

No. 685,370.

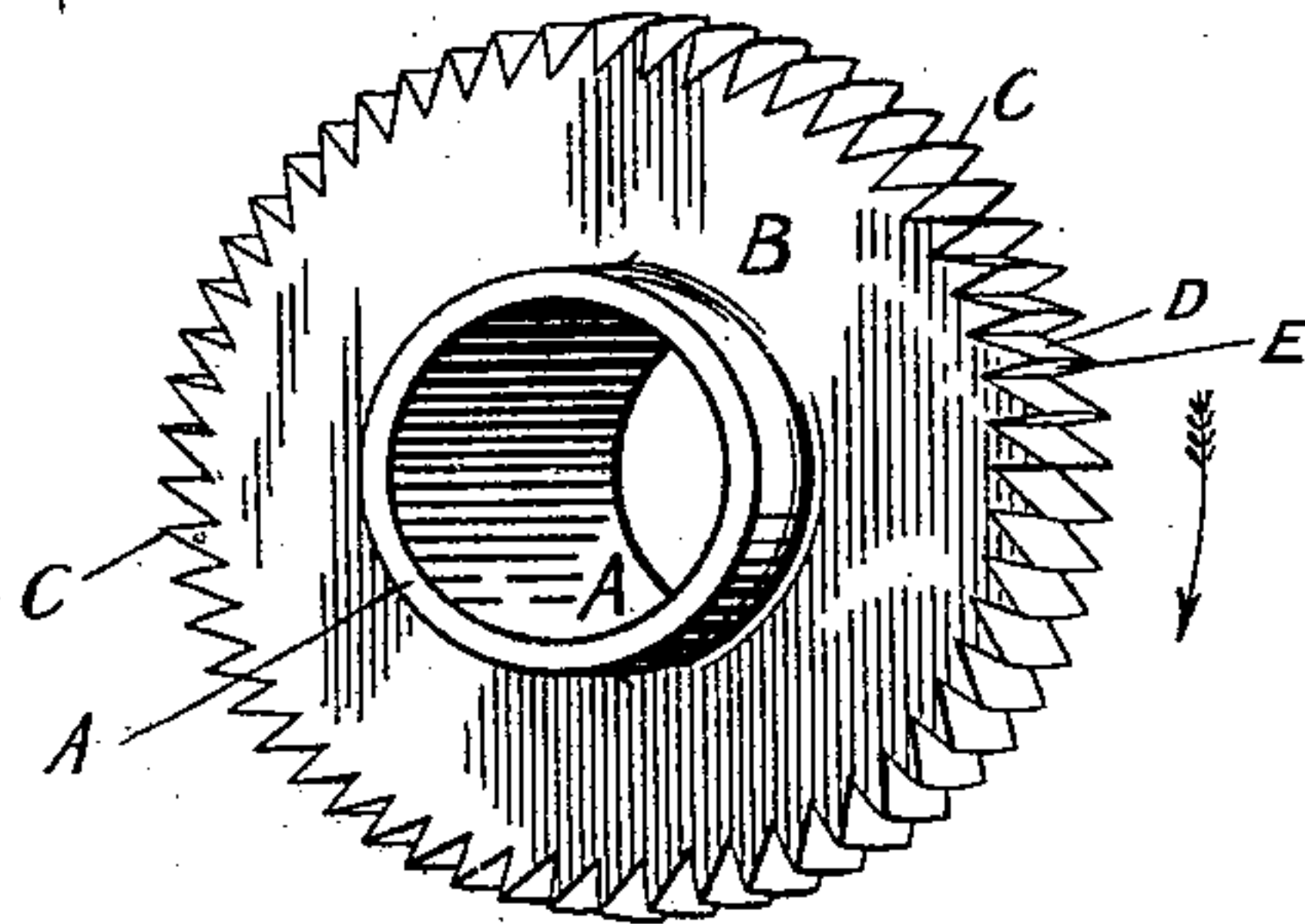
Patented Oct. 29, 1901.

W. BRIDGEWATER.  
PAPER FEEDING MACHINE.

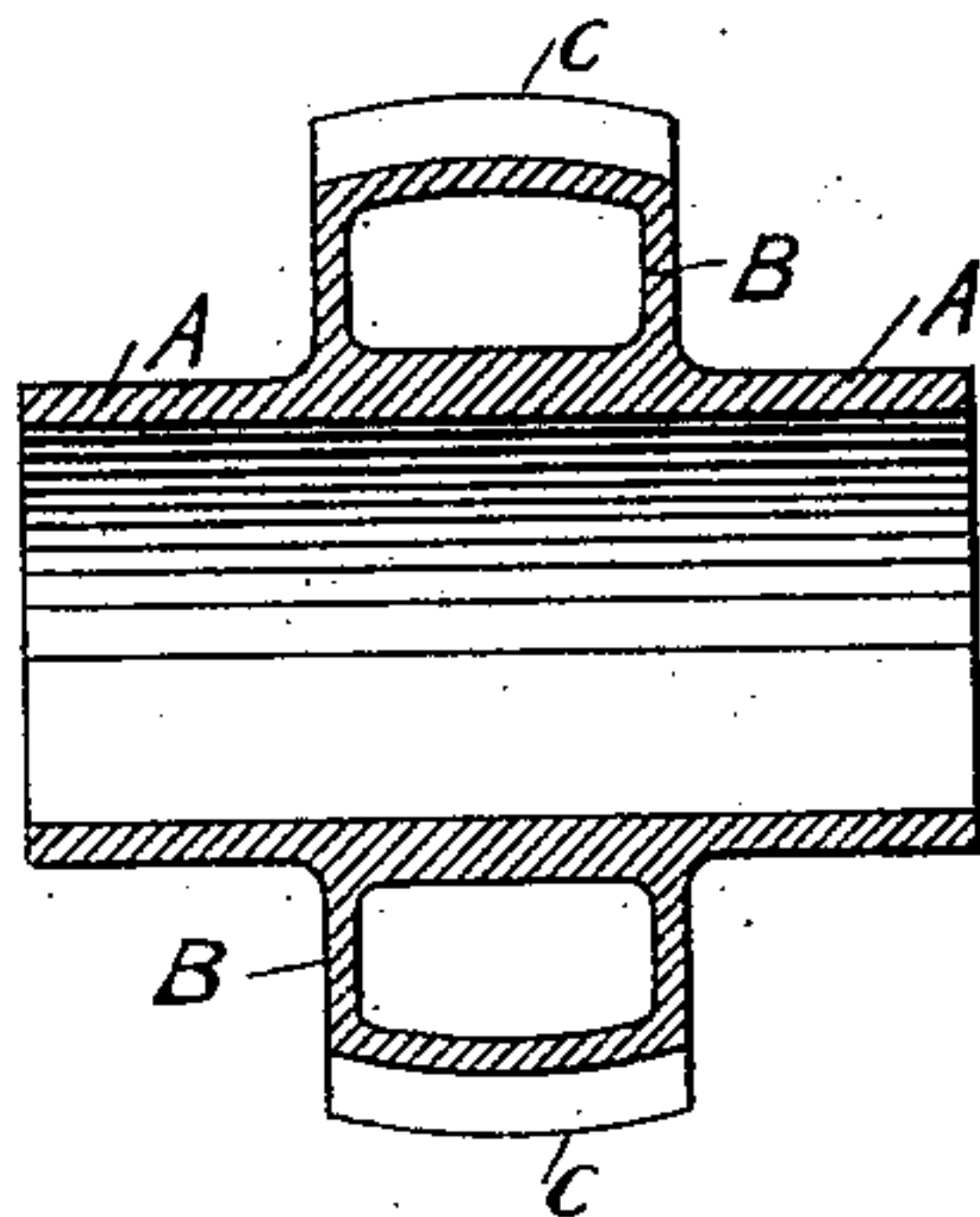
(Application filed June 1, 1900.)

(No Model.)

*Fig. 1.*



*Fig. 2.*



Witnesses.  
*Fred. C. Sharlow.*  
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# UNITED STATES PATENT OFFICE.

WILLIAM BRIDGEWATER, OF LEICESTER, ENGLAND.

## PAPER-FEEDING MACHINE.

SPECIFICATION forming part of Letters Patent No. 685,370, dated October 29, 1901.

Application filed June 1, 1900. Serial No. 18,726. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM BRIDGEWATER, a subject of the Queen of England, and a resident of No. 10 Great Central street, Leicester, in the county of Leicester, England, have invented certain Improvements in Paper-Feeding Machines, of which the following is a specification.

This invention has reference to what are known as "paper-feeding" machines, and more particularly to that class of such machines in which the separating and feeding forward of each successive sheet is effected by rollers pressing upon such sheet to buckle or arch it in the manner well understood.

The primary object of the invention is to provide means for applying a more sensitive and resilient pressure than heretofore upon the sheets of paper, so as to give a lifting tendency to the pressure-rollers.

To this end the invention consists of forming the pressure-rollers with serrated peripheries and in one length, or each roller may consist of a plurality of collars with serrated peripheries, of rubber or other suitable material, such rollers being more certain and uniform in their operation than the continuous rollers or collars with smooth or ordinary roughened peripheries, as hitherto used.

Reference is to be had to the accompanying drawings, and to the letters marked thereon, forming a part of this specification.

Of the drawings, Figure 1 represents a perspective view of a collar formed in accordance with this invention, and Fig. 2 is a longitudinal section of same.

Referring to the drawings, which portray one form of the invention selected for the purpose of illustration, it will be seen that the collar has a sleeve A extending both sides of the body B, the inside diameter of the sleeve being such that it will hold in position on the spindle by its own embracement. The periphery of the collar is serrated, forming a series of teeth C, the two faces D and E of such teeth differing in acuteness, the more acute face E facing the direction of travel. (See arrow in Fig. 1.) With pneumatic collars the periphery is rounded, as illustrated in the drawings; but with solid collars the periphery is preferably flat.

While I have shown in the drawings and described in this specification the preferred form of my invention, one or more of the collars constituting a pressure-roller when mounted

upon a spindle, my invention is by no means specifically limited thereto, but is susceptible of further embodiment without departing therefrom. For instance, instead of the body B being made pneumatic it may be formed solid with a flat periphery, as before stated, and, further, a number of the collars may be formed on one sleeve, either all pneumatic or all solid or a combination of both, in all instances, however, having serrated peripheries. Furthermore, it is to be understood that my invention is applicable to all classes of machines provided with pressure-rollers for separating and feeding sheets of paper and analogous materials.

What I claim is—

1. In a paper-feeding machine, pneumatic collars having serrated and rounded peripheries mounted on a spindle to form a pressure-roll and adapted to engage successive sheets of paper, substantially as described.

2. In a paper-feeding machine pneumatic collars mounted on a spindle to form a pressure-roll said collars having serrated and rounded peripheries the serrations having their faces of different acuteness, substantially as described.

3. In a paper-feeding machine pneumatic collars having serrated and rounded peripheries and provided with sleeves which clasp the spindle on which they are mounted to form a pressure-roll adapted to engage successive sheets of paper, substantially as described.

4. In a paper-feeding machine non-pneumatic collars having serrated peripheries and provided with sleeves which clasp the spindle on which they are mounted to form a pressure-roll adapted to engage successive sheets of paper, substantially as described.

5. In a paper-feeding machine, the combination of pneumatic and non-pneumatic collars having serrated peripheries, mounted on spindles to form pressure-rolls adapted to engage successive sheets of paper, the serrations on said collars having their faces of different acuteness, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WILLIAM BRIDGEWATER.

Witnesses:

FRED. C. SHARDLOW,

THOMAS S. SHOULER.