

(No Model.)

F. H. CHASE.
COTTON GIN ROLLER.

No. 435,885.

Patented Sept. 2, 1890.

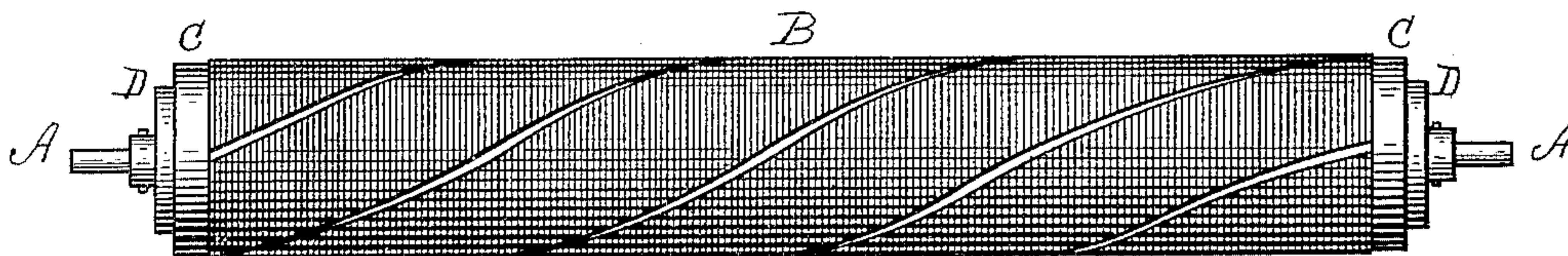


Fig. 1.

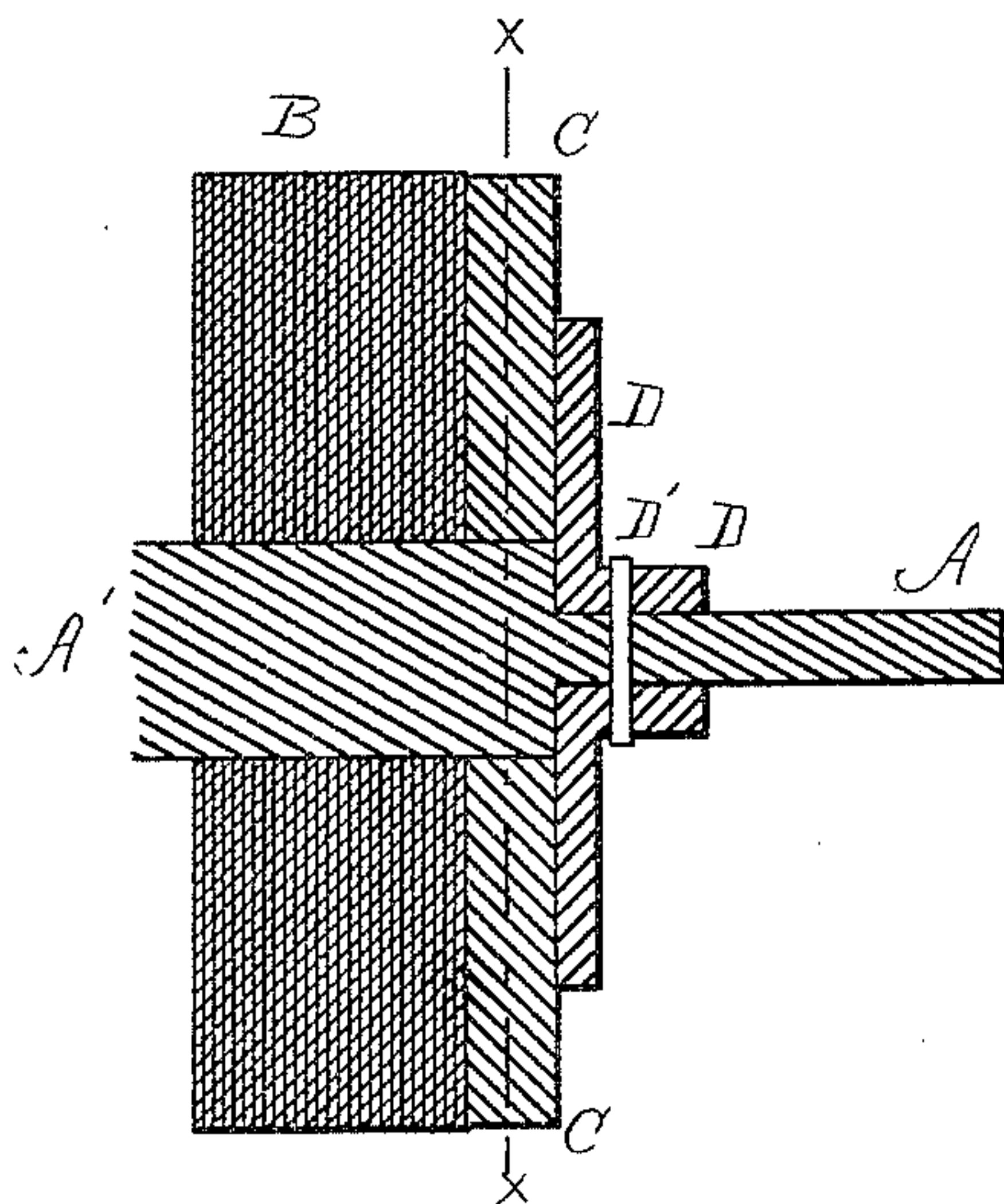


Fig. 2.

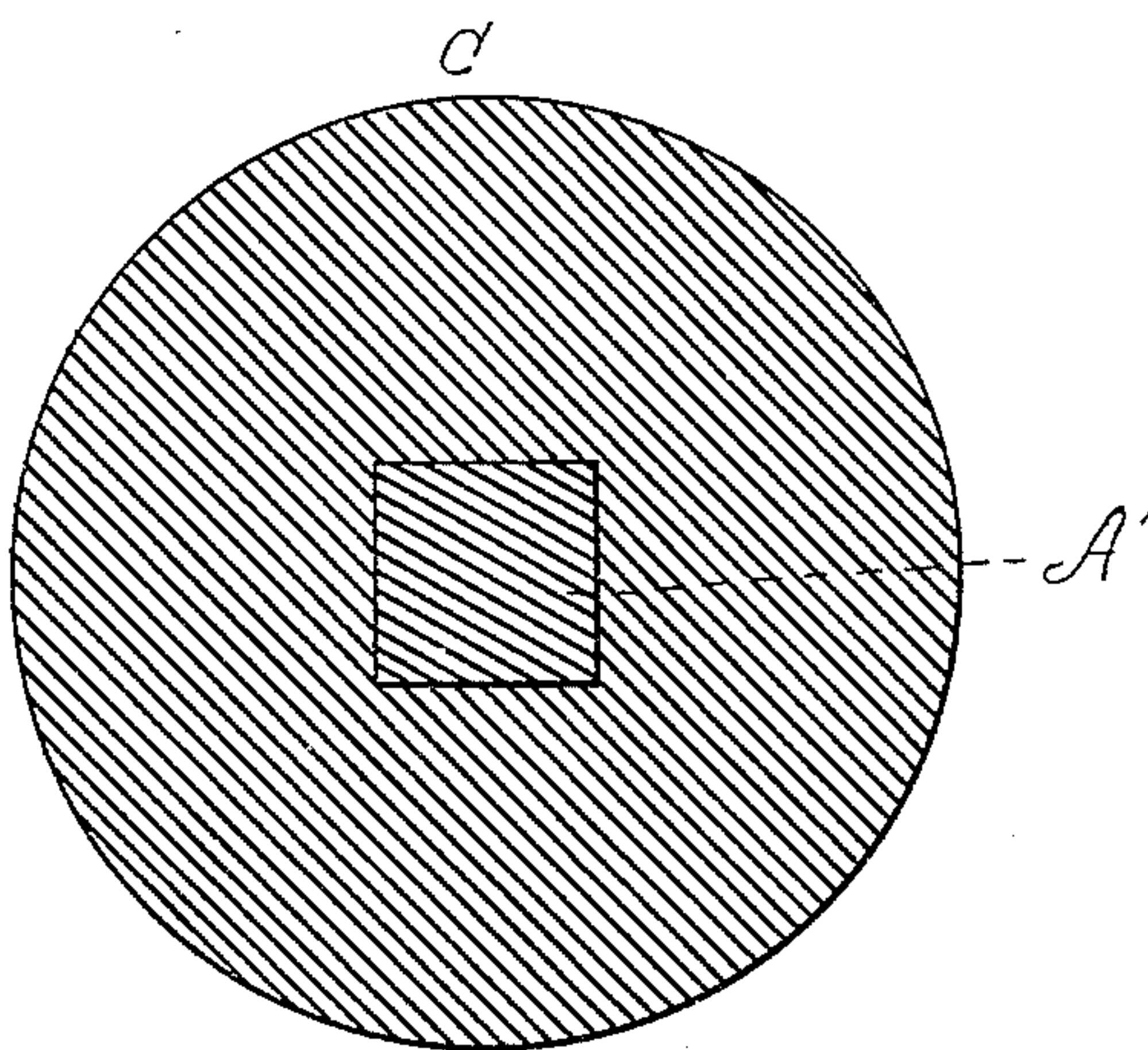


Fig. 3.

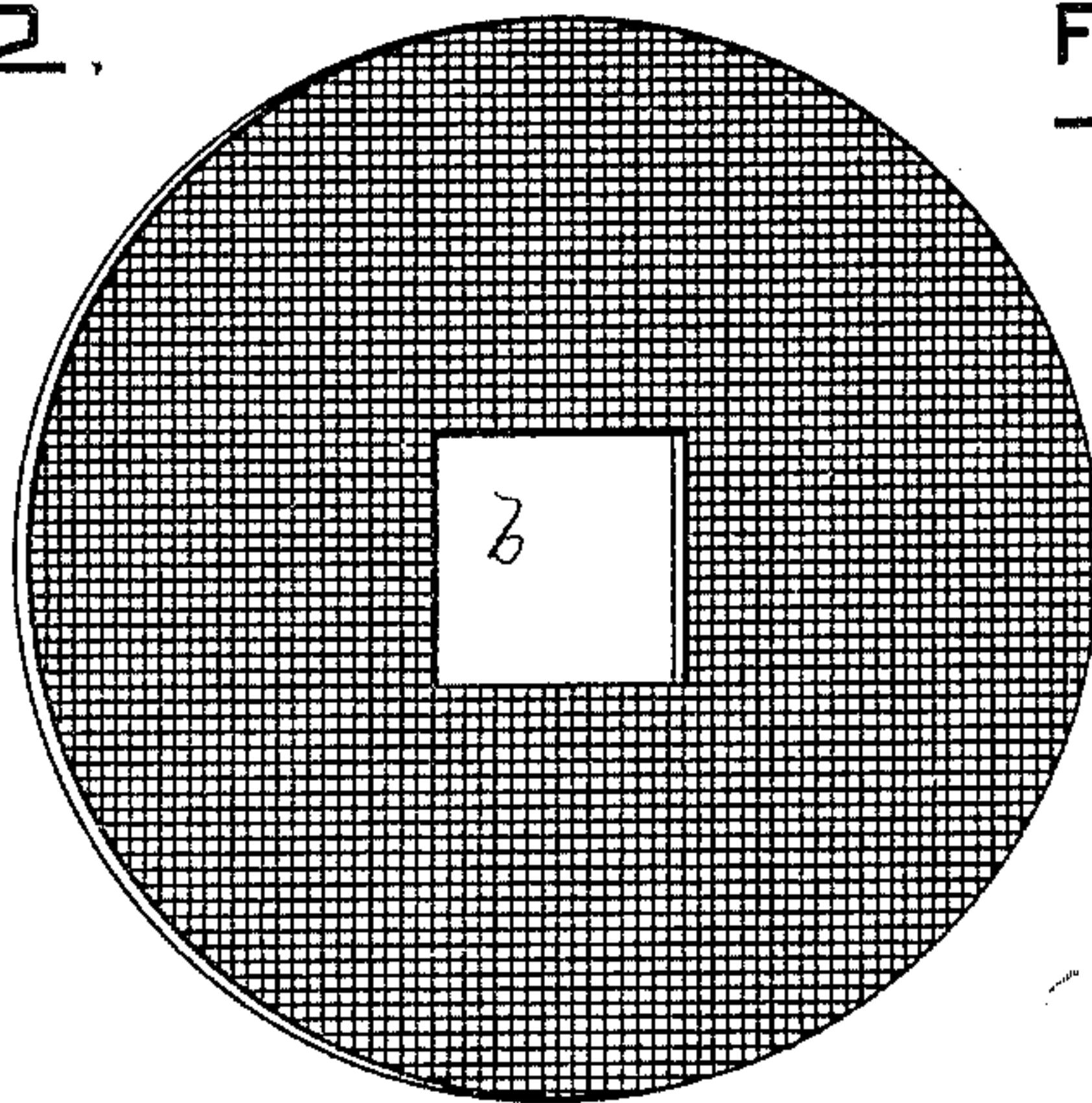


Fig. 4.

WITNESSES

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FRANK H. CHASE, OF HAVERHILL, MASSACHUSETTS, ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, TO THE CHASE COTTON GIN COMPANY, OF NEW HAMPSHIRE.

COTTON-GIN ROLLER.

SPECIFICATION forming part of Letters Patent No. 435,885, dated September 2, 1890.

Application filed February 15, 1890. Serial No. 340,588. (No model.)

To all whom it may concern:

Be it known that I, FRANK H. CHASE, of Haverhill, in the county of Essex and State of Massachusetts, have invented a new and
5 useful Improvement in Cotton-Gin Rollers, of which the following is a specification.

The nature of this invention is fully described below, reference being had to the accompanying drawings, in which—

10 Figure 1 is an elevation of a cotton-gin roller embodying my invention. Fig. 2 is an enlarged longitudinal section of one end of the roller. Fig. 3 is a transverse section on line *x x*, Fig. 2. Fig. 4 is a view of one of
15 the layers or disks which constitute the body of the roller.

Similar letters of reference indicate like parts.

20 A is a metallic spindle or shaft constructed with the portion A' within the body and flanges of the roller squared or rendered non-circular in section.

25 B is the body of the roller. This consists of a large number of disks or layers made of duck or other suitable textile fabric, each of which has a central hole *b* of the size and shape to fit the squared portion A' of the shaft A.

30 C C are thick flanges of substantially the same diameter as the body of the roller, fitting upon the squared portion of the shaft, and constructed of leather-board, rawhide, or other sufficiently stiff non-metallic material. Heretofore the flanges have been constructed of metal, with the result that the
35 gin-plate has frequently struck them, with the effect of not only injuring the plate, but also setting fire to the cotton, and many serious conflagrations have been started in this
40 manner.

D D are collars or plates pinned at D' to the shaft.

45 The roller is constructed in the following manner: A large number of the disks or layers having been died out into the form shown in Fig. 4, a few—say enough to measure four inches in thickness when laid together—are

supplied with cement, preferably rubber, on their sides, and are then pressed together in a mandrel by a pressure of, say, sixty 50 tons, with the effect of reducing the thickness of the pile of disks from four to about two inches. This is then placed on the portion A' of the shaft and another lot treated in the same manner until enough layers or 55 disks, many hundred in number, are placed in position on the shaft A' to make a roll of the suitable length, say three feet and eight inches. The flanges C are then placed in position and driven up with a press, and then 60 the collars or plates D are secured to the shaft in the position shown. The surface of the body of the roller is then made even by grinding or other suitable method, and the spiral grooves E cut by means of a suitable 65 tool.

I am aware that layers or disks of fabric have been employed in a manner somewhat similar to that above described, and also that there have been interposed between such 70 layers coatings or disks of vulcanized rubber. In my invention I use unvulcanized-rubber cement, and I especially desire to disclaim the use of vulcanized rubber, for the reasons that disks of vulcanized rubber are liable to 75 catch fire, and even when made as thin as possible tend to wear out the roller.

Having thus fully described my invention, what I claim, and desire to secure by Letters Patent, is— 80

1. The herein-described improved cotton-gin roller, comprising the following parts, viz: a shaft, as A A', the body B, formed of circular layers or disks of textile fabric compressed and placed upon said shaft, the col- 85 lars D, and the non-metallic flanges C, constructed of leather-board, rawhide, or other sufficiently stiff non-metallic material, said flanges being placed between said collars and the ends of the body of the roller, substantially as set forth. 90

2. The herein-described improved cotton-gin roller, comprising the following parts, viz: the shaft, as A A', the body B, formed

of circular layers or disks of textile fabric
having their sides provided with unvulcan-
ized rubber or cement and compressed upon
said shaft, the collars D, and the non-metallic
5 flanges C, constructed of leather-board, raw-
hide, or other sufficiently stiff non-metallic
material, said flanges being placed between

said collars and the ends of the body of the
roller, substantially as described.

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