

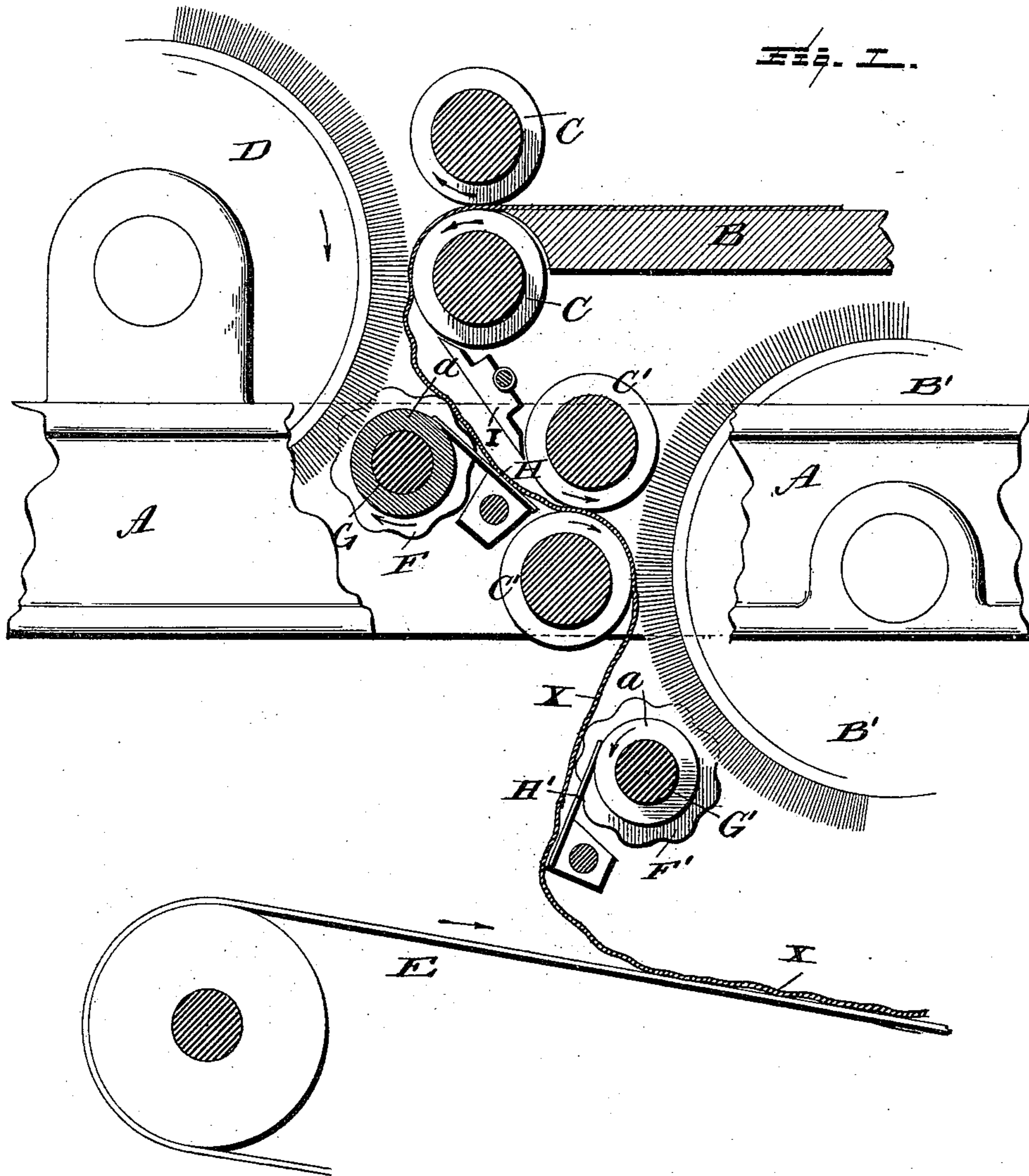
(No Model.)

2 Sheets—Sheet 1.

S. G. HALL.
MACHINE FOR BRUSHING FABRICS.

No. 463,896.

Patented Nov. 24, 1891.



Witnesses

L. C. Mills.
Evell Dix

Inventor

Samuel G. Hall
by *Marshall Bailey*
his Attorney

(No Model.)

2 Sheets—Sheet 2.

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Fig. 2.

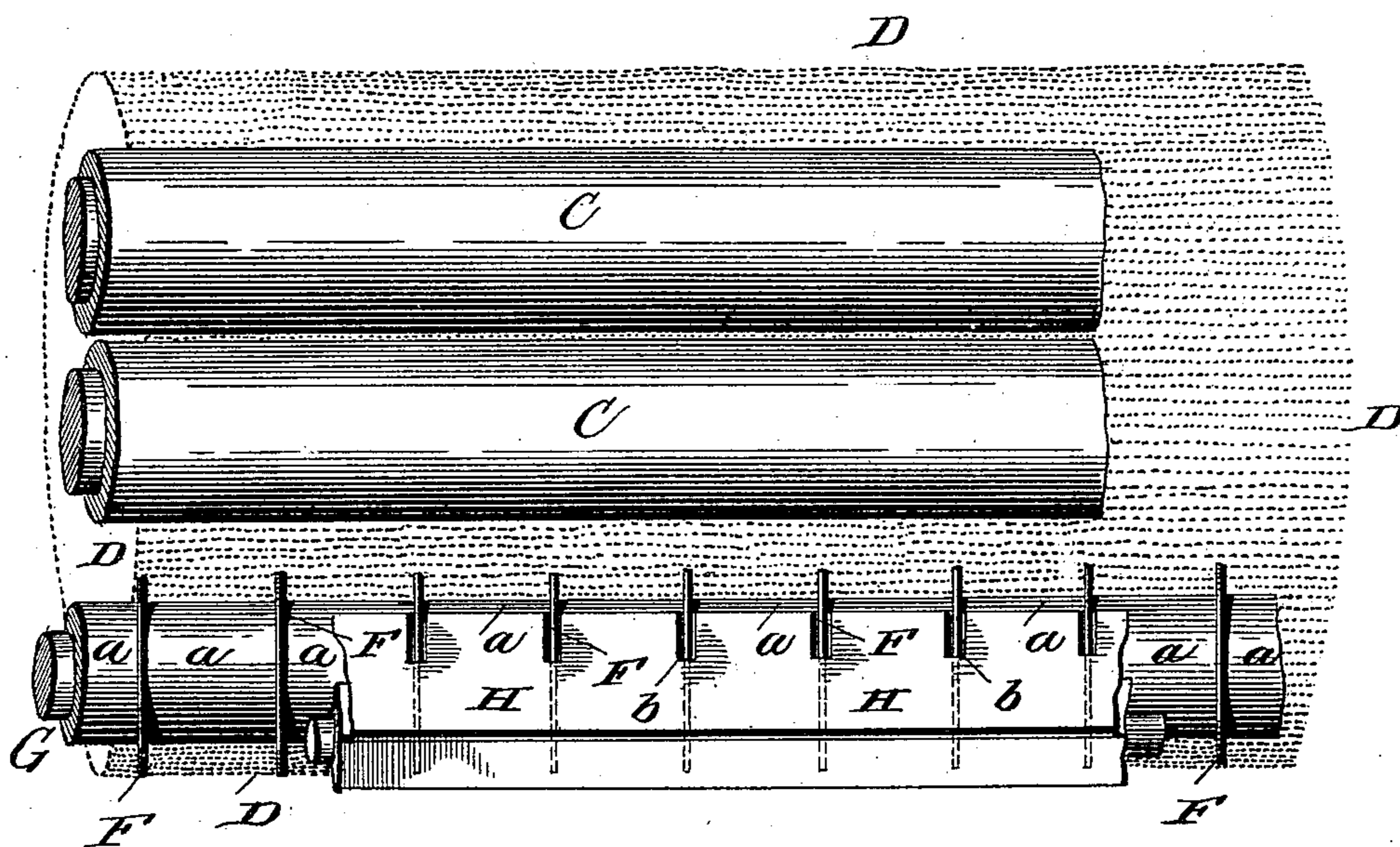


Fig. 3.

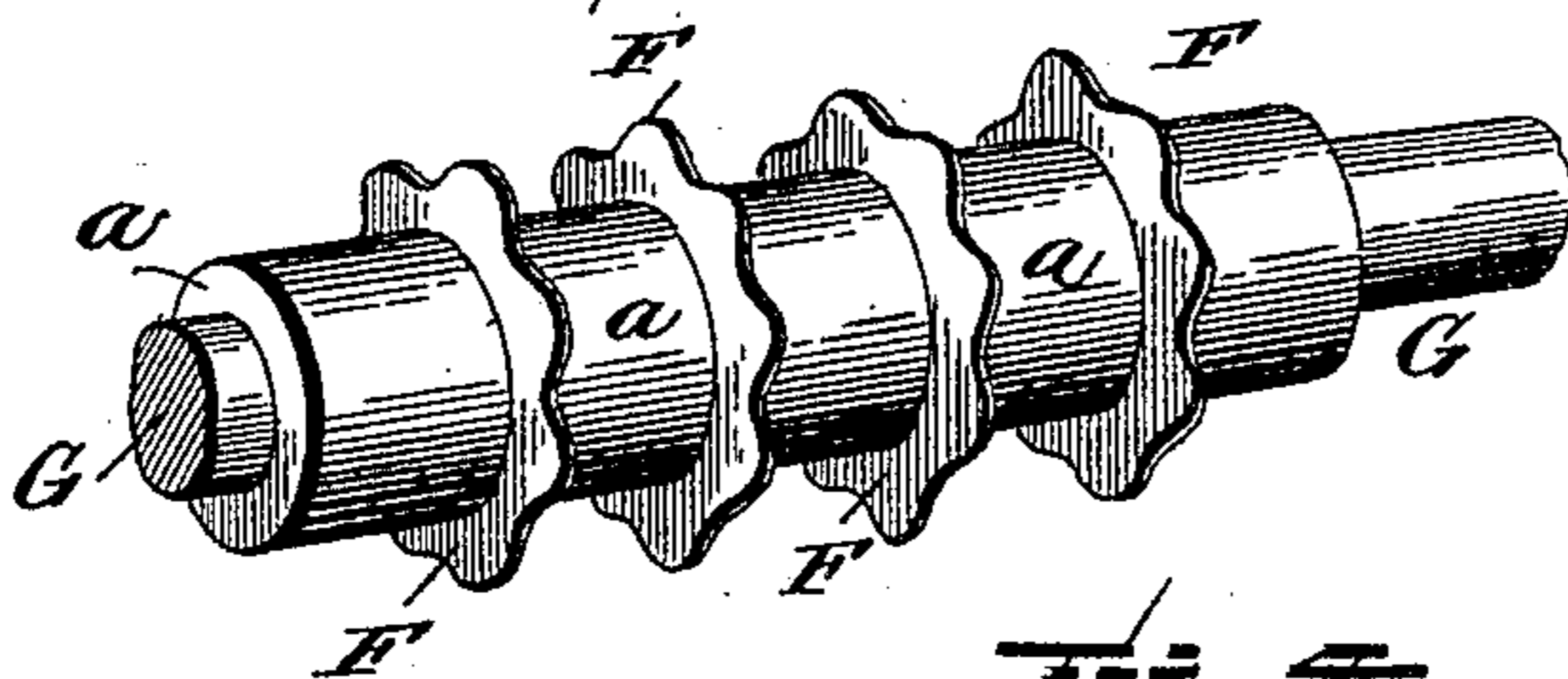
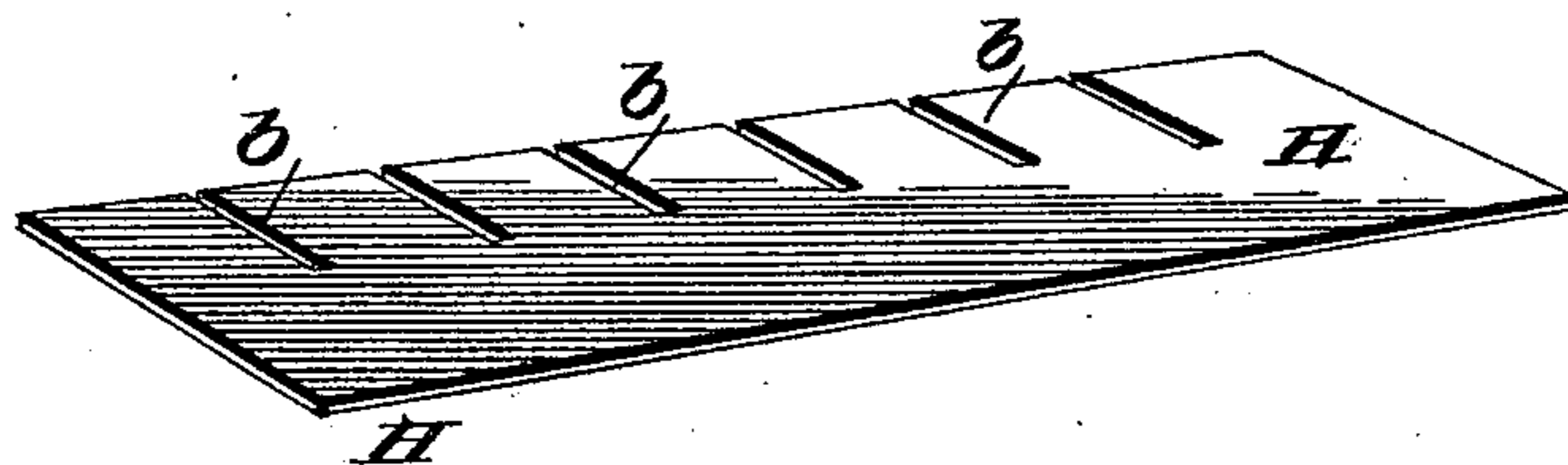


Fig. 4.



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UNITED STATES PATENT OFFICE.

SAMUEL G. HALL, OF COHOES, NEW YORK.

MACHINE FOR BRUSHING FABRICS.

SPECIFICATION forming part of Letters Patent No. 463,896, dated November 24, 1891.

Application filed September 5, 1891. Serial No. 404,883. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL G. HALL, of Cohoes, county of Albany, and State of New York, have invented certain new and useful
5 Improvements in Machines for Brushing Fabrics, of which the following is a specification.

My invention, while applicable to fabric-brushing machines generally, has been designed more particularly with reference to
10 the needs of machines for brushing knit garments.

In machines of this character the fabric is usually operated on by revolving brushes, which produce a nap upon the surface of the
15 fabric. In thus brushing knit garments the garment at times will be caught by and engaged with the teeth (usually metallic) with which the brush is armed, and consequently will be carried around with the brush, the re-
20 sult being the practical ruin of the garment. Endeavor has been made to obviate this difficulty by various means—as, for example, by means of a rotary roll armed with longitudinal blades of flexible material, such as leather.
25 These blades sweep over the brush-teeth in an opposite direction to the revolution of the brush, and are intended to prevent the garment from clinging to and being carried around with the brush. So far as I am aware,
30 however, these endeavors have been at the most only partially successful. Even in the case of the flexible stripper-blades these blades can only contact with the mere exterior surface of the brush, and the garments
35 at times will slip by them, over and beyond which there is injurious wear between the points of the metallic bristles or teeth of the brush and the flexible blades.

Under my improvements I employ as a
40 stripper a series of thin metallic projections mounted at intervals apart upon a shaft and so placed that at their outer edges they penetrate beyond the outer surface of the brush between the bristles or teeth, the points of
45 which form the surface thereof. These projections, which preferably are thin steel disks, effectually strip the garment from the brush beyond possibility of failure. The garment cannot pass beyond them. At the same time,
50 presenting, as they do, very thin edges to the brush and having these thin edges projecting into the card-face of the brush and be-

tween the bristles or teeth thereof, there is no wear either of the teeth or of the stripping-disks. The shaft on which the disks are
55 fixed preferably revolves, the direction of the revolution being opposite that of the brush, and in connection with the disks I employ a stationary clearer-plate or comb, which enters the spaces between the disks and is slit
60 to receive the disks themselves. This plate, if desired, may form a guide to direct the garment to a second brush for brushing the opposite face of the garment from that oper-
65 ated on by the first brush. This second brush also should be provided and combined with a series of stripping-disks and also, if preferred, with a clearer-plate or comb.

I desire to remark here that I do not claim
70 as my invention the combination of feed-rolls and two brushes to the action of which the fabric is successively subjected, the arrangement being such that the garment or fabric in passing through the machine is brushed
75 first on one surface by one brush and is then passed between the feed-rolls of the second brush and has its opposite surface brushed by said second brush. I am aware that this has before been done in several instances.

My invention resides, essentially, in the
80 combination of the brush with the series of stripping-disks, having their outer edges arranged to enter the face of the clothing of the brush and between the teeth thereof, and in the further combination with these two in-
85 strumentalities of the clearer-plate or comb, which, if desired, may serve as the guideway or plate to the feed-rolls of the second brush.

The nature of my invention will be readily understood by reference to the accompanying
90 drawings, in which—

Figure 1 is a longitudinal vertical sectional elevation of so much of a brushing-machine
95 as needed to illustrate my improvements. Fig. 2 is a front elevation of a portion of the first brush, its feed-rolls, stripper-roll, and clearer-plate or comb. Fig. 3 is a perspective view of a portion of the stripper-roll. Fig. 4 is a like view of a portion of the clearer-plate or comb.
100

The parts of the machine are supported in a frame A of any usual or suitable construction.

B is the table, over which the fabric or gar-

ment passes to and between the power-driven feed-rolls C, which present it to the revolving cylindrical brush D, clothed, as customary, with fine close-set wire teeth or bristles, which brushes one side or face of the garment in the usual way, after which the garment may be conducted to another pair of feed-rolls C', by which it is delivered to a second revolving brush B', which operates to brush the opposite face of the garment. After this the garment drops upon an endless traveling apron E, which carries it out from the machine. The direction in which the moving parts above referred to move is indicated by the arrows. Thus far there is nothing new in the machine.

Below the point at which the brush B operates on the fabric or garment is located my improved stripper. This stripper consists of a series of thin blade-like annular disks F, preferably of steel, which are mounted on and secured to a shaft G, which has its bearings in the frame. This shaft need not rotate. The stripping-disks would still act to strip the garment from the brush; but to secure the best results I find that the shaft with its disks should be power-driven and rotate in a direction opposite to that in which the brush moves, as indicated by the arrow on the stripper. The brush-cylinder is usually from five to six feet long. The series of disks F extend throughout the length of the brush-cylinder and are set on the shaft G about an inch apart, being for this purpose separated by wooden washers a, mounted on the shaft, one between each two contiguous disks.

The parts are so proportioned and arranged that the outer edges of the disks penetrate the face of the brush-clothing and between the teeth or bristles thereof, as plainly seen in Fig. 1. In practice they extend about half the depth of the wire bristles. Under this arrangement it is manifest that any fabric or garment adhering to the surface of the brush must of necessity be stripped and removed therefrom when it reaches the disks.

The periphery of the stripping-disks may be a plain circle, or it may be toothed or otherwise shaped. I have found that the best results are obtained by giving a wave-like corrugated form to the periphery, and this form I have represented in the drawings.

To prevent the fabric or garment from possible clinging to and traveling with the stripper, I make use of a clearer-plate or comb H. This plate, which is stationary and fixed to the frame A by any suitable support, extends the length of the stripper. Its inner end rests on or nearly on the wooden washers a of the stripper, and it is slitted or slotted at b to receive the disks. When a second brush B' is used, this comb-plate can be arranged to form a guideway or table over which the goods will travel and be directed to the feed-rolls C' of the second brush, and this arrangement is

represented in the drawings. The second brush is provided also with its stripper and comb-plate therefor, although the latter may be omitted in this instance; but as these parts are the same as those already described in connection with the first brush they require no further explanation. The stripping-disks of the second brush are lettered F', their shaft G', and their comb-plate H'.

I is a stationary guide-plate between the first and second set of feed-rolls.

The operation of the machine, whether one or two brushes be employed, will readily be understood from what has already been said, and requires no further description.

The garment or fabric passing through the machine is marked X.

What I claim herein as new and of my own invention is as follows:

1. In a brushing-machine, the combination, with the brush and feed-rolls for feeding the fabric or garment to the brush, of a stripper armed with thin metallic projections which extend into or penetrate the face of the brush-clothing between the teeth or bristles which form said clothing, substantially as and for the purposes hereinbefore set forth.

2. In a brushing-machine, the combination, with the brush and feed-roll for delivering the goods to the brush, of a rotating stripper-shaft armed with thin metallic disks or projections set at intervals apart on said shaft and arranged so that their edges will extend into the brush-clothing between the teeth or bristles thereof, substantially as and for the purposes hereinbefore set forth.

3. The combination, with the brush and feed-rolls for delivering the goods to the brush, of a rotating stripper armed with thin metallic projections which extend into the brush-clothing between the teeth thereof, and a comb-plate for clearing the goods from the stripper, substantially as and for the purposes hereinbefore specified.

4. The combination, with the first brush and its feed-rolls for brushing one face of the goods and the second brush and its feed-roll for brushing the opposite face of the goods, of an intermediate rotating stripper for the first brush, armed with thin projections which extend into the face of the brush-clothing between the teeth or bristles thereof, and a comb-plate which clears the goods from the stripper and also forms a guideway for directing the goods to the feed-rolls of the second brush, substantially as and for the purposes hereinbefore set forth.

In testimony whereof I have hereunto signed my name this 10th day of August, 1891.

SAMUEL G. HALL.

Witnesses:

EWELL A. DICK,
M. BAILEY.