

No. 859,492.

PATENTED JULY 9, 1907.

O. C. FORSBERG.
SUPPORT FOR PAPER ROLLS.
APPLICATION FILED APR. 6, 1907.

Fig. 1.

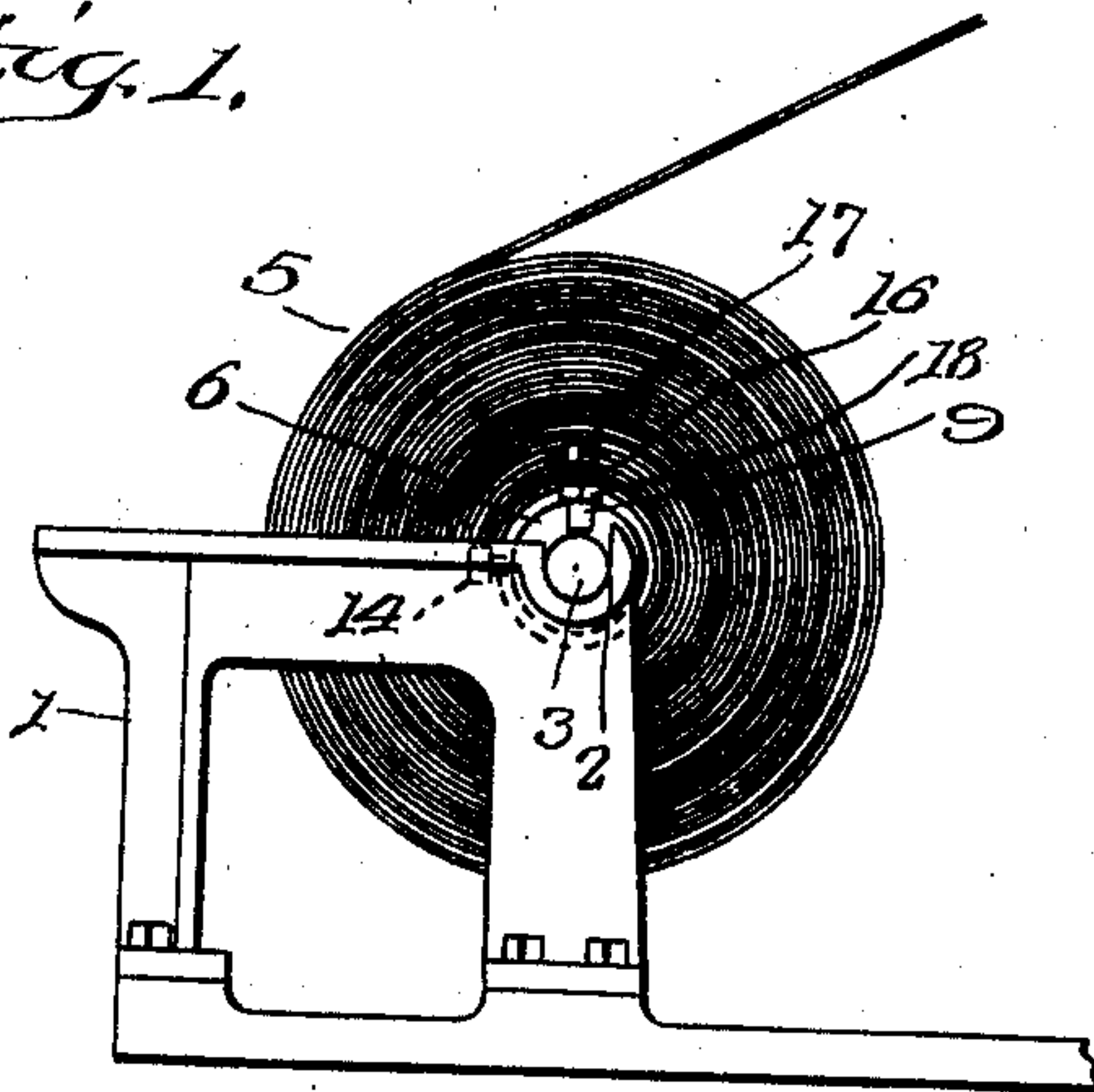


Fig. 2.

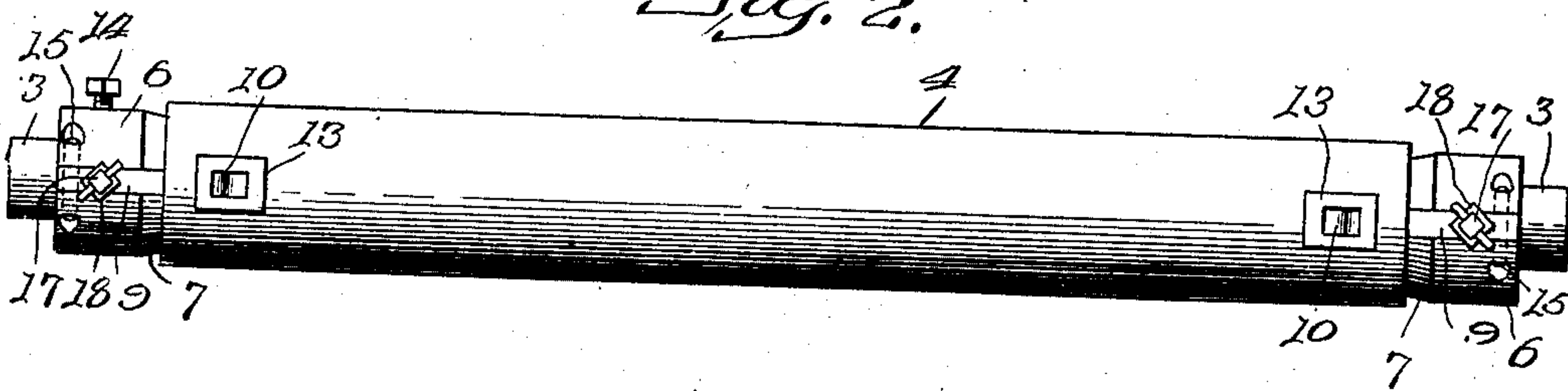


Fig. 3.

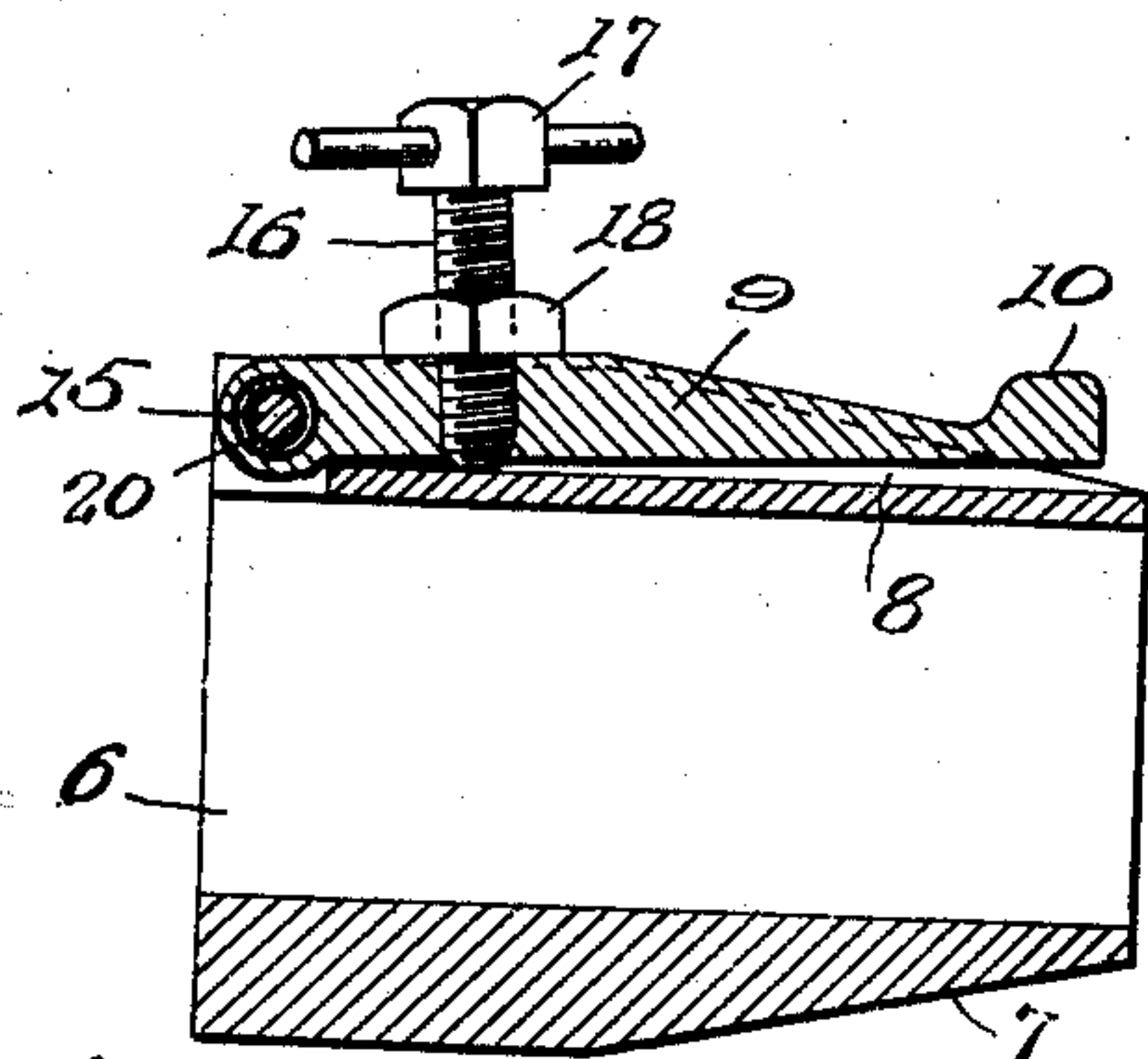
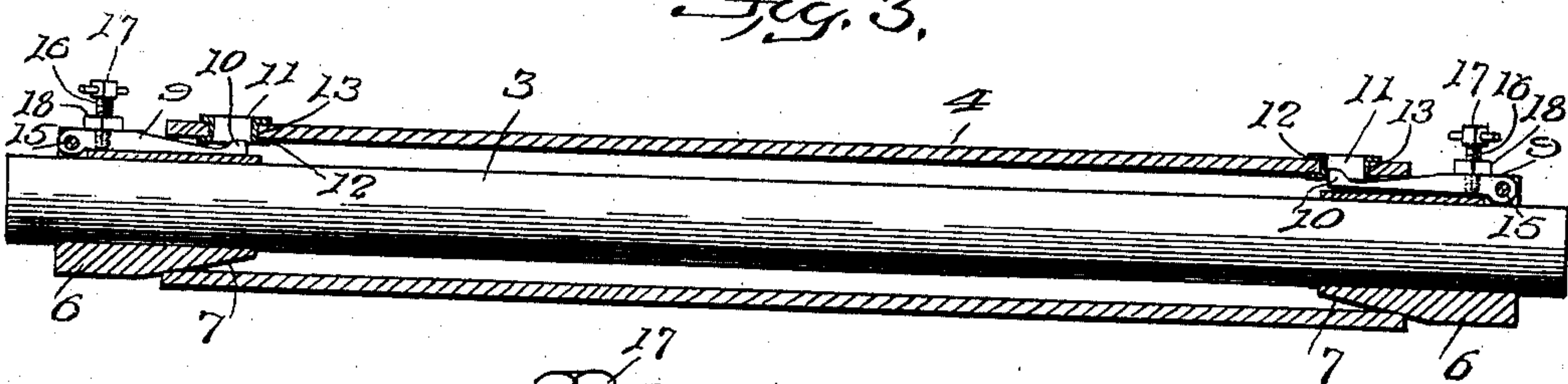


Fig. 4.

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SUPPORT FOR PAPER-ROLLS.

No. 859,492.

Specification of Letters Patent.

Patented July 9, 1907.

Application filed April 6, 1907. Serial No. 366,702.

To all whom it may concern:

Be it known that I, OSCAR C. FORSBERG, a citizen of the United States, residing at Springfield, in the county of Clark and State of Ohio, have invented certain new and useful Improvements in Supports for Paper-Rolls, of which the following is a specification, reference being had therein to the accompanying drawings.

The present invention relates to supports for paper rolls, and more particularly to that class of supports employed in supporting a roll of paper in proper alinement with a rotary printing press or other machine employing a web of paper or other fabric.

Paper rolls of the character employed with such machines are usually wound upon hollow cores which are provided at their ends with recesses or slots adapted to receive a projection carried by a support or conical collar which is secured to the shaft upon which the roll is mounted. These cores are rewound and used again and again, and, consequently, are subject to much handling as a result of which the recesses in the ends become battered and afford a less secure holding edge for the projection. This is particularly true in the case of cores formed of paper board, as in these cores the edges of the recess become softened and broken to such an extent that the projection on the support tears the paper away and escapes from the recess, affording a very unsatisfactory support and causing much annoyance in the operation of the machine.

The object of the present invention is to provide a support of this character which will enable the recess to be placed at a distance from the end of the core where it will be subjected to but little wear and in which position it can be easily reinforced or its edges provided with binding strips; and further, to provide the support with a movable projection which can be easily moved into and out of engagement with said recess to permit the insertion and removal of the support from the core.

With these objects in view my invention consists in certain novel features of construction and in certain parts and combinations to be hereinafter described, and then more particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a side elevation of a supporting frame forming part of a rotary press, showing the paper roll mounted therein and provided with the improved support; Fig. 2 is a top plan view of the hollow core, showing the supports in position therein; Fig. 3 is a longitudinal, sectional view taken centrally through Fig. 2; and Fig. 4 is a sectional detail view of the support.

In these drawings, I have illustrated the preferred form of my invention and have shown the same, in Fig. 1, as mounted in a supporting frame of ordinary construction, but, obviously, this supporting frame forms

no part of the present invention and the supports and the roll to which they are attached may be mounted in any suitable manner. As here shown, the supporting frame consists of the frame 1 provided at each end with a suitable bearing 2, in which is journaled one end of a shaft 3 adapted to extend through a tubular core 4 and support the paper roll 5 in proper alinement with the machine or press to which it is to be fed. Rigidly secured to one end of the shaft 3 is a support or collar 6, preferably having its inner end tapered, as shown at 7, to facilitate the insertion thereof into the end of the hollow core 4. This support is provided in its outer surface with a longitudinal groove 8, preferably extending for substantially the full length of the support or collar and adapted to receive a bar 9 which is movably mounted therein and is provided at its inner end with a stop or projection 10 adapted to be moved into engagement with the recess 11 formed in the core 4 at a distance from the end thereof.

The bar 9 may be mounted in the groove 8 in any suitable manner, but I prefer to pivot the same therein, and, as here shown, the bar is pivotally mounted on a pin 15 at the rear end of the groove and is provided with suitable means, such as a screw 16 having a thumb nut 17, for moving the same about its pivot. A suitable stop or nut 18 is provided to limit the movement of the nut and bar. That portion of the bar adjacent to the projection 10 is preferably recessed or cut away to conform to the outer surface of the support or conical collar, and, when the bar is resting on the bottom of the groove 8, the only portion thereof extending above the surface of the support is the stop or projection 10. The groove 8 is of such a depth that the side walls thereof will engage the sides of the bar 9 at all times, thus reinforcing and bracing the same against any lateral strain which may be imposed thereon when the stop is in engagement with the recess in the core.

The recess 11 may be of any suitable character, but is preferably in the form of an elongated aperture formed in the wall of the hollow core and having its greatest length extending longitudinally of the stop or projection 10 and its width equal to substantially the width of said lug or projection. If desired, this recess may be reinforced or strengthened by means of a suitable plate 12 secured about the edges thereof on the interior of the core and having upwardly extending flanges 13 passing through the recess 11 and clenched on the outer surface thereof, thus forming a binding strip or eyelet extending through the aperture and engaging both the interior and exterior edges thereof. A second support, similar in all respects to the support 6, which is fixed to one end of the shaft, is loosely mounted on the opposite end of the shaft and is adapted to be placed thereon after the shaft has been inserted in the

hollow core and to be adjusted to support the core and the roll in proper alinement with the machine. This support is provided with suitable means, such as a set screw 14, for securing the same in its adjusted position.

5 In Fig. 4 a spring 20 is shown coiled about the pin 15 to positively return the bar 9 to its normal position.

The operation of the device will be readily understood from the foregoing description. The shaft 3, having a support 6 permanently secured to one end thereof, is inserted in the hollow core and rotated until the projection 10 of the support 6 is brought into alinement with the recess 11 in the hollow core, the position of this recess being indicated by suitable marks or indications on the end of the core. The screw is then operated to move the bar 9 about its pivot and bring the projection 10 into engagement with said recess, thereby locking the core against movement relatively to the support. The other support 6, which is loosely mounted upon the opposite end of the shaft 3, is similarly connected to the core and then locked in its adjusted position by means of the set screw 14. Thus, it will be seen that the core, and, consequently, the paper which is wound thereon, is held against movement relatively to the shaft and caused to rotate therewith. It will be further apparent that by this construction of the support or conical collar I am enabled to have the locking recess in the hollow core at a distance from the end thereof, in which position it is subjected to a small amount of wear, and the edges are not liable to become broken or weakened; and further, that I have provided a movable projection for engaging this recess which can be adjusted to engage the entire thickness of the core, thus bearing upon the entire thickness thereof and not upon a portion of that thickness, as is the case where the projection is fixed, as the size of this projection must be limited to the thickness of the thinnest core used.

I wish it to be understood that I do not desire to be limited to the exact details of construction shown and described, for obvious modifications will occur to a person skilled in the art.

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

45 1. In a device of the character described, the combina-

tion, with a hollow core having a locking recess therein, at a point removed from the end thereof of a support adapted to enter said hollow core, a stop movably mounted on said support, and means for moving said stop into engagement with said recess. 50

2. In a device of the character described, the combination, with a hollow core having a locking recess therein, at a point removed from the end thereof of a support adapted to enter said hollow core, a stop pivotally mounted on said support, and means for moving said stop into engagement with said recess. 55

3. In a device of the character described, the combination, with a hollow core having a locking recess therein, at a point removed from the end thereof of a support adapted to enter said hollow core and having a groove extending longitudinally thereof, a bar pivotally mounted in said groove, and a stop carried by the inner end of said bar, and means for rocking said bar about its pivot to move said stop into engagement with said recess. 60

4. In a device of the character described, the combination, with a hollow core having a locking recess therein, of a support adapted to enter said hollow core and having a groove extending longitudinally thereof, a bar mounted in said groove and pivotally connected at its outer end to said support, a stop carried by said bar near its inner end, and a screw extending through said bar intermediate said stop and said pivotal connection and adapted to engage the bottom of said groove. 65 70

5. In a device of the character described, the combination, with a hollow core having an elongated locking recess formed therein at a distance from the end thereof, of a support adapted to enter said hollow core, a stop movably mounted on said support, and means for moving said stop into engagement with said recess. 75

6. In a device of the character described, the combination, with a hollow core having a locking recess therein, of a support having its inner end tapered and adapted to enter the hollow core and having a groove extending longitudinally thereof, a bar pivotally mounted in said groove and tapered to conform to the outer surface of said support, a projection on the inner end of said bar, and means for rocking said bar about its pivotal center to move said projection into engagement with said recess. 80 85

7. In a device of the character described, the combination, with a hollow core having a locking recess therein at a distance from the end thereof, of a support adapted to enter said hollow core, a bar having its outer end pivotally connected to said support, a stop on the inner end of said bar adapted to engage said recess, and means for locking said stop in engagement with said recess. 90 95

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

OSCAR C. FORSBERG.

Witnesses:

A. C. LINK,

HARRIET L. HAMMAKER.