

I. Jennings.
Paper Mach.

N^o 79,659. Patented Jul. 7, 1868.

Fig. 1.

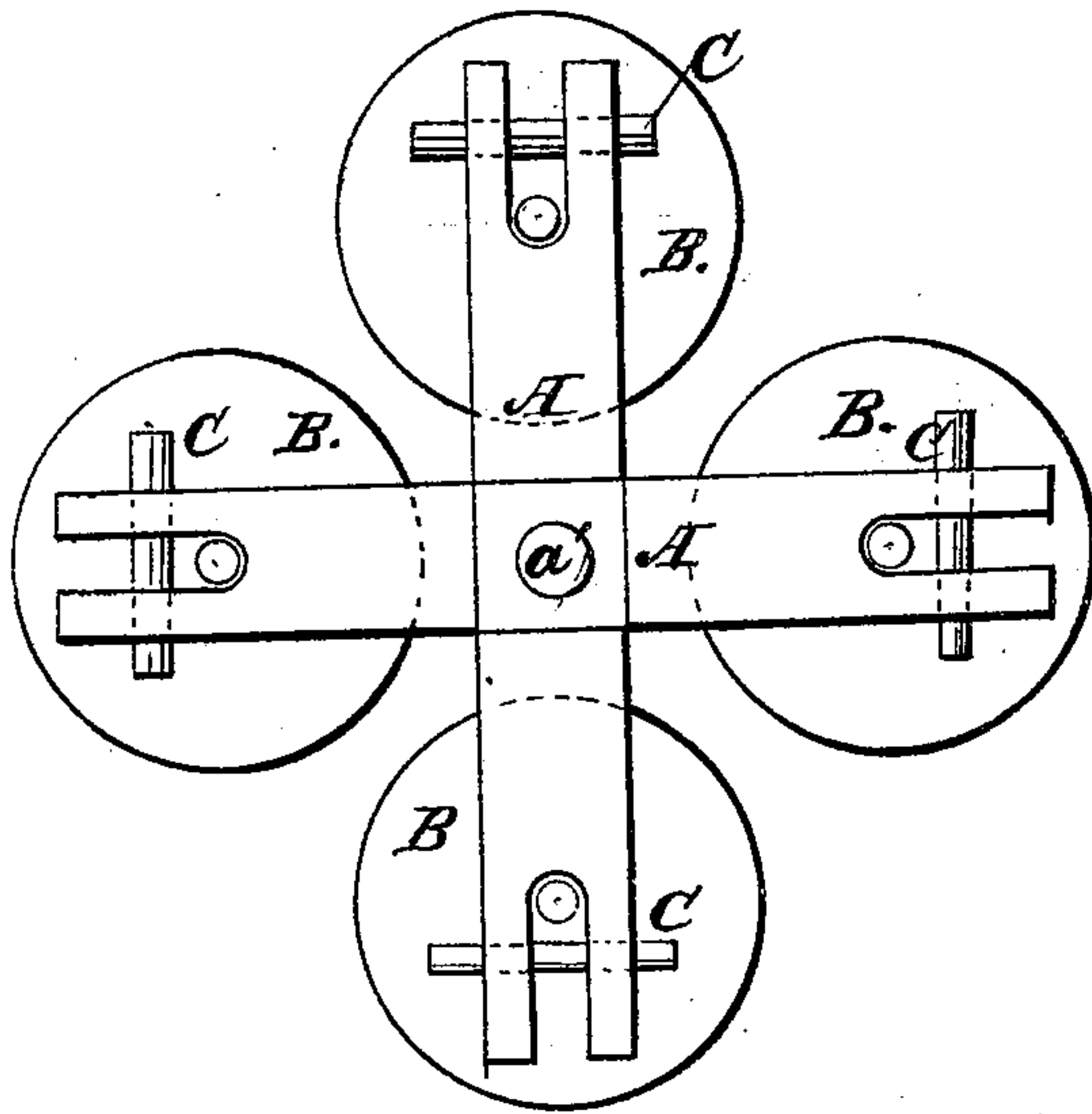


Fig. 2.

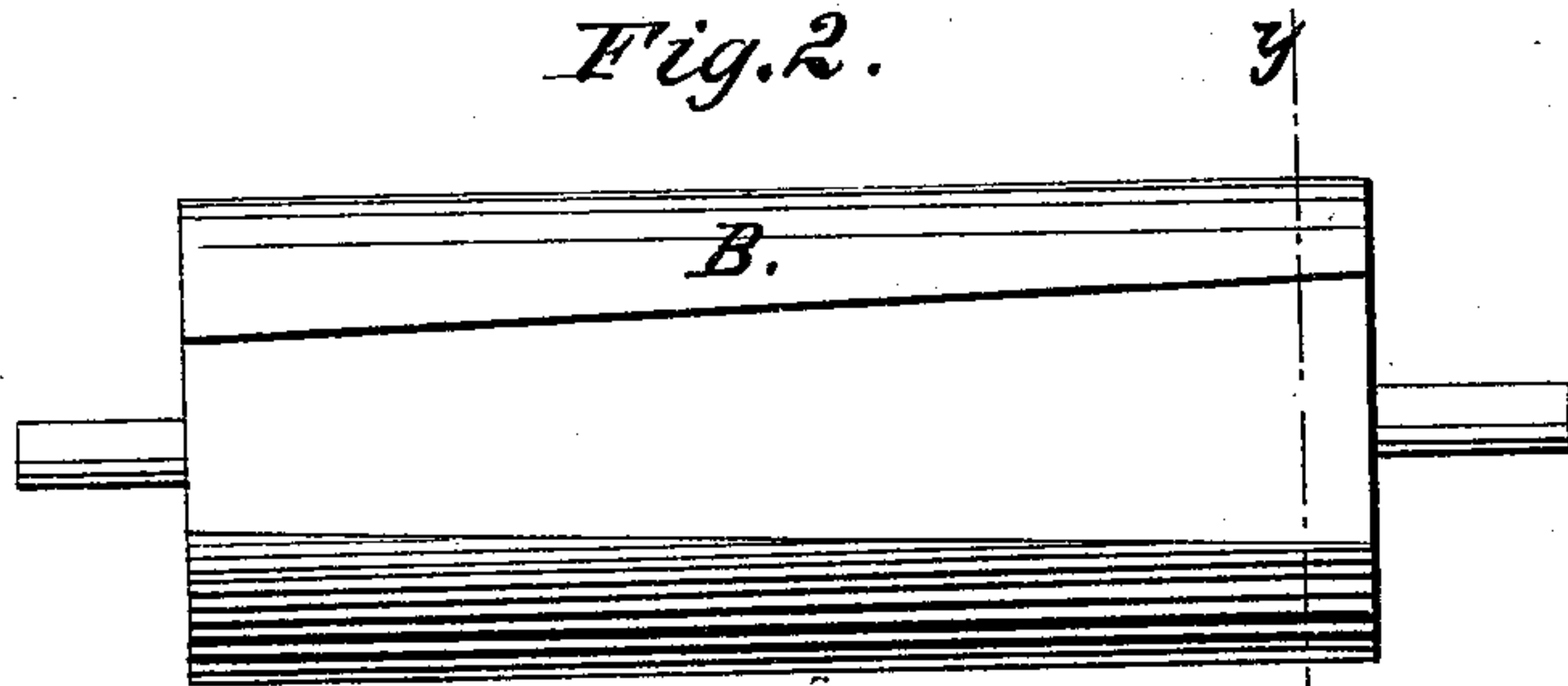


Fig. 3.

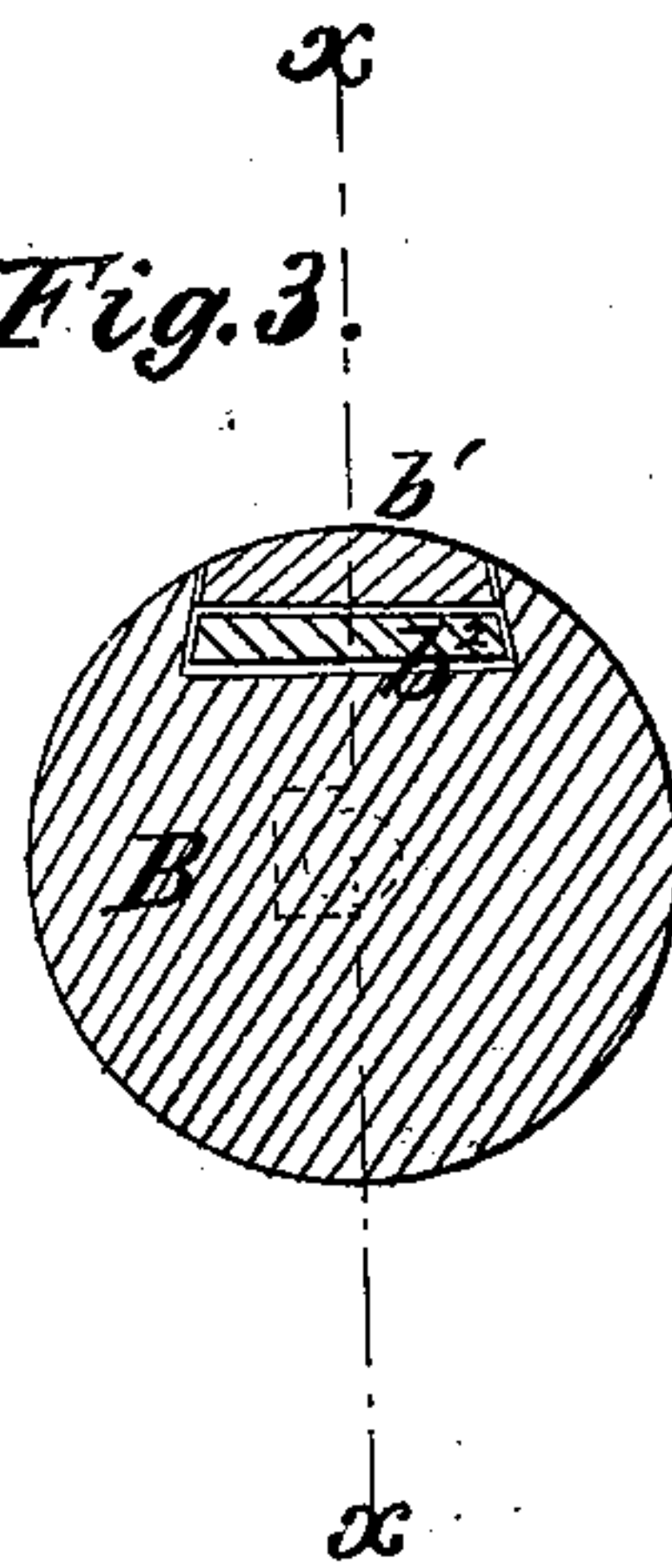
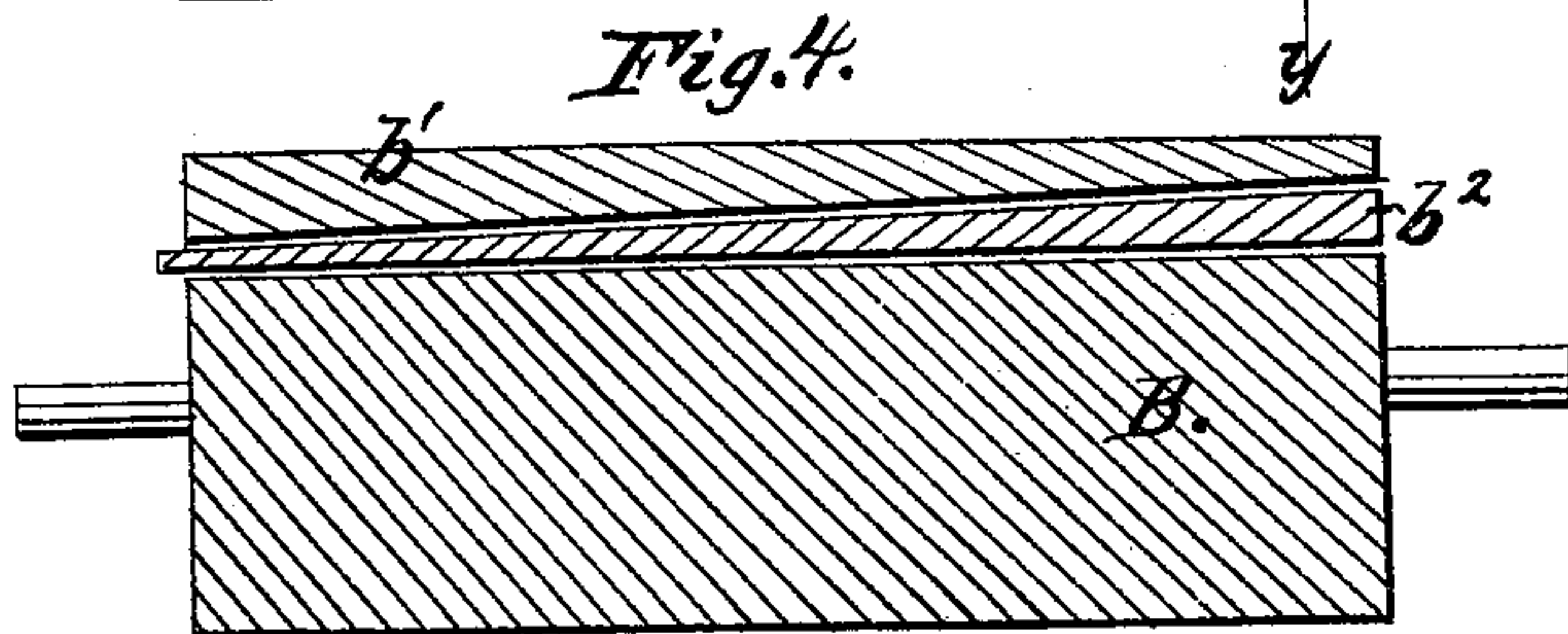


Fig. 4.



Witnesses.

W. C. Ashpottle
Wm. A. Morgan

Inventor.

Isaac Jennings
per Thos. J. Adams

United States Patent Office.

ISAAC JENNINGS, OF FAIRFIELD, CONNECTICUT

Letters Patent No. 79,659, dated July 7, 1868.

IMPROVEMENT IN PAPER-MAKING MACHINES.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, ISAAC JENNINGS, of Fairfield, in the county of Fairfield, and State of Connecticut, have invented a new and useful Improvement in Paper-Machines; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification.

Figure 1 is an end view of a system of rollers illustrating my improvement.

Figure 2 is a side view of one of the rollers detached.

Figure 3 is a cross-section of the same, taken through the line *y y*, fig. 2.

Figure 4 is a longitudinal section of the same, taken through the line *x x*, fig. 3.

Similar letters of reference indicate corresponding parts.

My invention has for its object to so improve the construction of ordinary paper-machines, that the paper may be removed from the rollers in the form of tubes, either straight or tapering, for the formation of the bodies of buckets, barrels, &c., or to form pipes or tubing.

And it consists in so forming the rollers that the paper tube when formed upon the rollers, may be removed therefrom without cutting or slitting the paper, as is necessary when the rollers are formed in the ordinary manner.

A is a frame, having four arms projecting at right angles from each other, as shown in fig. 1. The ends of the arms of the frame A are slotted to receive the journals of the rollers B, which said journals are kept in place by pins C passing through the said slotted ends of the said arms. *a'* are journals attached to the centres of the two frames A, and which revolve in suitable supports attached to the paper-machine. In the side of each of the rollers B is formed a deep dove-tailed tapering or wedge-shaped groove, which is filled with two wedge-shaped blocks *b¹ b²*. The outer block *b¹* is so formed that its outer side may conform to the form of the roller when both blocks are in place.

This system of rollers is designed to take the place of the single roller that receives the pulp upon the ordinary machine.

In using the rollers, the frames A stand in the position shown in fig. 1, the lower roller receiving the pulp. When the formation of the paper upon the lower roller is completed, the pins C, which confine its journals in the slotted arms of the frames A, are removed, and the said frames are revolved one-quarter around, bringing the next roller into position to receive the pulp. As the said frames A move forward in revolving, the journals of the roller upon which the paper has been formed pass out of the slots in the arms of the frames A, the said roller passing upon a narrow table or apron prepared to receive it.

The inner block or wedge *b²* is then removed, allowing the outer block or wedge *b¹* to drop into the bottom of the groove, from which it can then be readily removed. This diminishes the size of the roller so much that the hands or fingers of the operator may be placed in the groove of the roller, and passed around said roller, loosening the paper tube, so that it may be readily removed from the said roller. The blocks *b¹* and *b²* are arranged in place, the roller returned to its place in the slotted arms of the frames A, and the pins C replaced.

The next roller is then operated upon in the same manner, and so on continuously, the paper being formed upon one roller while the tube is being removed from the roller preceding it, so that there is no occasion for stopping the machine. The rollers B may be made straight or tapering, as may be desired, according to the particular purpose for which the paper tubing may be intended. The size of the roller may be diminished to facilitate the removal of the paper tubing in various ways, as for instance, by drawing inward towards its centre parts from different sides of said roller at the same time, by an arrangement of arms and levers, or in various other ways, but I prefer the manner first described, as being simple, easily operated, and not liable to get out of order.

I claim as new, and desire to secure by Letters Patent—

1. Diminishing the size of the roller after the paper has been formed in any convenient manner, so as to admit of the papers being removed without cutting, substantially as and for the purpose herein set forth and described.

2. The system of rollers B, constructed and arranged substantially as herein shown and described, when used in connection with the other parts of a paper-machine, in place of the ordinary single roller, as and for the purpose set forth.

The above specification of my invention signed by me, this 31st day of March, 1868.

ISAAC JENNINGS.

Witnesses:

ALEX. F. ROBERTS,

JAMES T. GRAHAM.