

(No Model.)

W. J. HOFFMAN.  
COUCH ROLL.

No. 533,356.

Patented Jan. 29, 1895.

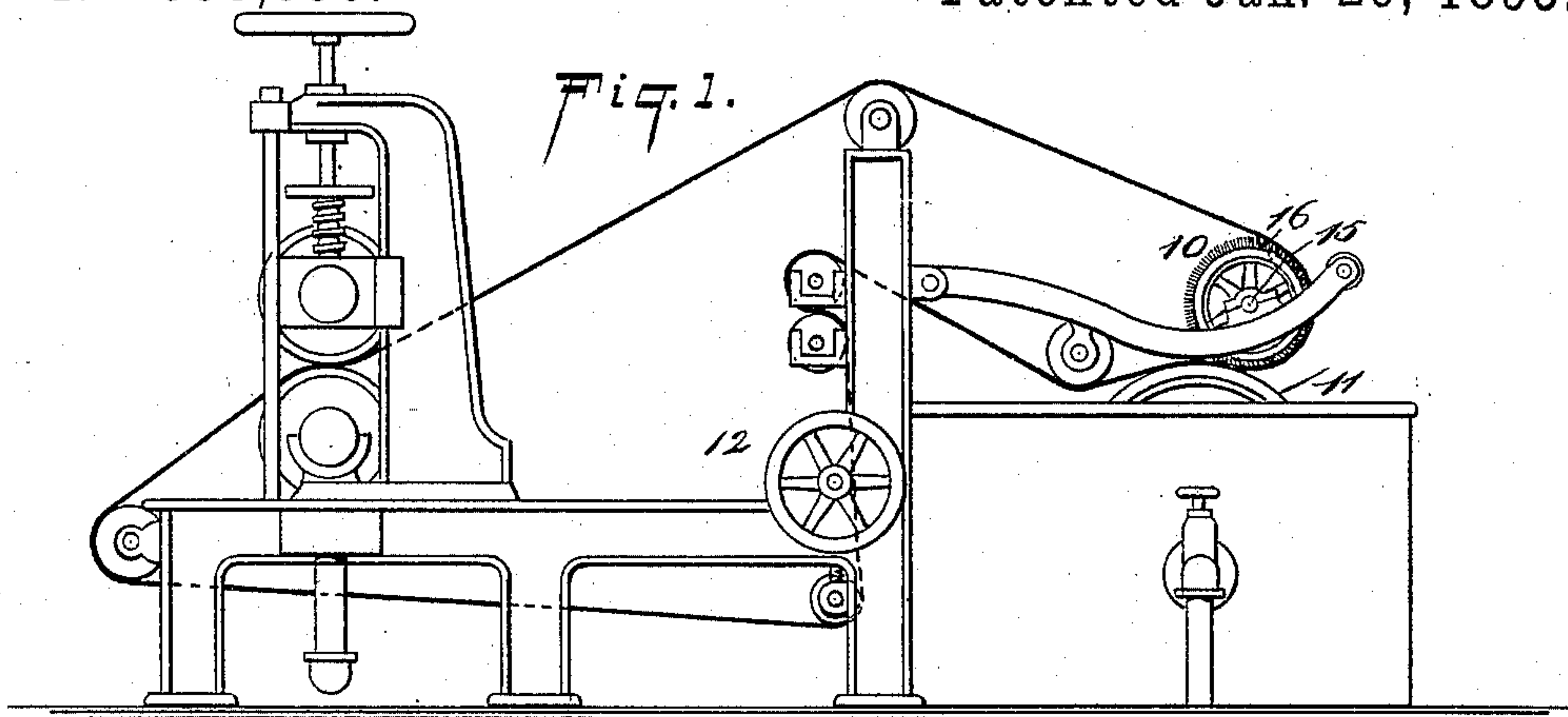


Fig. 2.

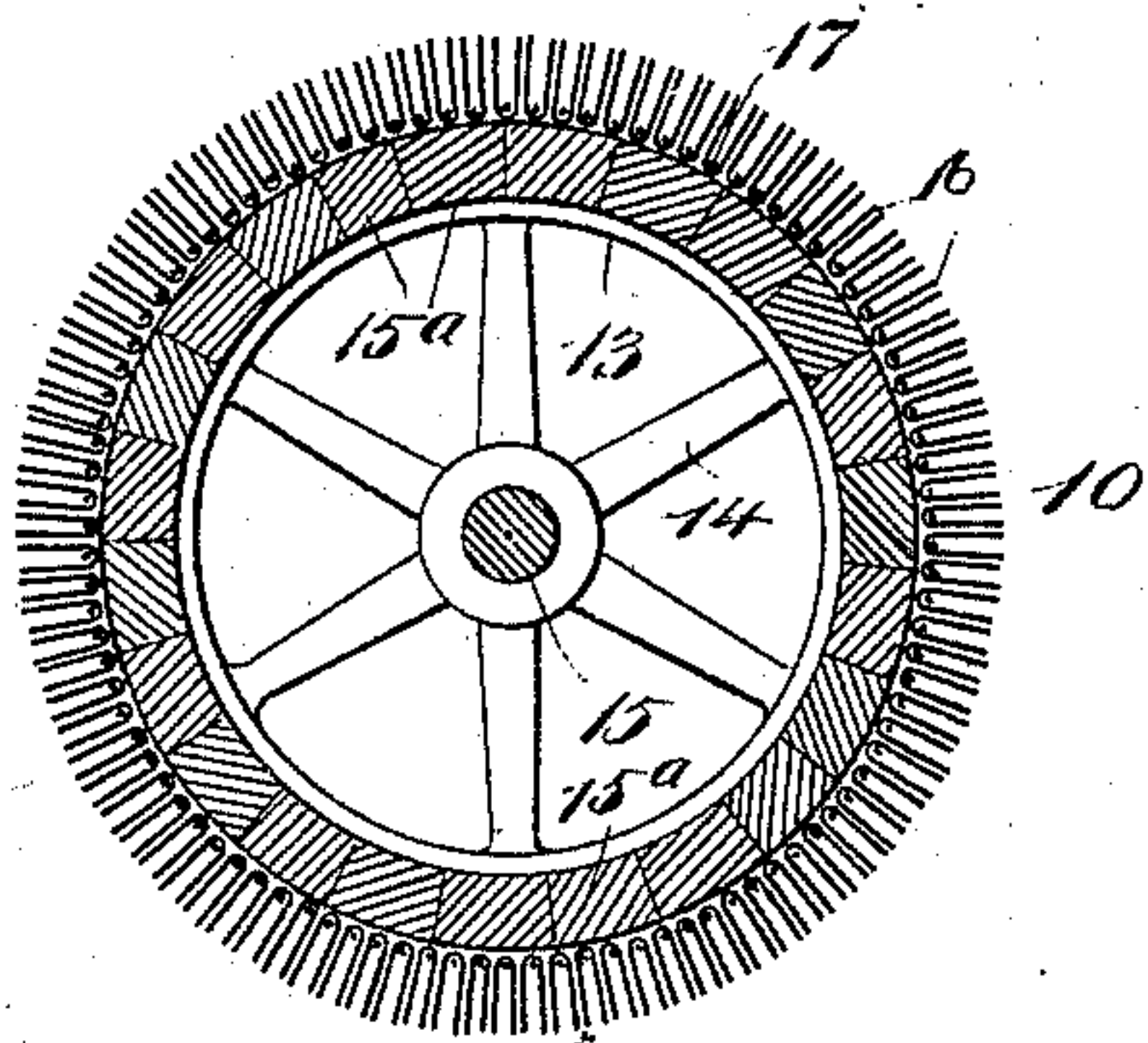


Fig. 3.

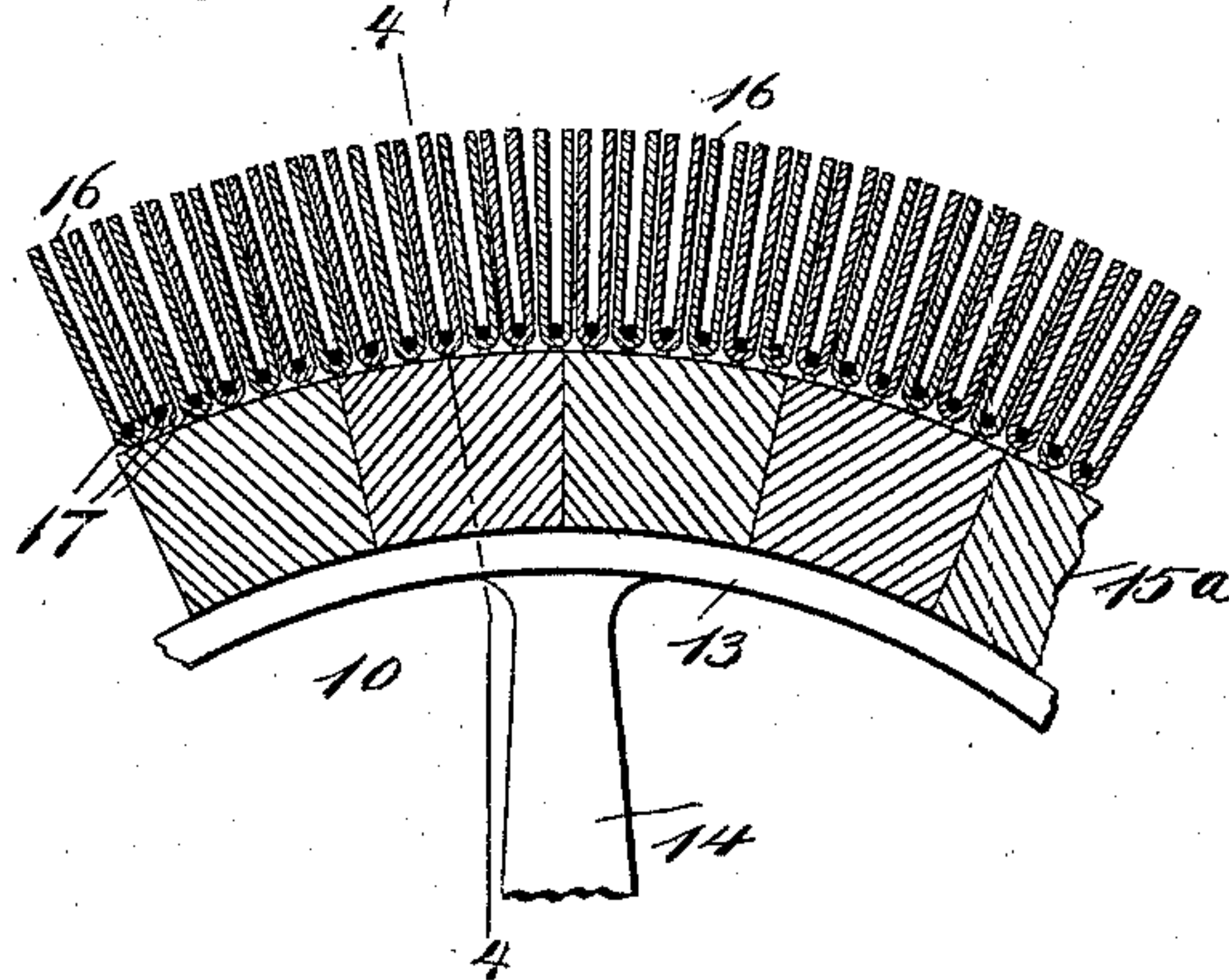


Fig. 5.

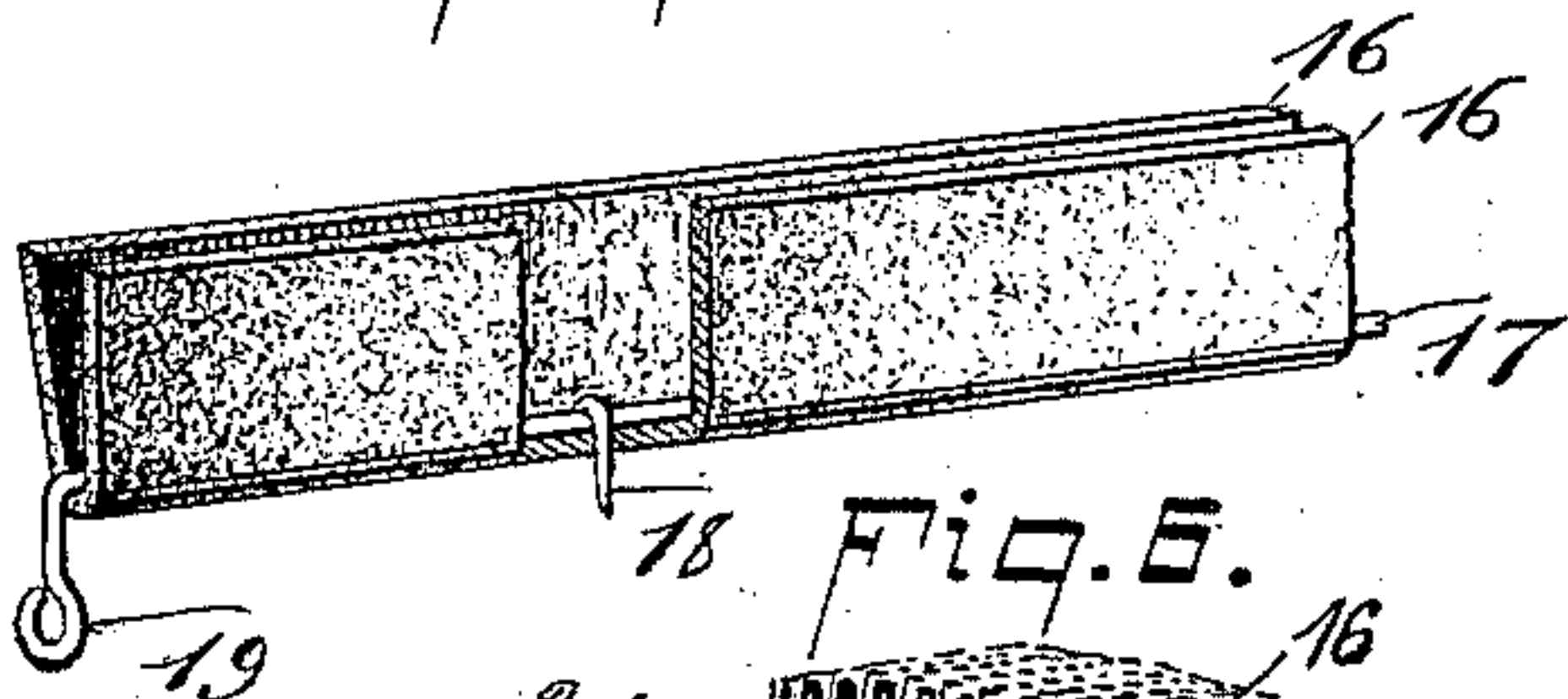


Fig. 6.

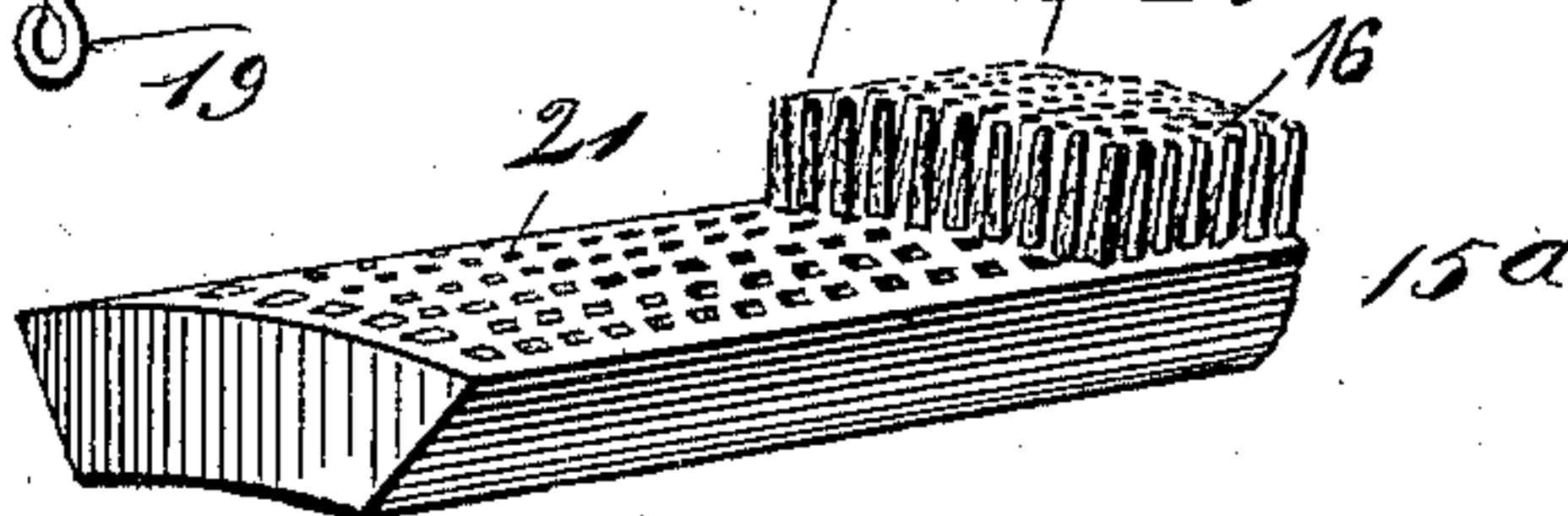
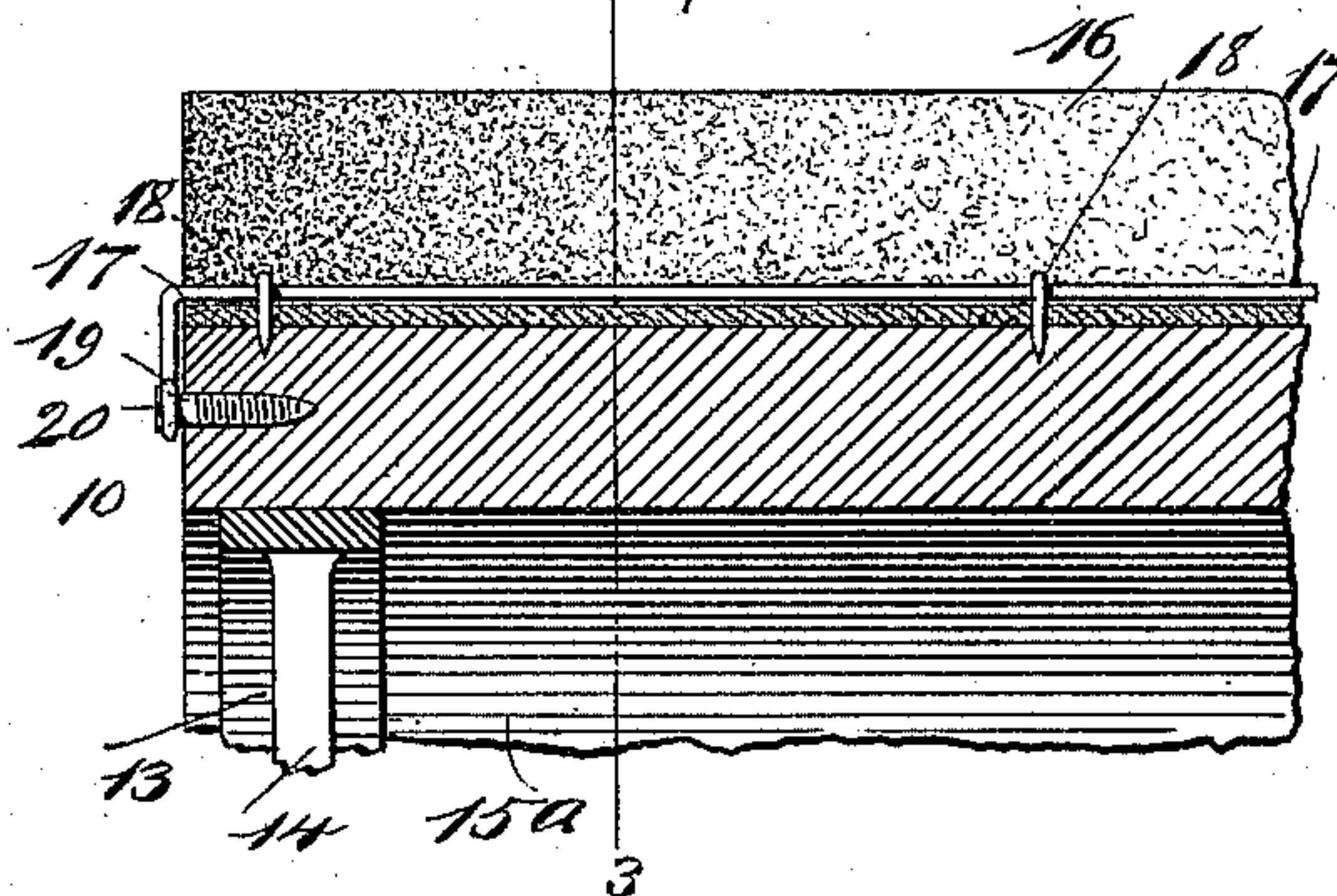


Fig. 4.



WITNESSES:

William Goebel.  
C. Sedgwick

INVENTOR

W. J. Hoffman  
BY Munn & Co.

ATTORNEYS.



# UNITED STATES PATENT OFFICE.

WILLIAM J. HOFFMAN, OF ANCRAM, NEW YORK.

## COUCH-ROLL.

SPECIFICATION forming part of Letters Patent No. 533,356, dated January 29, 1895.

Application filed December 27, 1893. Serial No. 494,887. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM J. HOFFMAN, of Ancram, in the county of Columbia and State of New York, have invented a new and Improved Couch Roll, of which the following is a full, clear, and exact description.

My invention relates to improvements in couch rolls such as are used on ordinary wet machines in making paper. These couch rolls are usually provided with a flat covering and this covering soon gets hard so that it does not have the proper drying effect on the paper which passes beneath it.

The object of my invention is to produce a very simple and efficient couch roll having a yielding spongy surface which cannot become hard, which may be easily applied to the body of the roll, and which may be cheaply and conveniently removed as it becomes badly worn.

To these ends my invention consists of certain features of construction and combinations of parts, which will be hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures of reference indicate corresponding parts in all the views.

Figure 1 is a side elevation of an ordinary wet machine provided with my improved couch roll. Fig. 2 is a cross section of the couch roll. Fig. 3 is an enlarged detail section on the line 3—3 of Fig. 4. Fig. 4 is a broken longitudinal section on the line 4—4 of Fig. 3. Fig. 5 is a broken detail perspective view, illustrating the means of fastening the flexible strips to the face of the roll; and Fig. 6 is a broken detail perspective view, showing a modified means of fastening the flexible strips in place.

The couch roll 10 is arranged in the customary manner to ride on the mold 11, which is arranged in the ordinary way on the wet machine 12.

The body of the couch roll is of substantially the usual kind, comprising a frame-work having the usual rims 13 and spokes 14, and the frame-work is carried by a shaft 15 in the ordinary way. The rims 13 are covered by the usual wooden slats 15<sup>a</sup> which

form the face of the roll, but any suitable material may be used for making this surface.

My improvement lies in the construction of the absorbent face of the roll, and this is made up of strips 16 of felt, or other suitable absorbent flexible material, these strips being placed preferably parallel with each other, and they are also preferably arranged longitudinally of the roll and are held in place by binding wires 17, each wire being placed in the middle of a strip, as shown clearly in Fig. 3, so that the two free edges of the strip may extend outward from the face of the roll, as shown in the same figure. The wires 17 are held in place by staples 18 and are also doubled over the ends of the roll and formed into eyes 19, which are fastened to the ends of the roll by screws 20 or equivalent fastenings. Instead of fastening the strips by the wires 17, as illustrated, the slats 15<sup>a</sup> may be perforated and the flexible strips doubled and plugged into the holes 21, in the same manner that bristles are fastened in a brush back, as clearly shown in Fig. 6. It will also be understood that the strips may be fastened to the roll in very many other ways and I therefore do not limit myself to any particular fastening device. When the roll is used, the strips act as a spongy surface, which, coming in contact with the wet paper, absorbs the moisture from the same, and the rotation of the roll shakes the strips loose so as to keep them in good workable order; and it will further be seen that the face of the roll cannot become matted and hard.

In operation the couch roll inside the felt, the latter being between the couch roll and the paper on the mold roll 11. The felt therefore prevents the couch roll from injuring the paper while the soft surface of the couch roll acts like a sponge to take the moisture from the felt.

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

1. The combination, with the couch roll, of the longitudinal flexible strips thereon, and the binding wires extending longitudinally of the strips and parallel to the axis of the

roll and fastened to the roll, substantially as described.

2. In an apparatus substantially as described a couch roll comprising the frame,  
5 the flexible strips doubled between their edges and devices securing the double portion of the strips to the frame, the outer edges of

said strips being left free, substantially as set forth.

WILLIAM J. HOFFMAN.

Witnesses:

WARREN B. HUTCHINSON,  
C. SEDGWICK.