

(No Model.)

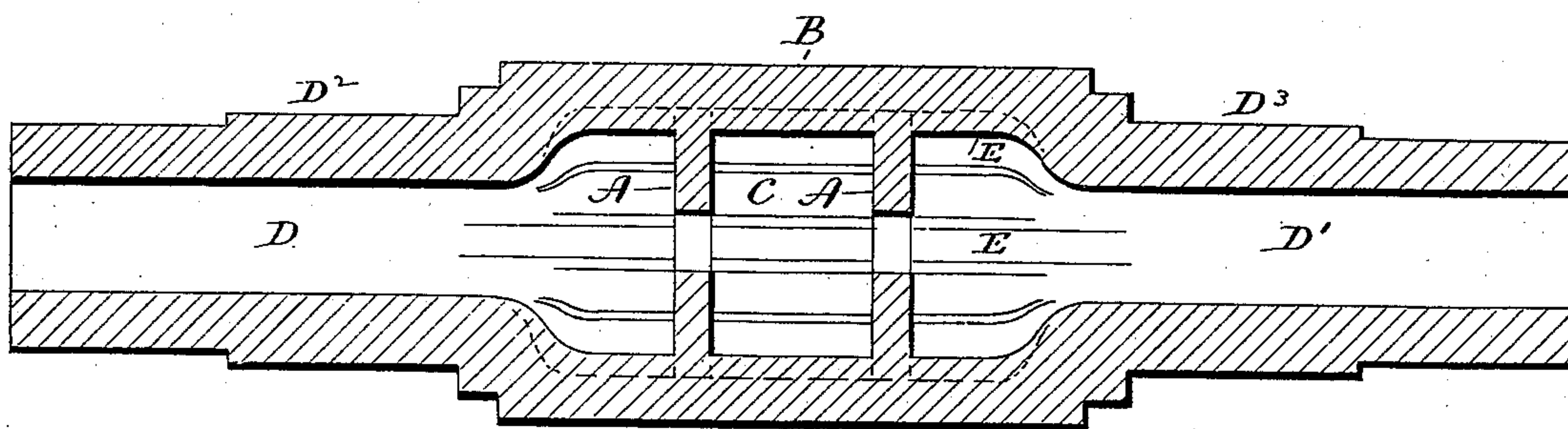
F. H. BREWSTER.

## ROLL FOR MACHINES FOR WORKING RUBBER, &c.

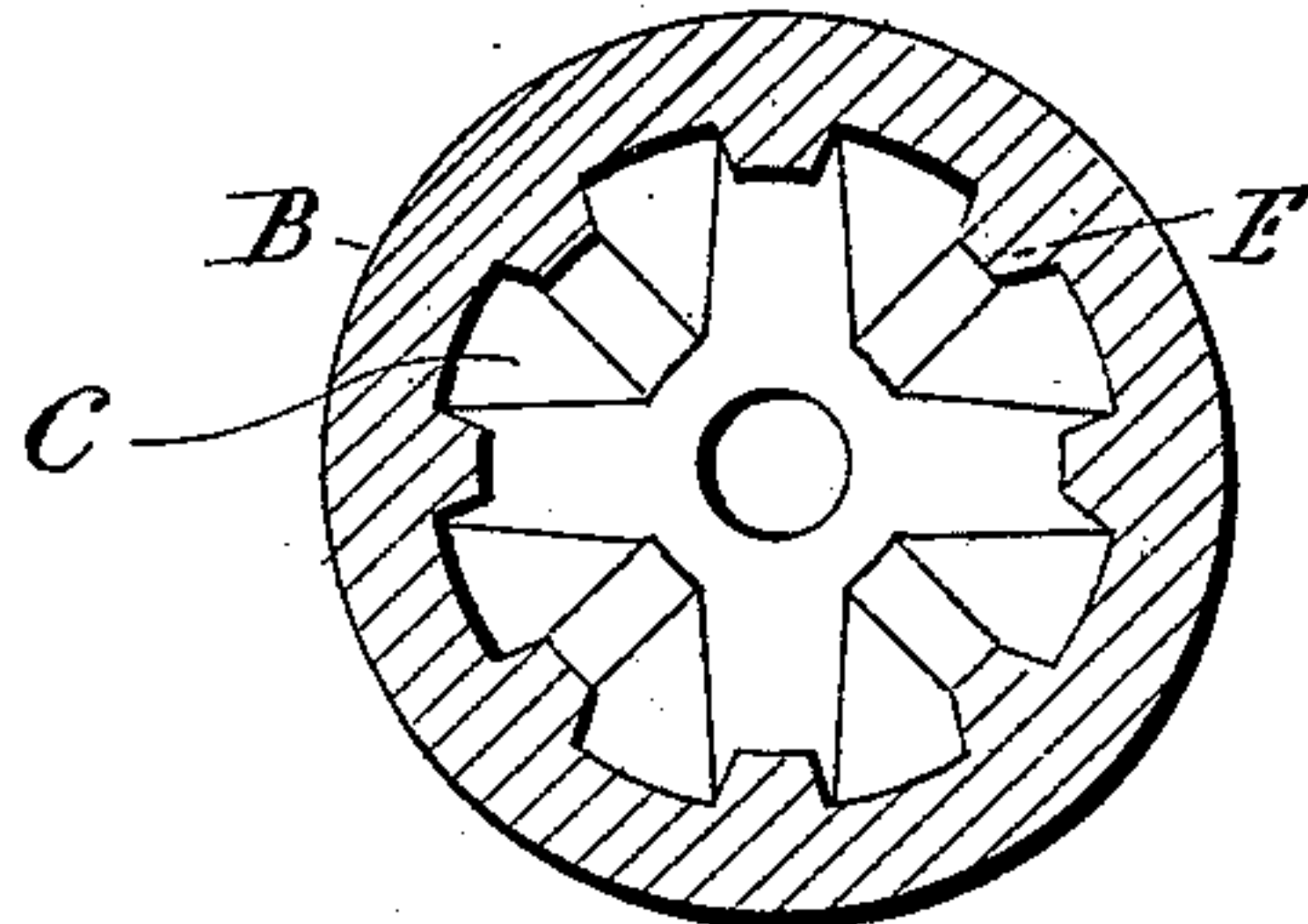
No. 540,043.

Patented May 28, 1895.

*Fig. 1.*



*Fig. 2*



Witnesses

J. H. Shumway.  
Lillian D. Kelsey.

Frank H. S. Brewster  
Inventor.

By Atty

To  
Earle Seymour



# UNITED STATES PATENT OFFICE.

FRANK H. BREWSTER, OF DERBY, CONNECTICUT, ASSIGNOR TO THE  
BIRMINGHAM IRON FOUNDRY, OF SAME PLACE.

## ROLL FOR MACHINES FOR WORKING RUBBER, &c.

SPECIFICATION forming part of Letters Patent No. 540,043, dated May 28, 1895.

Application filed December 22, 1894. Serial No. 532,655. (No model.)

*To all whom it may concern:*

Be it known that I, FRANK H. BREWSTER, of Derby, in the county of New Haven and State of Connecticut, have invented a new  
5 Improvement in Rolls for Machines for Working Rubber, &c.; and I do hereby declare the following, when taken in connection with the accompanying drawings and the letters of reference marked thereon, to be a full, clear,  
10 and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1, a view in central longitudinal section of one form which a reinforced roll constructed in accordance with my invention  
15 may assume; Fig. 2, a view thereof in central transverse section.

My invention relates to an improvement in rolls for machines for working rubber, gutta-  
20 percha, paper, cloth, and other kindred substances, and is particularly designed for the production of rolls for the washing, grinding and calendering machines used in the working of rubber, the object being to provide  
25 such machines with rolls adapted to resist crushing and torsional strains, and constructed with particular reference to being kept at a uniform temperature, whether hot or cold.

With these ends in view, my invention consists in a roll for machines for working rubber, gutta-percha, paper, cloth, &c., the said  
30 roll having certain details of construction as will be hereinafter described, and pointed out in the claim.

In carrying out my invention, as herein shown, I employ two spider-like reinforces A  
35 A, each composed of a hub-like center and four radially arranged corresponding arms, as shown in Fig. 2. These reinforces are cast  
40 into the roll B, so as to stand at a right angle to the longitudinal axis thereof, and they are located within the large interior chamber C, formed within the roll, extending nearly to the  
45 ends thereof, and contracted at its ends to intersect the inner ends of the longitudinal passages D and D' formed in the trunnions D<sup>2</sup> and D<sup>3</sup>, made integral with the ends of the roll, which has a smooth periphery. It will  
50 be understood, of course, that the reinforces may be varied in form and number and arrangement, as circumstances may require,

but they will, of course, be arranged to stand at a right angle to the longitudinal axis of the roll, and be constructed so as not to intercept the circulation of the heating or cooling  
55 medium introduced into the chamber C thereof. As herein shown, though this is not necessary, the roll is additionally reinforced by a circular series of inwardly projecting, radially arranged, longitudinal ribs E, which  
60 converge and taper at their ends, in accordance with the contraction of the ends of the chamber. These reinforcing ribs may also be varied in form and arrangement. As before  
65 stated, their use is not imperative, but they add to the strength of the roll, and better enable it to resist crushing and torsional strains.

Any means found suitable may be employed for maintaining the roll at a uniform temperature, whether that be hot or cold. It seems  
70 unnecessary for me to show or describe any such means in this case, but as an instance of what means may be employed, reference may be had to my prior application filed, October  
75 8, 1894, and serially numbered 525,225.

In view of the suggestions of change made herein, I would have it understood that I do not limit myself to the exact construction  
80 shown and described, but hold myself at liberty to make such changes and alterations as fairly fall within the spirit and scope of my invention.

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

A roll for machines for working rubber, gutta-percha, paper, cloth, &c., the said roll being provided with trunnions and having a  
90 large interior chamber, and reinforced by one or more reinforces cast into it, and standing at a right angle to its longitudinal axis, and also reinforced by ribs formed integral with the wall of the chamber, and projecting inwardly thereinto, substantially as described.  
95

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

FRANK H. BREWSTER.

Witnesses:

FRANCIS D. MANNING,  
BERNARD HALE.