

H. T. ROBBINS.

Drawing Rolls.

No. 143,256.

Patented September 30, 1873.

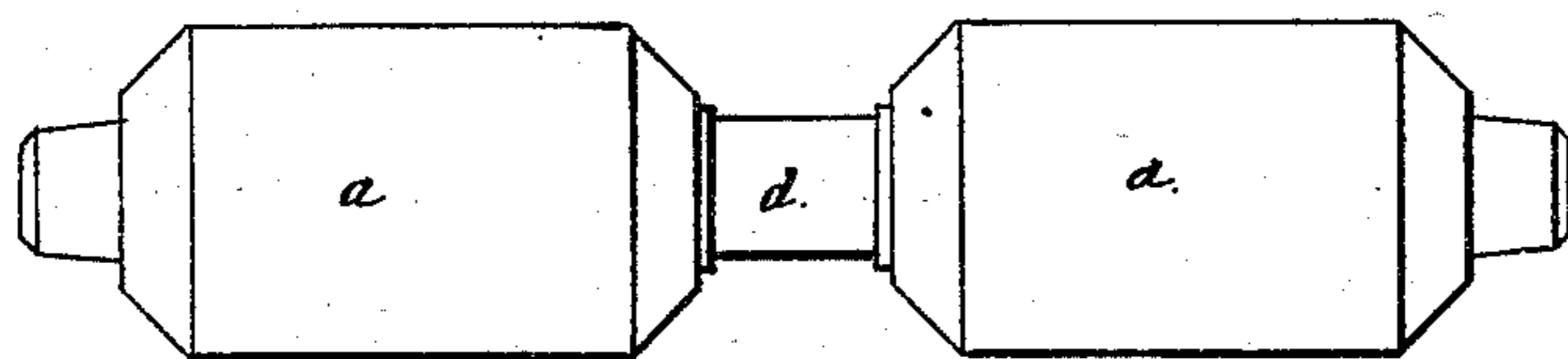


Fig. 1

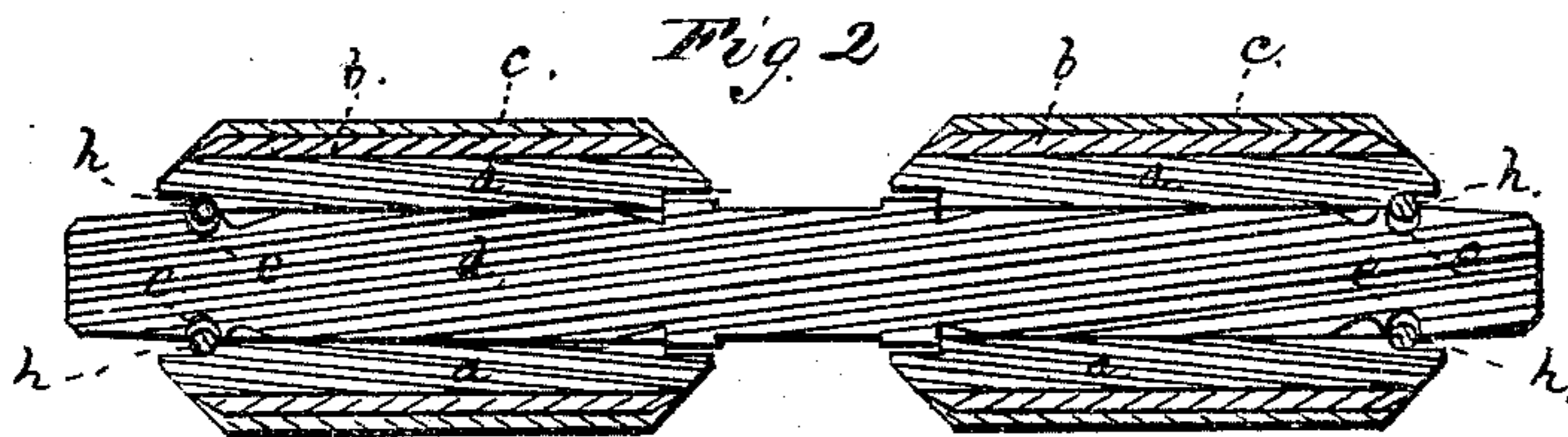
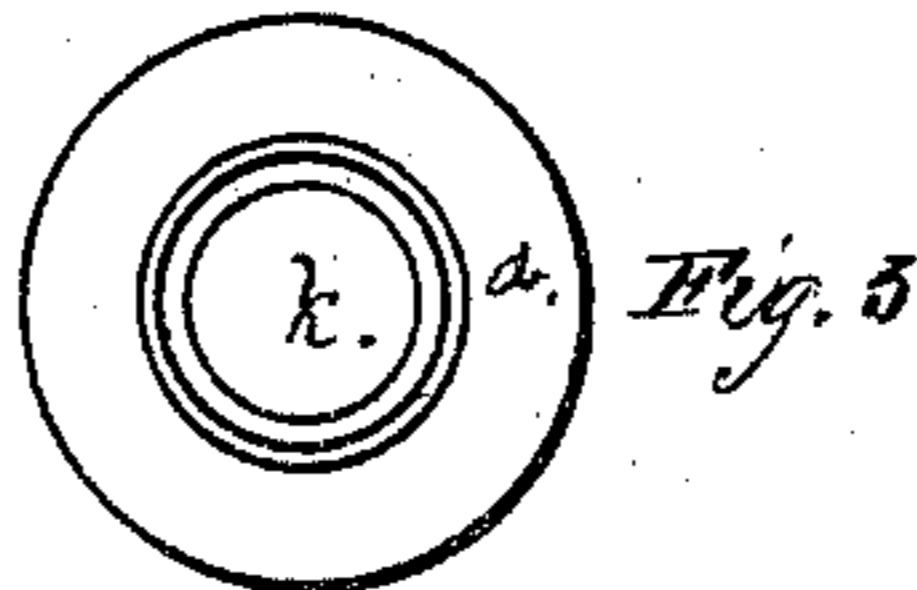


Fig. 2

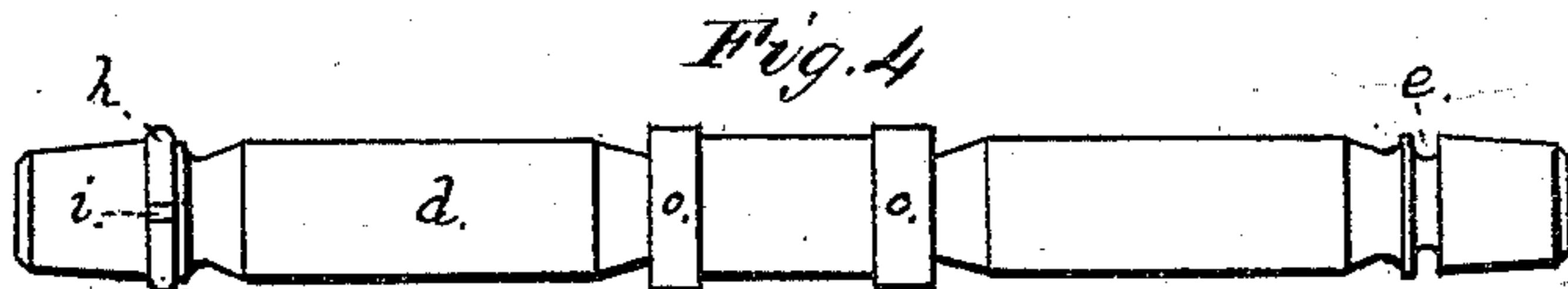


Fig. 4

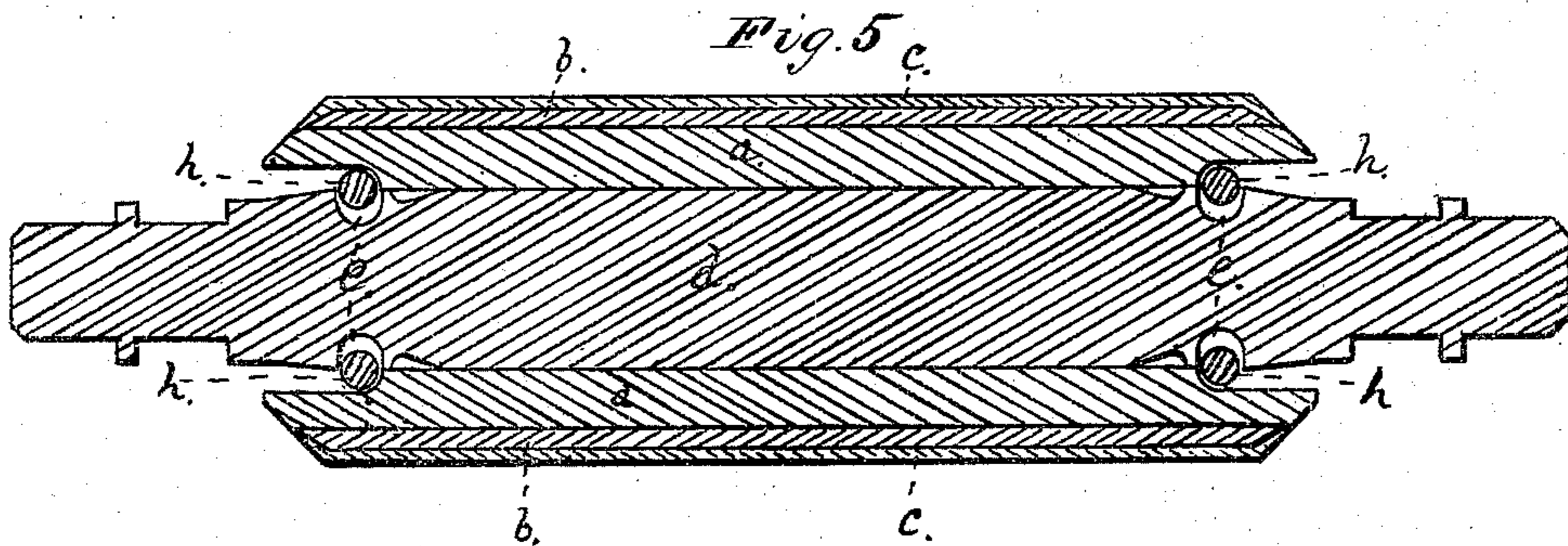


Fig. 5

Inventor

Horace T. Robbins.

Witnesses.

Edwin A. Alger  
Chas. R. Brown

# UNITED STATES PATENT OFFICE.

HORACE T. ROBBINS, OF HYDE PARK, MASSACHUSETTS.

## IMPROVEMENT IN DRAWING-ROLLS.

Specification forming part of Letters Patent No. **143,256**, dated September 30, 1873; application filed June 5, 1873.

*To all whom it may concern:*

Be it known that I, HORACE T. ROBBINS, of Hyde Park, in the county of Norfolk and State of Massachusetts, have invented a new and useful Improvement in Rolls for Spinning and Drawing; and I do hereby declare the same to be fully described in the following specification and accompanying drawings, of which—

Figure 1 is a front elevation of a spinning-roll having my improvement applied to it. Fig. 2 is a vertical section of the same. Fig. 3 is an end view of one of the bosses removed from the arbor. Fig. 4 is an elevation of the arbor with both of the bosses removed. Fig. 5 is a vertical section of a drawing-roll having but one boss. Fig. 6 is a side elevation of a spring-washer.

My invention has reference to spinning and drawing rolls, having either one or two tubular bosses, which revolve upon a roll or arbor.

To these mechanical features in the abstract, or as combined otherwise than as hereinafter explained, I make no claim.

My invention consists in providing the roll with one or more spring-washers in such a manner as to hold the bosses in their proper place when rotating on the arbor, and also greatly to facilitate handling the rolls when taken off the machine to clean, oil, &c. When the bosses are loose on the arbor, as they formerly have been made, and it is necessary to remove the roll from the machine to clean, oil, &c., if the arbor is not kept perfectly level, or both the bosses and the arbor are not gripped in the hand, the slightest inclination slides one part or the other onto the floor, which is a very great annoyance where one operative has from three to four hundred of these rolls to take care of, as many of them do.

My spring-washer entirely prevents all this trouble, and also serves, when the boss is being removed from the arbor, to scrape out all the gum and dirt which may have collected therein. There is also less friction when the boss rotates in contact with the washer than when rubbing against the cap-bar, which supports the arbor, as the washer is loose on the arbor.

In the drawing, *a* denotes the bosses, which are covered, in the usual manner, first with a cot of cloth, *b*, and over that a cot of leather, *c*, or any suitable substance. *d* is the arbor. *e* are grooves cut in the arbor to receive the spring-washer *h*, as shown in Fig. 4, one end of which is represented as having the washer and the other without it, to show the groove. *i* is an opening in the washer to allow it to expand and contract. *j* is a hole through the center of the washer, into which the arbor is pressed until it comes to the groove *e*, which receives and retains it. The washer being slightly larger than the hole *k* through the boss, the boss is slipped on over it, and is thereby prevented from coming off at this end, although it may very easily be pulled off over the spring-washer, and the opposite end of the arbor may have a shoulder on it, as at *o*, Fig. 4, to prevent the boss from working off in that direction; or the arbor may have a spring-washer at each end of the boss, as shown in Fig. 5. With rolls having two bosses I prefer to have a spring-washer at the outer end of each boss; and with rolls having but one boss I prefer to have a spring-washer at each end of it. This washer may be made of brass wire or any suitable material; and the boss may have a groove cut into it to receive the washer corresponding to a groove in the arbor; or it may be substituted by a spring soldered or otherwise fastened into a groove in the arbor or in the boss; but that is more expensive, and not as satisfactory as the loose spring-washer, which makes the least friction and collects the least amount of dirt and foreign substances.

What I claim as my invention is—

The spring-washer *h*, or its equivalent, in combination with the loose tubular boss *a* and the arbor *d*, substantially in the manner and for the purpose above specified.

HORACE T. ROBBINS.

Witnesses:

EDWIN A. ALYN,  
A. R. BROWN.