles therein is precluded. This will be noted as an important advantage when it is stated that the manufacturer is constrained to allow from one-eighth to one-fourth of a yard of cloth for every cockle that occurs in a piece. Moreover by rolling up the cloth as it comes in a hot and steaming condition from the squeeze rolls, a luster is formed on the surface which is very desirable for certain kinds of finish.

In order to prevent the dirty water squeezed out of the cloth during the passage thereof between the rolls A and B from passing back into the tube E, I prefer to employ the gutter R which is positioned as shown relative to the roll A, and is designed to receive the expressed water from said roll and conduct the same to a point at one side of and without the tub. Incidental to the passage of the wet cloth between the rolls A and B, bunches or loose fibers of stock are liable to adhere to and be carried upward by the roll B, and in order to prevent such bunches and loose fibers falling back on the cloth, I employ the brush S and the transversely-arranged receptacle T. The brush S is arranged above the roll B and suitably supported on the standards H, and the lint, etc., that adheres to the roll B collects against and works through the brush and by so doing forms into balls or rolls. In this form it drops from the brush, over the surface roll B, and into the receptacle T from whence it can be removed at intervals by hand or otherwise.

Power may be applied in any approved manner to the roll E to effect the taking up of the cloth, as for instance through a drive connection from the roll A which may be initially driven in any approved manner.

This, however, I have deemed it unnecessary to illustrate.

Having described my invention, what I claim and desire to secure by Letters-Patent, is:

1. In a machine for finishing woolen and worsted cloth, the combination of lower and upper squeeze rolls, a brush supported above the upper of the squeeze rolls and having bristles the ends of which are opposed to the perimeter of said roll and also having the said bristles arranged to permit lint that adheres to the roll and brings up against the brush to work through the bristles and by so doing form into balls or rolls, and a suitably supported receptacle arranged back of the roll in position to receive said balls or rolls of lint.

2. In a machine for finishing woolen and worsted cloth, the combination with a tub and squeeze rolls; of means for stretching the cloth while in a wet state to its full width, said means being located at a point intermediate the tub and the squeeze rolls, a roll adapted to be driven and to take up the cloth, means arranged directly between the squeeze rolls and the said take-up roll for stretching the wet cloth to its full width as it passes from the squeeze rolls to the take-up roll, a spindle adapted for the winding of the cloth thereon, and means for holding the said spindle under yielding pressure toward the take-up roll.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

JOHN B. DUNN.

Witnesses:

EVELYN W. SPAULDING,
EDGAR L. SPAULDING.