

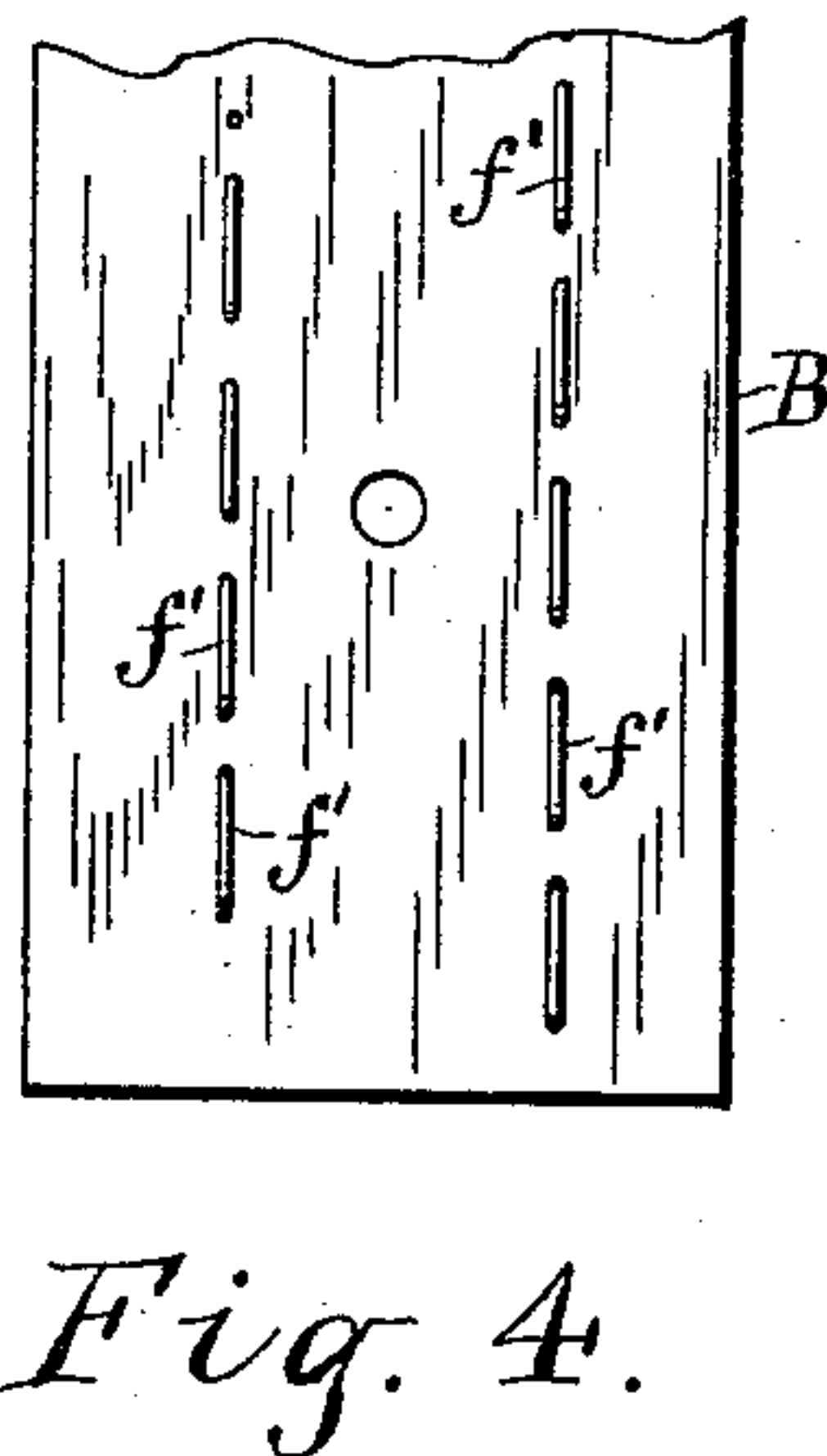
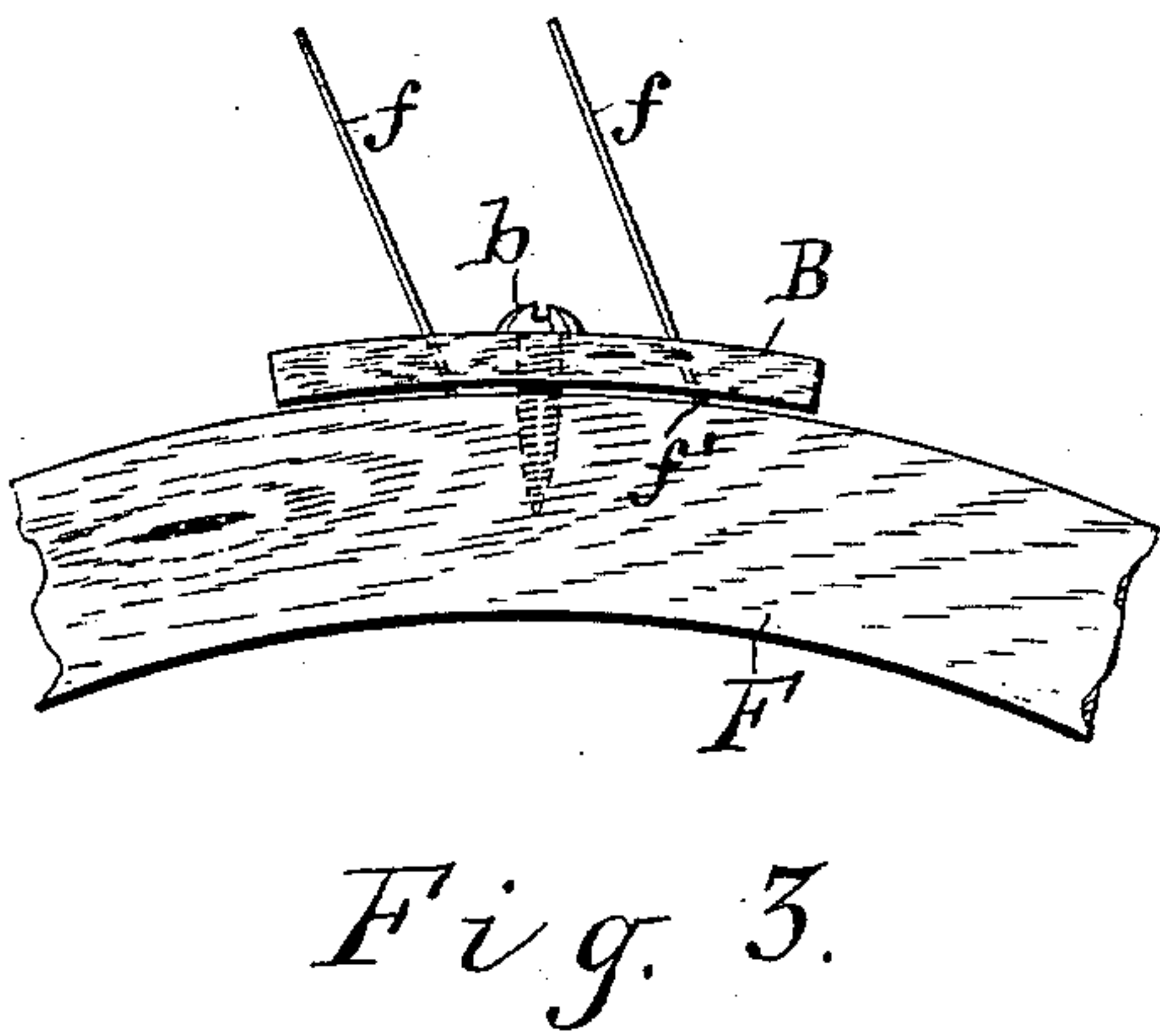
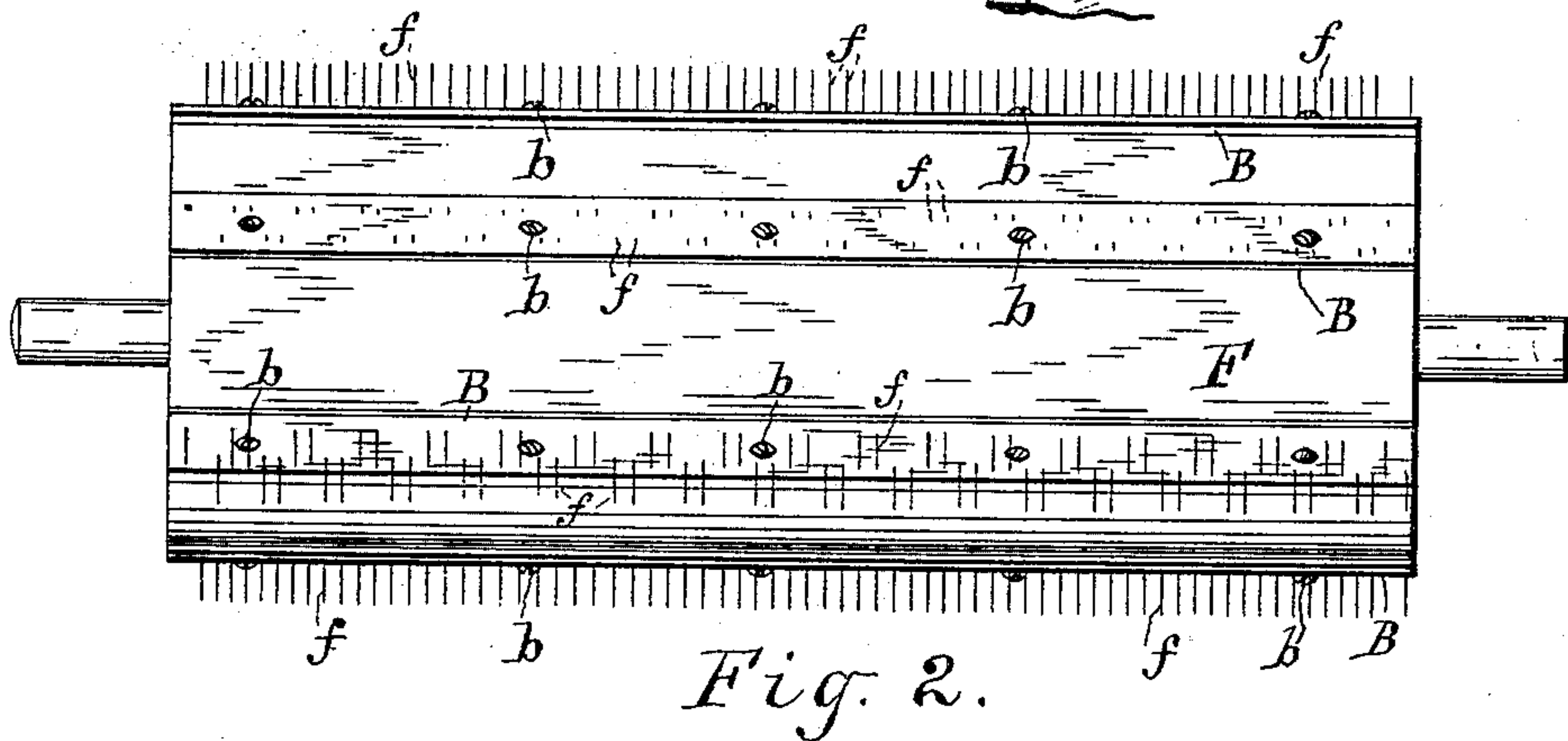
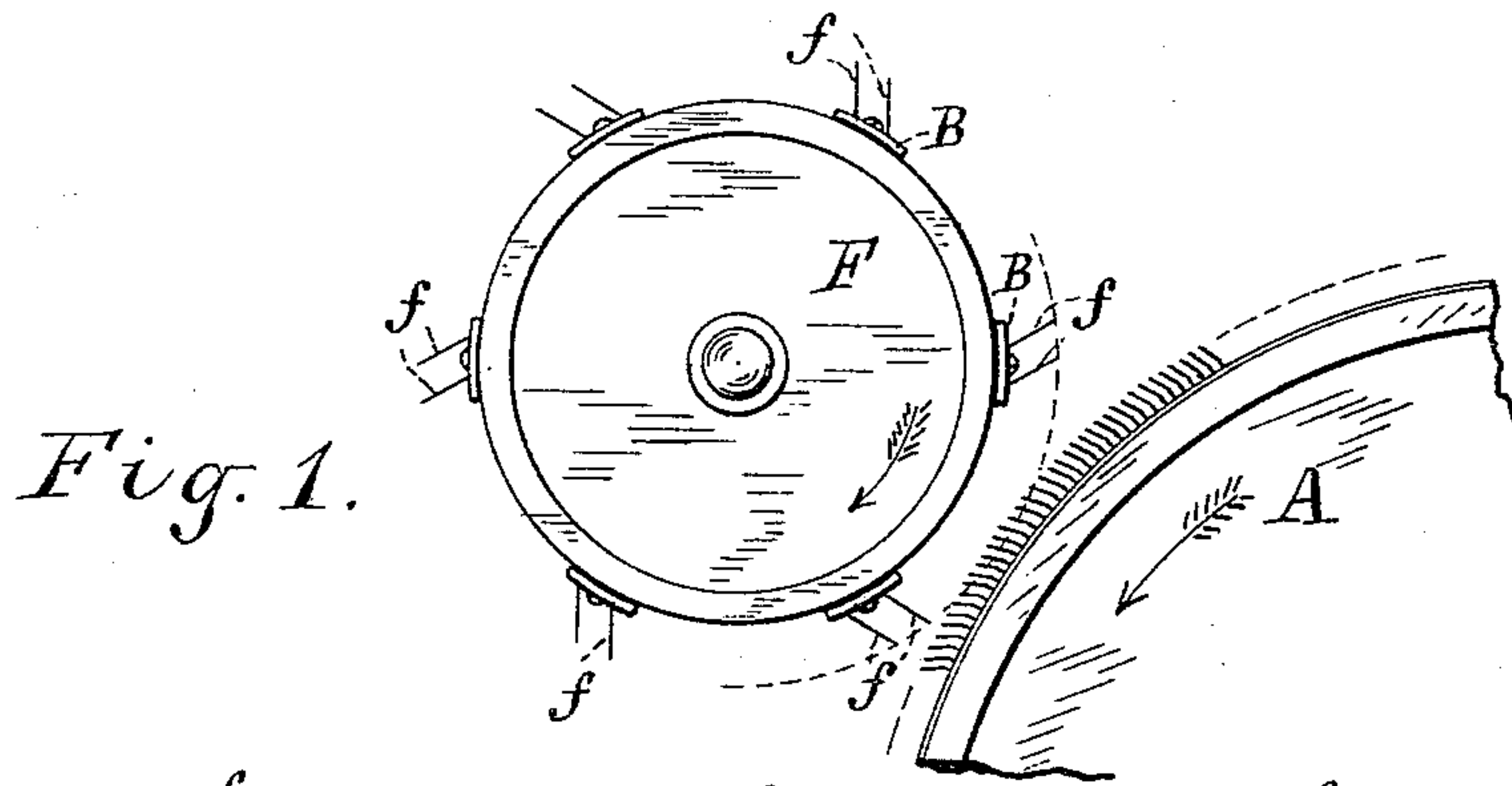
No. 632,898.

Patented Sept. 12, 1899.

J. H. CROWTHER.  
CARD CLOTHING FOR FANCY ROLLS.

(Application filed Apr. 28, 1898.)

(No Model.)



Witnesses.

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# UNITED STATES PATENT OFFICE.

JOHN H. CROWTHER, OF AUBURN, NEW YORK.

## CARD-CLOTHING FOR FANCY-ROLLS.

SPECIFICATION forming part of Letters Patent No. 632,898, dated September 12, 1899.

Application filed April 28, 1898. Serial No. 679,057. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN H. CROWTHER, of Auburn, in the county of Cayuga, in the State of New York, have invented new and useful Improvements in Card-Clothing for Fancy-Rolls, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

My invention relates to card-clothing for fancy-rolls in carding machinery; and the object is to construct the teeth or staples on the fancy so that they will keep the card or cards on the main cylinder clear or so that the card or cards thereon will not require combing or clearing by hand, as usual, so often.

The object also is to provide card-clothing material for containing the teeth or staples that will be inexpensive, will hold the teeth firmly in place, and which may be more easily and quickly removed and replaced when it is necessary to remove injured teeth and insert new ones; and the further object is to provide strips of card-clothing that may be applied to and removed from a cylinder without injury to the same.

The fancy roll or card in carding-machines is for the purpose of raising the fiber on the cards of the main cylinder, so that the latter will be kept clear and the fiber easily removed therefrom by other rolls. This, however, has only been accomplished in a very limited degree by the fancy-roll heretofore, and it has been necessary to employ other rolls aside from the fancy for keeping the main cylinder clear, and even then it has been necessary to stop the machine once or twice each day and clear the cards on the main cylinder by hand. This process occupies considerable time, is laborious, and often injurious to the cards, unless it is done by one skilled in the operation, and causes great waste of material. By my invention all of these objections are largely if not entirely obviated, and my improved means are exceedingly simple and inexpensive.

My invention accomplishes the process of clearing so well that with stock which required the stoppage of the machine for cleaning at least twice each day it is only necessary to stop once in two or three weeks.

In the drawings hereto annexed and forming a part of this specification, Figure 1 is an

end view of the fancy-roll provided with my improved card-clothing, together with a portion of the main cylinder. Fig. 2 is a side view of the fancy-roll. Fig. 3 is an enlarged fragmentary view of the fancy-roller, showing an end view of one of my improved strips of card-clothing; and Fig. 4 is a rear side view of the strip removed from the roll.

Referring specifically to the drawings, A is the main cylinder of the machine, and F is the fancy-roll engaging with its teeth the teeth of the card on the main cylinder A.

Card-cloth or the material for holding and supporting the teeth has always been formed of leather or rubber or other flexible material that is yielding and expensive. Such flexible material has been used for containing the teeth because it would easily conform to the surface or periphery of the cylinders; but it is objectionable for the reason that after a time the leather or rubber gets soft from oil and constant working and allows the wire staples to work loose in the leather and finally make the holes so large that the strip has to be thrown away. When strips of leather or rubber are used, each strip is secured by two rows of tacks or nails at the edges of the strip, and these must be removed when new teeth are to be inserted in the strips. This soon ruins the roller, the tacks being only about three-fourths of an inch apart. When the strips are removed, the holes must be plugged with wood in order to have the tacks hold the strips to the cylinder when again applied. All this occupies much time and is obviated by my invention. I have found by experience that strips for holding the wire staples may be formed of wood, preferably hard wood—as, for instance, maple or cherry—and that the wire staples do not work loose in this material, but are held firmly and constantly. These strips of wood B are slightly curved by bending, or they are worked out by tools to conform to the curvature of the surface of the cylinder. The strips B are each secured, as shown in the drawings, longitudinally upon the surface of the cylinder, preferably equal distances apart, by a few screws *b b*, passing centrally through the strip and distributed along its length. Because of the small number of screws necessary to secure the strip in place it may be easily and quickly removed



when necessary and again applied without the necessity of plugging the holes previous to its application.

As above set forth, the strips B on the fancy-roll F, holding the wire staples *ff*, are separated from each other, four, six, or eight strips being usually sufficient. Each strip has two or three rows, preferably two rows, as shown, of straight teeth or wire staples of equal length, separated widely from each other. The screws *b* pass through the strips in the space between the rows of teeth.

The teeth *ff*, &c., are formed of wire staples extending through the strip of wood in an inclined direction, the holes in the strip for receiving the staples being drilled in an inclined direction for this purpose. The rows of staples are set in alternate or different zones, as shown in the drawings; but they may be set opposite each other. The connections *f'* between the legs of the staples are clearly shown in Fig. 4. These connections lie between the strip and the roller F.

It will be obvious that a greater number of rows of teeth or staples may be placed in a single strip, if desired, and, furthermore, the strips may be secured to the roller without spaces between them.

I do not wish to be limited to staples, as each tooth may be a separate straight tooth.

Having described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination of the fancy-roller, strips of wood extending longitudinally of the roller and secured to its periphery, and straight flexible wire teeth extending through the strips, as set forth.

2. The combination of the fancy-roller,

strips of wood extending longitudinally of the roller and secured to its periphery, and flexible wire staples extending through the strips and in an inclined direction and having their connections between the legs lying between the strips and the roller, as set forth.

3. The combination of the fancy-roller, strips of wood extending longitudinally of the roller and secured to its periphery, said strips being curved in cross-section, and flexible wire staples extending through the strips in parallel rows and having their connections between the legs lying between the strips and the roller, substantially as described and shown.

4. The combination of the fancy-roller, strips of wood extending longitudinally of the roller, separated from each other equal distances apart, said strips being curved in cross-section, and straight flexible wire staples extending through the strips in an inclined direction, and screws securing the strips to the periphery of the roller, the connections between the legs of the staples lying between the strips and the roller, substantially as described and shown.

5. In card-clothing for fancy-rollers, a strip of wood curved in cross-section, a series of holes extending longitudinally of the strip and passing through the same in an inclined direction, and flexible wire staples with straight legs extending through the strip, substantially as described and shown.

In testimony whereof I have hereunto signed my name.

JOHN H. CROWTHER. [L. S.]

Witnesses:

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