

(No Model.)

A. CAMPBELL.

FORM ROLLER FOR PRINTING.

No. 297,112.

Patented Apr. 22, 1884.

Fig. 1.

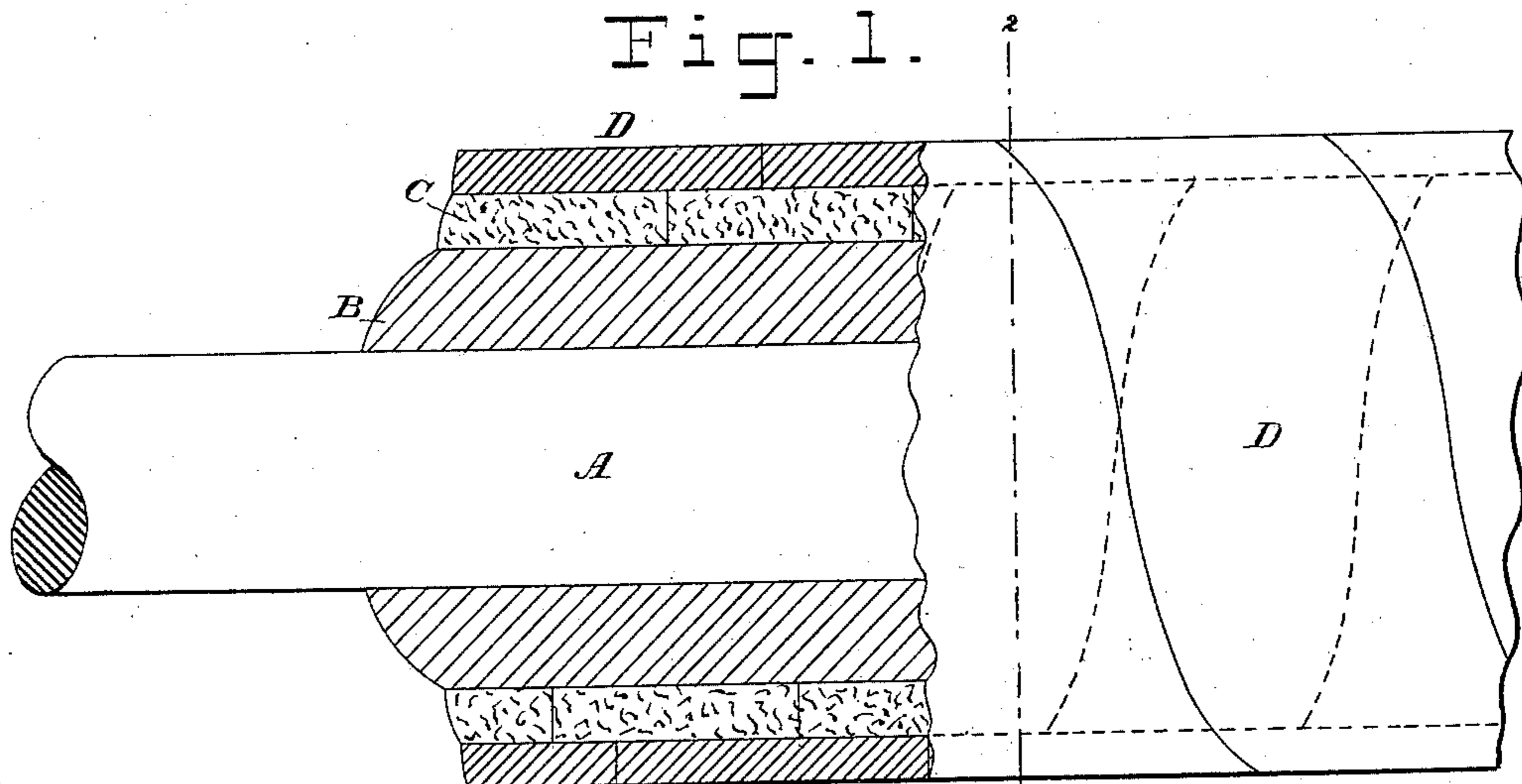


Fig. 2.

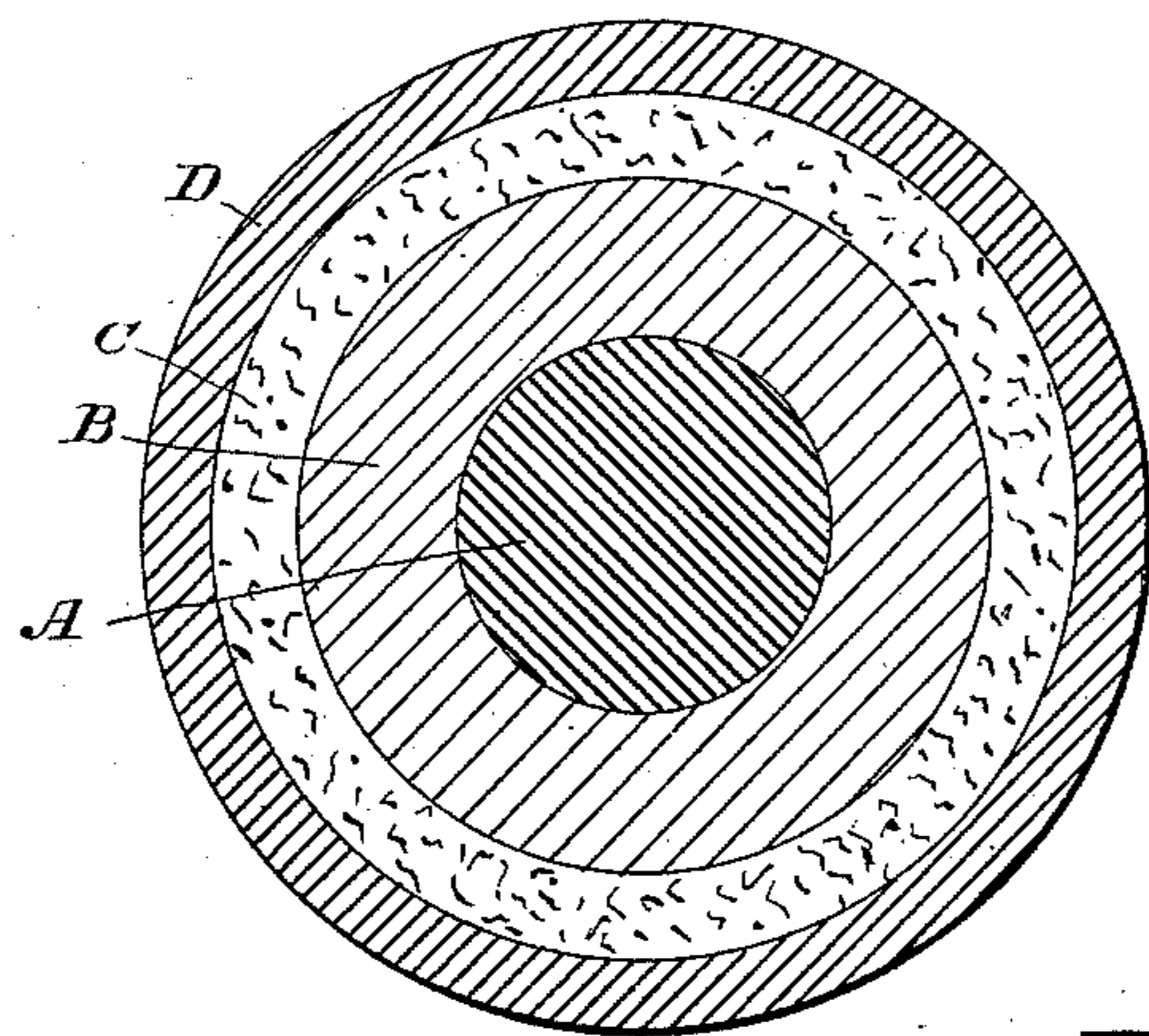


Fig. 3.

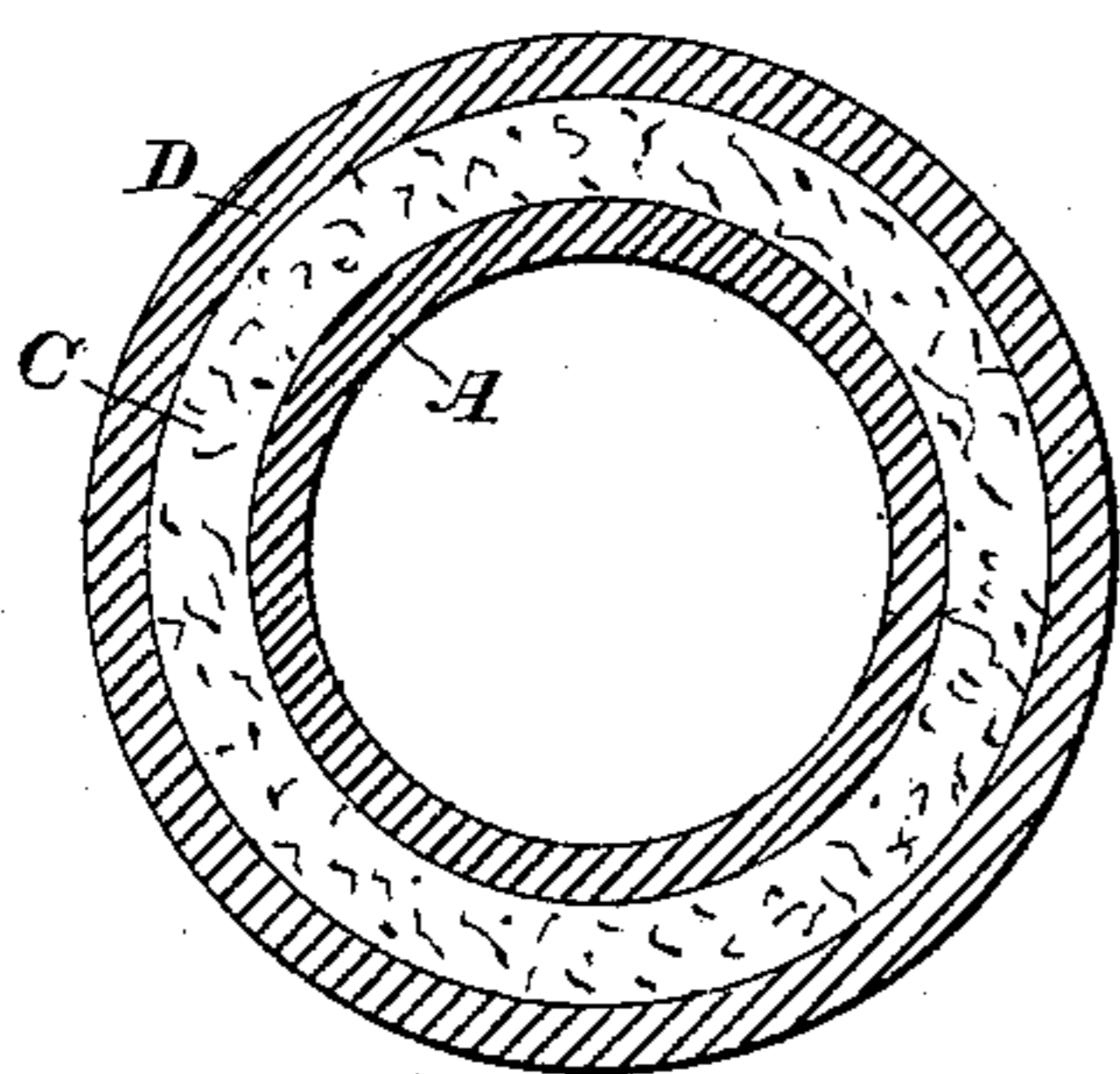
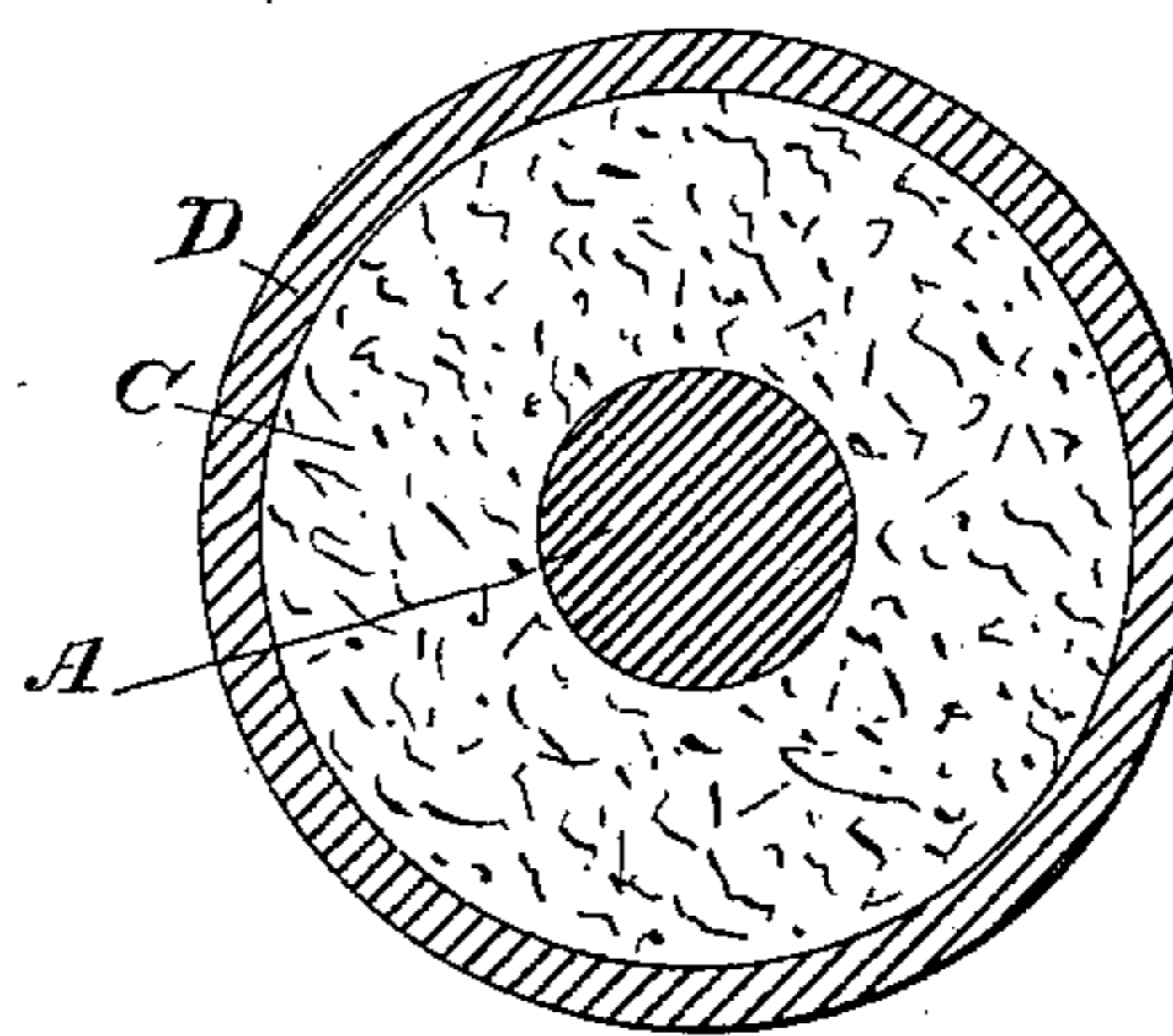


Fig. 4.



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UNITED STATES PATENT OFFICE.

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FORM-ROLLER FOR PRINTING.

SPECIFICATION forming part of Letters Patent No. 297,112, dated April 22, 1884.

Application filed September 10, 1883. (No model.)

To all whom it may concern:

Be it known that I, ANDREW CAMPBELL, a citizen of the United States, and a resident of Brooklyn, Kings county, New York, have invented certain Improvements in Form-Rollers for Printing, of which the following is a specification.

My invention relates to a roller for inking the lithographic stone or the form of a printing press or machine, being especially well suited to lithographic work.

The principal feature of the invention is the arrangement of a cork cushion between the core or stock and the leather cover, and next to the latter. This cushion supplies the needed elasticity and is not absorbent. It is also very durable, as cork is almost insensible to hygro-metric changes, and is not liable to change or deterioration under any of the influences to which it is apt to be exposed in the form-roller.

In the drawings, which serve to illustrate my invention, Figure 1 is a sectional elevation of my roller when constructed in its most approved form, and Fig. 2 is a cross-section of the same. Figs. 3 and 4 are cross-sections of modifications of the same.

I will first describe my improved roller as I prefer to construct it, referring to Figs. 1 and 2.

A is a cylindrical metal stock, and B is a tubular wooden core secured to the same.

C is the cork cushion, before referred to, which I prefer to apply to the wooden core by wrapping it spirally around the same, and securing it by glue, cement, or nails, or by combination of these.

D is the leather covering of the roller, which I prefer to apply to the cork cushion by wrapping a strip of it spirally around the same oppositely to the way the cork is wrapped, and securing it by glue or cement.

In order to secure a perfectly cylindrical roller, which is very important in fine lithographic work, I mount the roller after the cork C has been applied, and before applying the leather D on its centers, so that it may rotate truly and grind off the surface of the cork until it is perfectly true. I then shave the strip of leather D in order to bring it to a uniform thickness, employing any of the well-

known devices or machines for this purpose. Then when the strip of leather is applied, the roller will be perfectly true and cylindrical.

In lieu of the combined iron stock and wooden core, I may omit the wood and use only a larger stock, as shown in Fig. 3. In this case, however, it is best to make the stock hollow and thin for the sake of lightness. The wood, however, furnishes a better surface to glue the cork to.

In lieu of the large hollow stock, I may use a stock similar to that in Figs. 1 and 2, and replace the wood by making the cork thicker. This construction is shown in Fig. 4. I prefer, however, to use a core of wood and a thin cushion of cork. This furnishes the necessary elasticity, and is less expensive than when a thick cork cushion is employed.

It is not absolutely necessary to wind the cork and leather spirally in applying them, and I do not limit myself to this mode of construction.

Although designed especially for applying ink to forms, my roller may be applied also to distributing ink; and I do not therefore limit myself to any special use to which the roller is to be applied.

I am aware that cork has been employed or proposed as one of the elements of a composite roller; but so far as I am aware a cushion of woollen cloth or fabric has been arranged between the leather cover and the cork. This construction would defeat the object I seek to attain, as such fabric is very absorbent of liquids.

I employ no cloth or other fibrous material under the leather cover, and place the leather directly on the cork.

Having thus described my invention, I claim—

1. A printer's roller provided with a leather cover, and a cushion of cork arranged under and next to said leather, substantially as shown and described.

2. A printer's roller comprising a metal stock, a wooden core, a cork cushion, and a leather cover arranged next to the cork, substantially as described and shown.

3. A printer's roller comprising a stock and core, a cork cushion, C, wrapped spirally

around and secured to said core, and a leather cover, D, wrapped around and secured to the cork cushion C, substantially as set forth.

5 4. A printer's roller comprising a metal stock, a wooden core, B, secured thereto, a cork cushion, C, wrapped spirally around and secured to said core, and a leather cover, D, wrapped spirally around and secured to the cushion C, substantially as set forth.

In witness whereof I have hereunto signed in my name in the presence of two subscribing witnesses.

ANDREW CAMPBELL.

Witnesses:

ARTHUR C. FRASER,
GEO. BANTON.