

No. 686,767.

Patented Nov. 19, 1901.

G. A. RYDER, J. H. CRABTREE & C. S. LEES.  
ROLLER EMPLOYED IN SPINNING TEXTILE MATERIALS.

(Application filed Mar. 29, 1901.)

(No Model.)

Fig: 1.

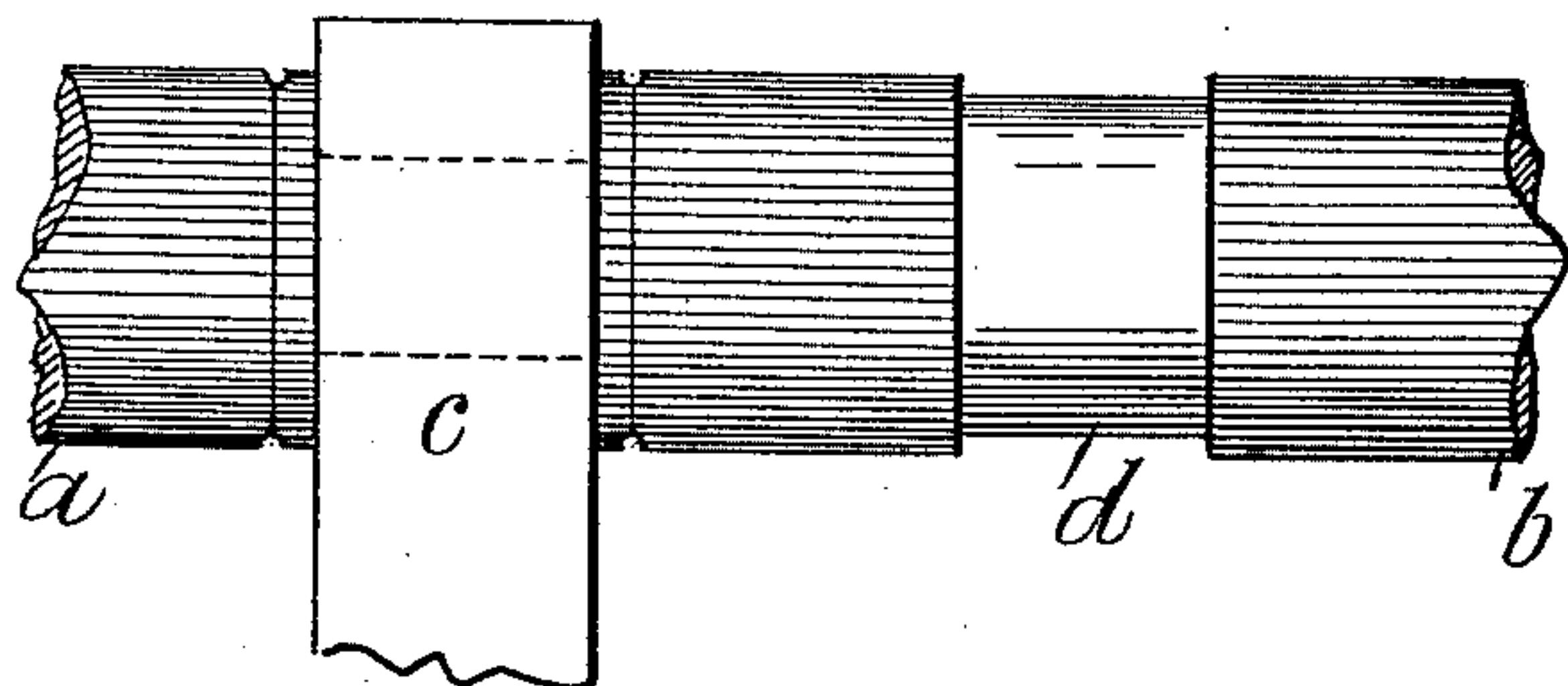


Fig: 2.

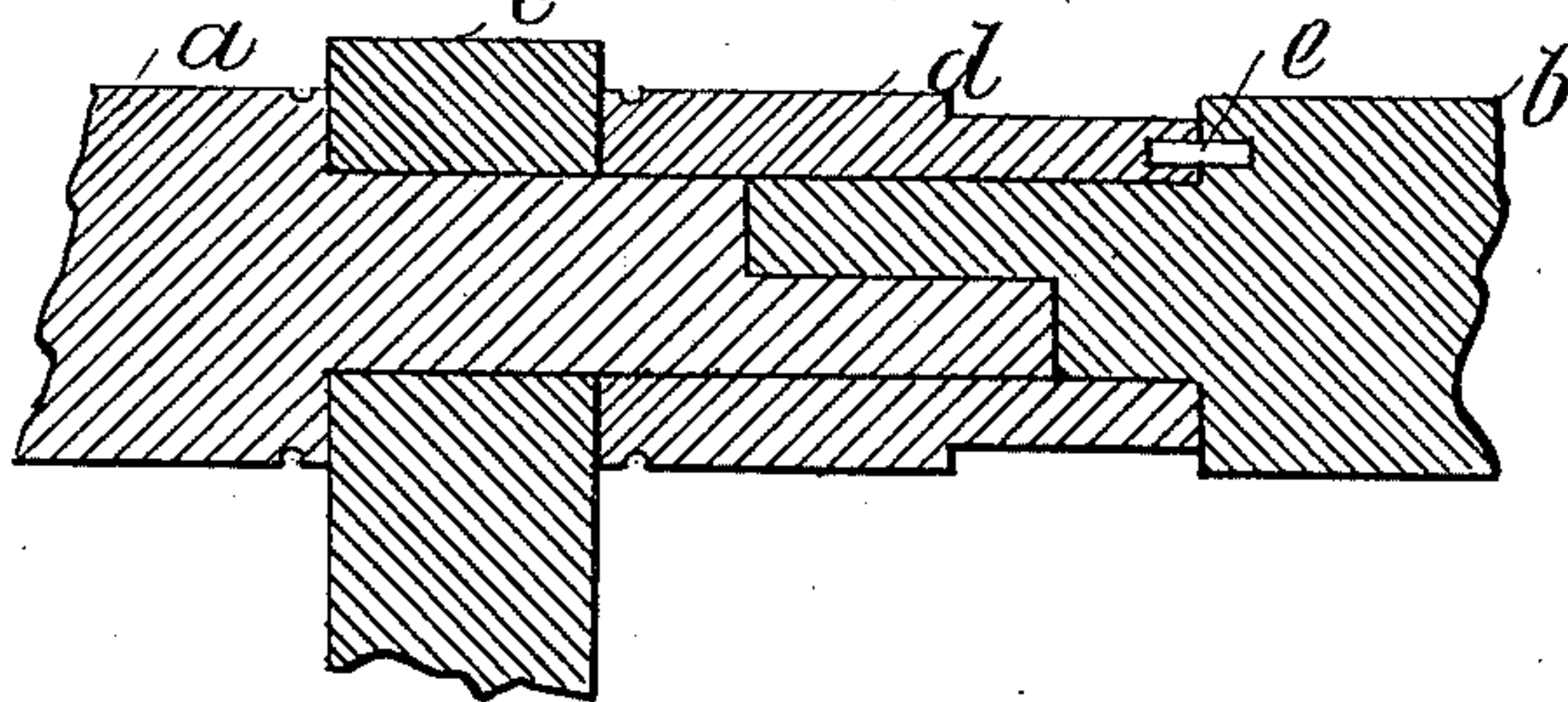


Fig: 3.

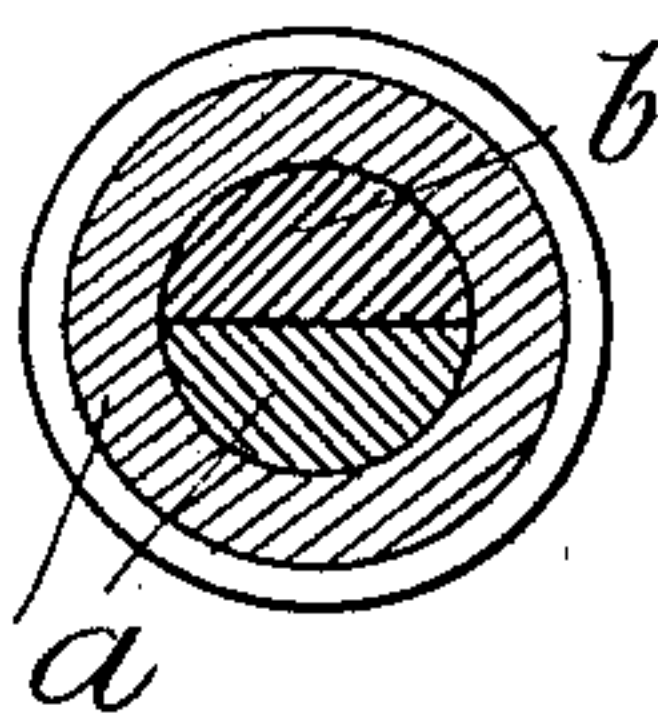


Fig: 4.

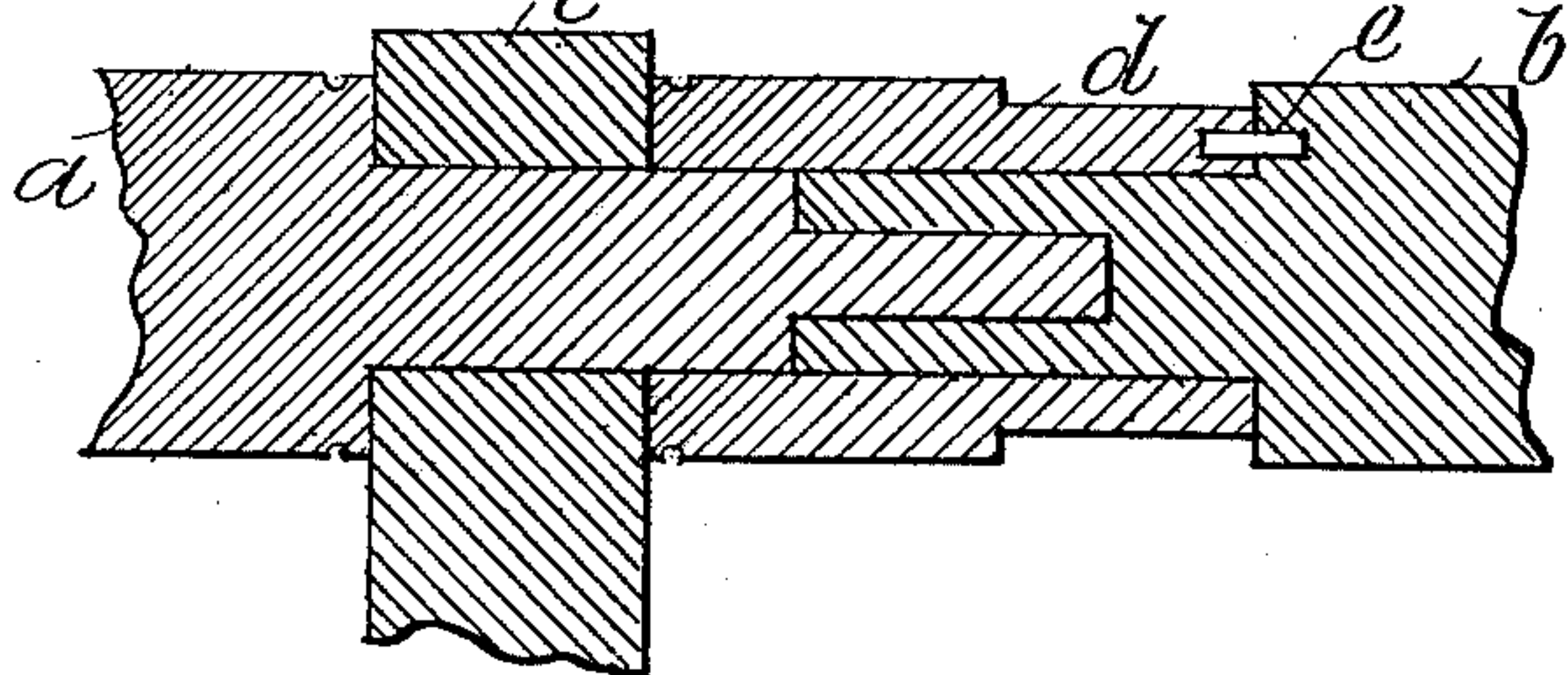
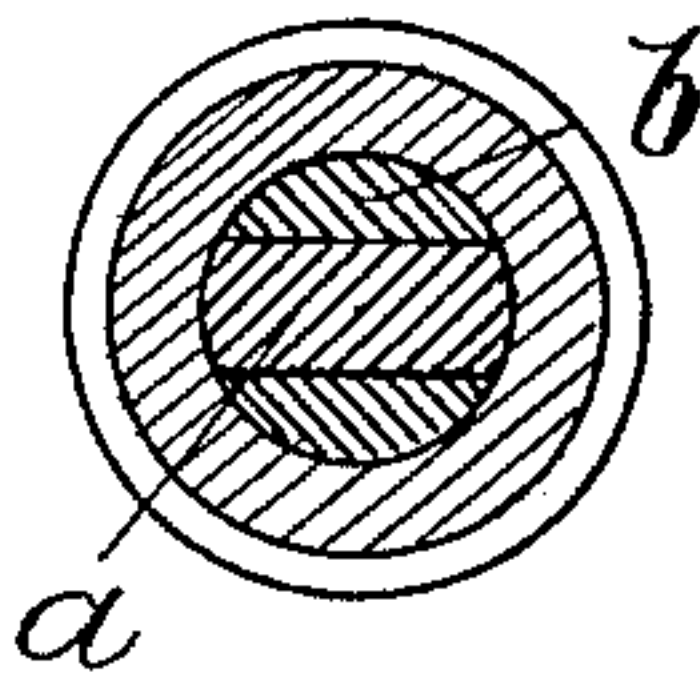


Fig: 5.



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# UNITED STATES PATENT OFFICE.

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## ROLLER EMPLOYED IN SPINNING TEXTILE MATERIALS.

SPECIFICATION forming part of Letters Patent No. 686,767, dated November 19, 1901.

Application filed March 29, 1901. Serial No. 53,547. (No model.)

*To all whom it may concern:*

Be it known that we, GEORGE ALBERT RYDER, JAMES HALL CRABTREE, and CHARLES STANDRING LEES, subjects of the King of Great Britain, residing at Turner Bridge Iron Works, Bolton, in the county of Lancaster, England, have invented certain new and useful Improvements Relating to Rollers Employed in Machinery for Preparing, Spinning, and otherwise Treating Textile Materials, of which the following is a specification.

Our invention consists of improvements relating to rollers employed in machinery for preparing, spinning, and otherwise treating textile materials; and the object of our improvements is to make a simple and efficient interchangeable coupling by means of which two adjoining rollers can be readily and rapidly coupled together with a driving connection and as quickly disconnected when required. We accomplish this object, as hereinafter described with reference to the accompanying sheet of drawings, in which—

Figure 1 is an elevation of part of a line of rollers coupled together according to our improvements. Fig. 2 is a longitudinal section of the same. Fig. 3 is a transverse vertical section taken through the coupling. Figs. 4 and 5 are similar views to Figs. 2 and 3, respectively, of a modified form of the coupling.

In the views, *a* designates one roller and *b* the other roller which it is desired to couple, and for this purpose we reduce the diameter of the adjoining ends to the diameter of the neck or bearing portion which is journaled in the roller-stand *c*. We half-lap these ends, as shown in Figs. 2 and 3, so that when the half-laps are brought together they make up the full diameter of the neck or bearing portion. Over the lapped ends we fit a sliding sleeve *d*, and we key this sleeve in the position shown on the roller by a key or any suitable device, so as to insure the positive driving of the sleeve *d* as well as of the two coupled rollers. For example, as shown, we

fit part of a pin *e* in a hole in the shoulder formed by the difference in the two diameters of the roller *b* and form a corresponding hole in the end of the sleeve *d* to receive the other part of the pin *e*, which thereby keys the parts together to form a driving connection for the sleeve *d*, a part—namely, the boss—of which is fluted to correspond with the fluted portions of the rollers *a* and *b* and answers the same purpose.

In the modification shown in Figs. 4 and 5 the ends of the rollers *a* and *b* instead of being half-lapped are in this case formed with a tongue and groove, by which they are coupled and held together by the sleeve *d*.

What we claim as our invention, and desire to secure by Letters Patent of the United States, is—

1. In combination, the rollers *a* and *b* having their adjoining ends reduced in diameter and half-lapped, the sliding sleeve *d* embracing said half-laps and the keying device *e*, consisting of a pin fitting between the end of the sleeve and the shoulder on the roller *b*, all substantially as herein described and as illustrated by Figs. 1, 2, and 3.

2. In combination, the rollers having their ends reduced to engage each other, a sleeve embracing the reduced engaging ends and a keying device fitting between the end of the sleeve and the shoulder on one of the rollers, substantially as described.

3. In combination, rollers having reduced ends engaging each other, a sleeve embracing the reduced engaging ends and a keying device for holding the parts together, substantially as described.

In witness whereof we have hereunto set our hands in presence of two witnesses.

GEORGE ALBERT RYDER.

JAMES HALL CRABTREE.

CHARLES STANDRING LEES.

Witnesses:

THOMAS ORMEROD,  
ERNEST BOWER.