

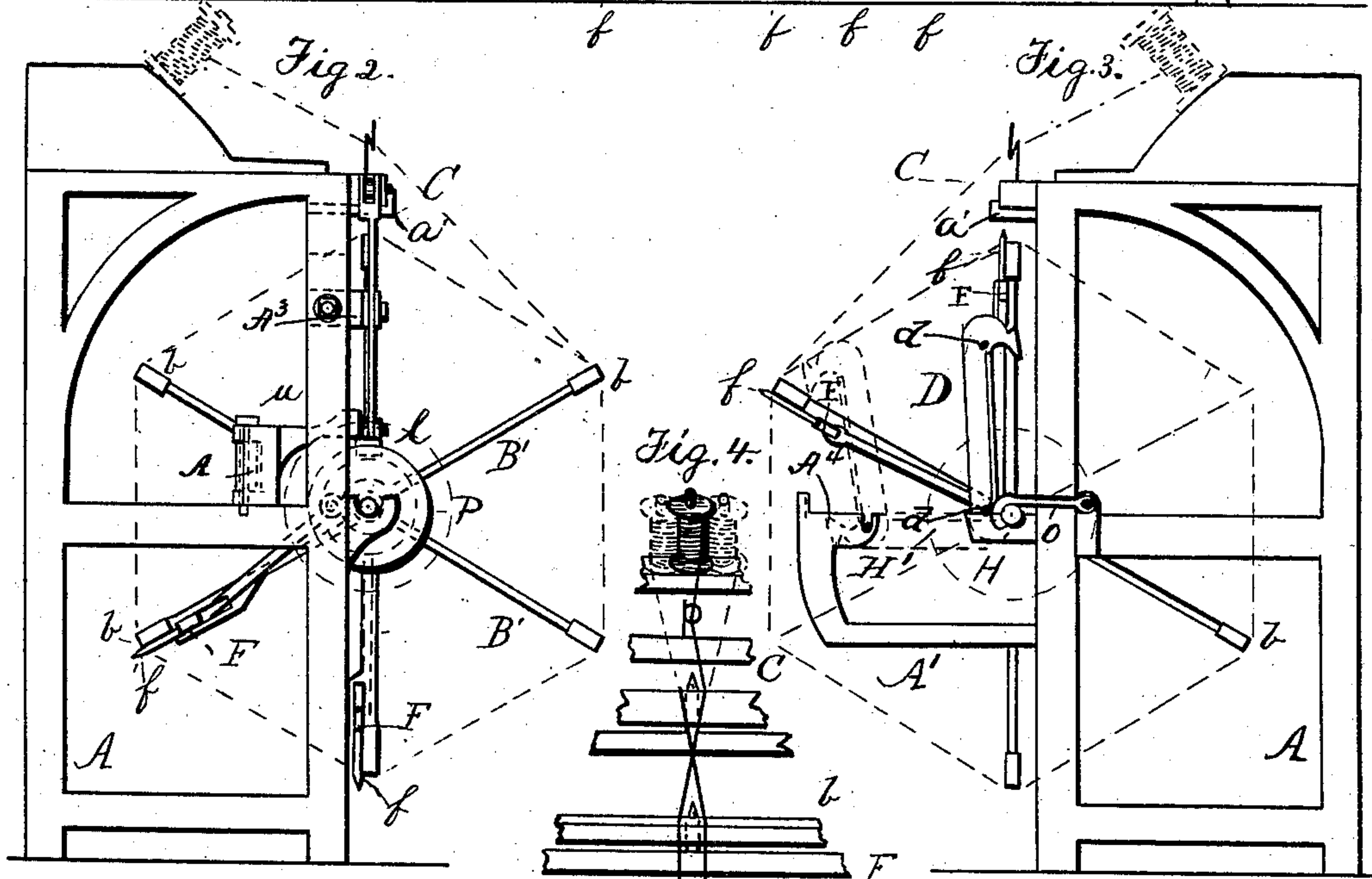
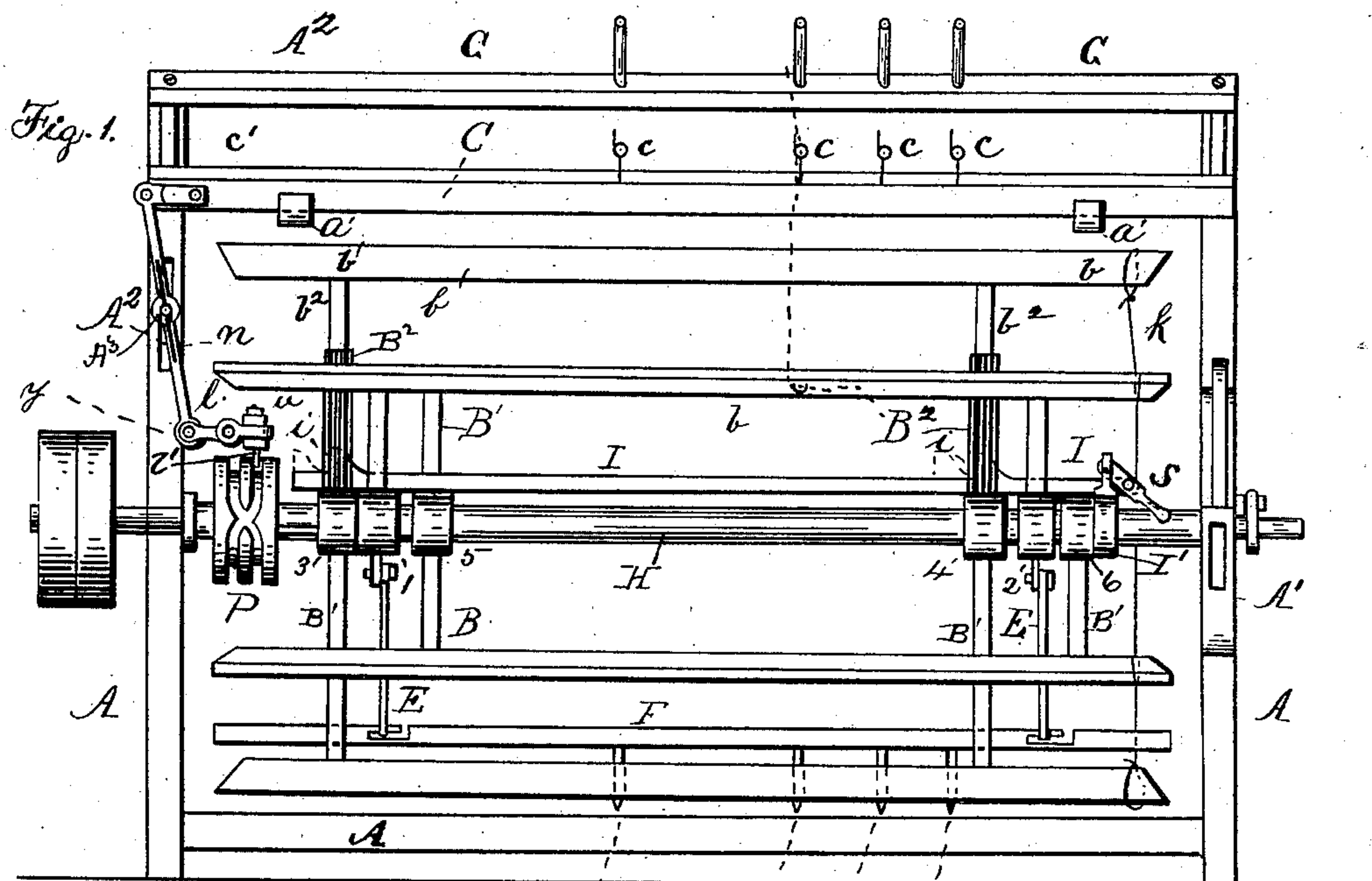
(No Model.)

2 Sheets—Sheet 1.

E. MASSON.  
REELING FRAME.

No. 378,933.

Patented Mar. 6, 1888.



WITNESSES:

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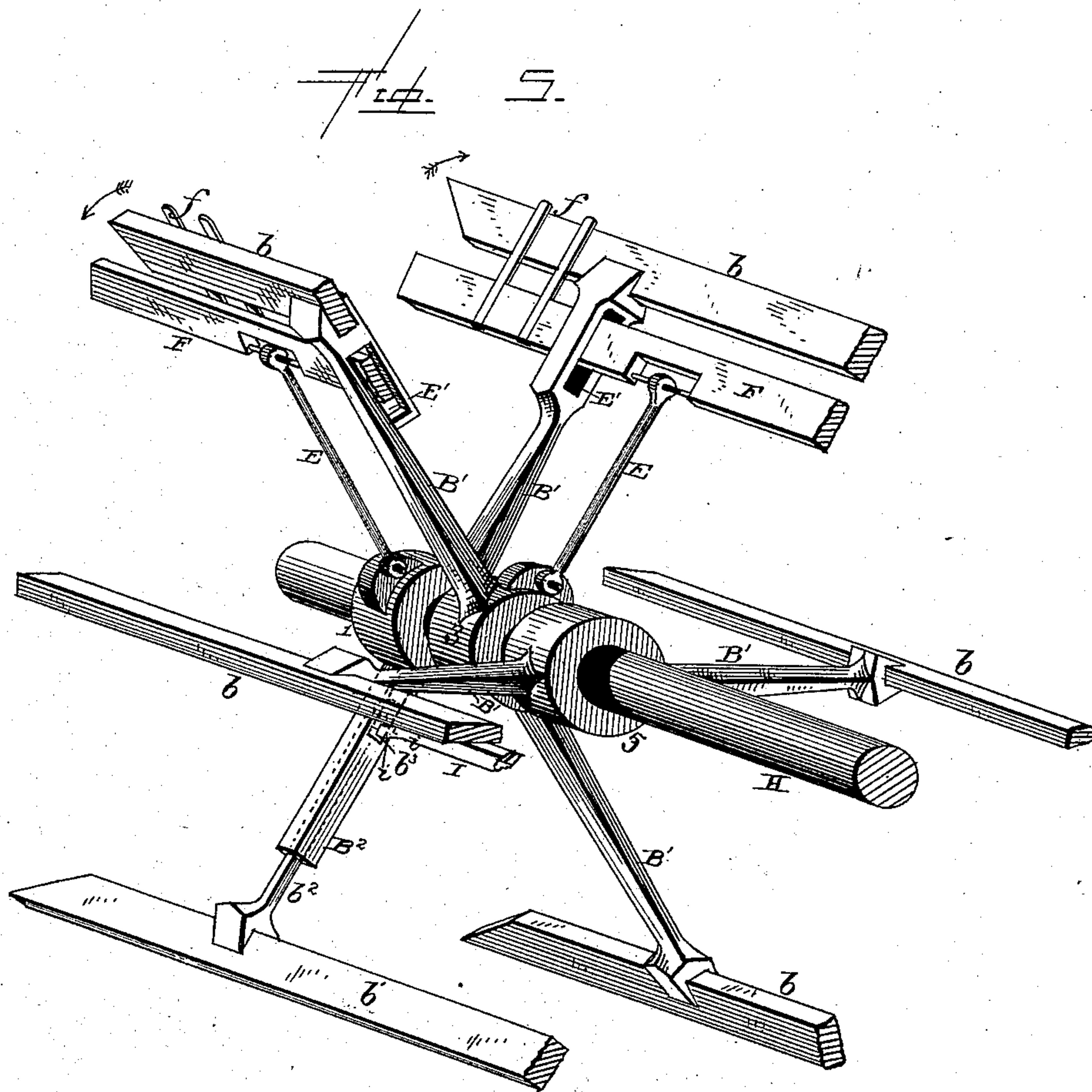
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2 Sheets—Sheet 2.

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Witnesses.

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# UNITED STATES PATENT OFFICE.

EUGÈNE MASSON, OF PHILADELPHIA, PENNSYLVANIA.

## REELING-FRAME.

SPECIFICATION forming part of Letters Patent No. 378,933, dated March 6, 1888.

Application filed September 3, 1884. Renewed July 23, 1887. Serial No. 245,075. (No model.)

*To all whom it may concern:*

Be it known that I, EUGÈNE MASSON, a citizen of France, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Reeling-Frames, of which the following is a specification.

My invention relates to an improved reeling-frame; and it consists in the arrangement and combination of parts, which will be more fully described hereinafter, and pointed out in the claims.

Figure 1 represents a front elevation of the reeling-machine. Figs. 2 and 3 are views taken from opposite ends. Fig. 4 is a partial front view of the reel, guide-bar, and spool-frame, showing the position the yarn or wire assumes during the operation of reeling. Fig. 5 is an enlarged perspective of the reel, showing one end only.

A represents the frame, in which is journaled the shaft H, and upon which shaft is secured the reel-frame B. This shaft H carries near each end radial arms B', connected by longitudinal strips b, which project beyond the arms. Projecting oppositely to one pair of the arms B' and in the same plane are the socket-arms B<sup>2</sup>, slotted transversely in the direction of the length of the shaft, as shown at b<sup>3</sup>, Fig. 5. Within the sockets fit snugly the arms b<sup>2</sup>, carrying the strip b'. A strip, I, extends parallel with the shaft H, and has its ends extended through the slots b<sup>3</sup> in the socket-arms B<sup>2</sup>. This strip is provided with inclined or slanting shoulders i, which normally engage under the arms b<sup>2</sup> and hold them extended in the socket-arms. When the lever S, connected pivotally to one end of the strip I and fulcrumed to a fixed collar, I', on the shaft, is moved, the strip I travels sufficiently to carry the shoulders i from under the arms b<sup>2</sup>, and thus allows them to approach the bottoms of the socket-arms. After yarn or wire is wound on the reel, the inward movement of the arms b<sup>2</sup> and strip b' carried thereby loosens the same and permits of its easy removal.

One or more of the arms B' are slotted near their outer ends, as shown at E', and in the slots rest strips F, parallel to the strips b and carrying pins f. The arms B' do not all radiate from the same collars; but those arms hav-

ing the slots E' project from the collars 3 4 and 1 2, which are loose on the shaft. To said collars are pivoted the rods E, which are connected at their outer ends to the strips F, as shown in Fig. 5. The strip F, supported in the slots of the arms B', secured to the movable collars 3 4, has connected with it the rods E, which are pivoted to the other movable collars 1 2, and the strip F, supported in the slots of the arms which are secured to the collars 1 2, has connected therewith the rods E, which are connected with the collars 3 4. By this arrangement the strips F are caused to move in and out in the slots E' when the two pairs of collars and their arms B' are turned upon the shaft in opposite directions. Additional collars 5 6 may be placed upon the shaft H, to support some of the arms B', as shown in Fig. 1, where additional strips are needed. The number of collars on the shaft or the number of arms on each collar is immaterial.

By connecting the strips b on the stationary arms to those strips on the arms connected to the loose collars, by means of the cord k, the strips may be kept equidistant from each other when the reel is expanded. When the reel is to be closed, the cord is removed, and then the arms attached to the loose collars can be moved around toward those arms secured to the fixed collars.

Upon the top of the frame is secured the spool-rack G, and below the rack, on the front edge of the frame, is placed the longitudinally-moving guide-bar C on the supports a', and to this bar C are secured the loops c.

One of the uprights of the frame A is slotted, as shown at A<sup>2</sup>, and in the slot A<sup>2</sup> is adjustably secured the block A<sup>3</sup>, which forms a pivotal bearing for the slotted lever n, the said slot in the lever allowing an adjustment as to the length of travel thereof. One end of the lever n connects to the guide-bar C, and by means of a link, b, the other end connects to a finger or traveler, l', which engages in a grooved cam, P, on the shaft H. As the reel revolves, the guide-bar is actuated by means of the cam-lever and connections to carry the yarn or wire alternately to one side and the other of the pins f, thus keeping the strands or threads separated and preventing them from tangling, and also allowing the yarn or wire to be re-



moved after a suitable quantity has been wound.

By moving the strip I so as to allow the arms  $b^2$  to drop to the bottom of their sockets the supports for the reeled yarn or wire loosen or relieve the tension on the same. Then by removing the cord  $k$  the loose collars and arms connected thereto can be turned on the shaft, so as to bring the movable and stationary arms together; and then by the turning of the movable arms in opposite directions, as indicated by arrows in Fig. 5, the rods E are made to draw the strips F and points  $f$  inward, so that the points  $f$  do not project beyond the edge of the strip  $b$ , when all impediment to the removal of the yarn or wire from the reel is removed.

In Fig. 3 is shown an extended bearing, A', secured to the frame. This bearing has a short part, A<sup>4</sup>, on the same level, but at a short distance from the bearing for the reel-shaft. Adapted to extend across this opening and supported at each end is a piece, D, which is provided at each end with a hook. When it is desired to remove the reeled yarn or wire, the arms  $b^2$  are moved inward, the cord  $k$  removed, and the reel collapsed. One portion of the skein or hank is then passed through the opening H', between the bearings, and also over the free end of the piece D, which is in the position shown in full lines in Fig. 3. The piece D is then laid in the horizontal position shown in dotted lines, the trunnions  $d$  on the said piece resting in suitable bearings in the shaft-bearing and the part A<sup>4</sup>. The hook  $o$ , which normally retains the shaft H in place, having previously been removed, one of the hooked ends of the piece D will engage with the shaft H and carry it from its bearings till it rests on said piece D. It may then be carried to the other end of said piece D, and the latter tilted on its trunnions until it assumes the vertical position shown in dotted lines in Fig. 3. The portion of the skein that rested between the shaft and the frame A may then be removed through the opening between the bearings, and the shaft returned to its place.

The crossing of the yarn at each revolution of the reel divides the skein into two parts, and a cord passed around the same at the crossing makes the same permanent. The crossing of the yarn also prevents puckering and tangling, caused by the different twists of the yarn.

Having thus described my invention, I claim—

1. A reel having radial arms B', carrying longitudinal strips  $b$ , socket-arms B<sup>2</sup>, with lateral slots, arms resting in said sockets and carrying a lateral strip, and a longitudinally-movable strip, I, having inclined shoulders passing through said slots, in combination with the main shaft on which the arms are supported, substantially as described.

2. A reel consisting of a shaft, radial arms, and longitudinal strips carried by said arms, collars on the shaft, rods pivoted to said collars, strips F, parallel to the longitudinal strips and connected to said rods, and passing through slots E' in said radial arms, and pins  $f$ , projecting from said strips F, substantially as set forth.

3. The combination of the main shaft, radial arms B', strips  $b$ , connected to the arms, socket-arms B<sup>2</sup>, provided with slots, arms  $b^2$ , resting in said sockets, and strip  $b'$ , a shouldered strip, I, passing through said slots, rods, collars on the main shaft, rods E, strips F, passing through slots in the radial arms, and pins projecting from said strips, substantially as specified.

4. The combination of the frame provided with bearings for the main shaft, an extended bearing, with a part on a level with and a short distance from the bearing for the reel-shaft, the reel, and a piece with hooked ends, and trunnions near said ends, the whole operating substantially as and for the purpose set forth.

In testimony whereof I affix my signature in presence of two witnesses.

EUGÈNE MASSON.

Witnesses:

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JAS. H. STEVENSON.