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J. RONEY & J. C. RAE.  
BOBBIN AND SPINDLE CONNECTOR.

APPLICATION FILED MAR. 7, 1907.

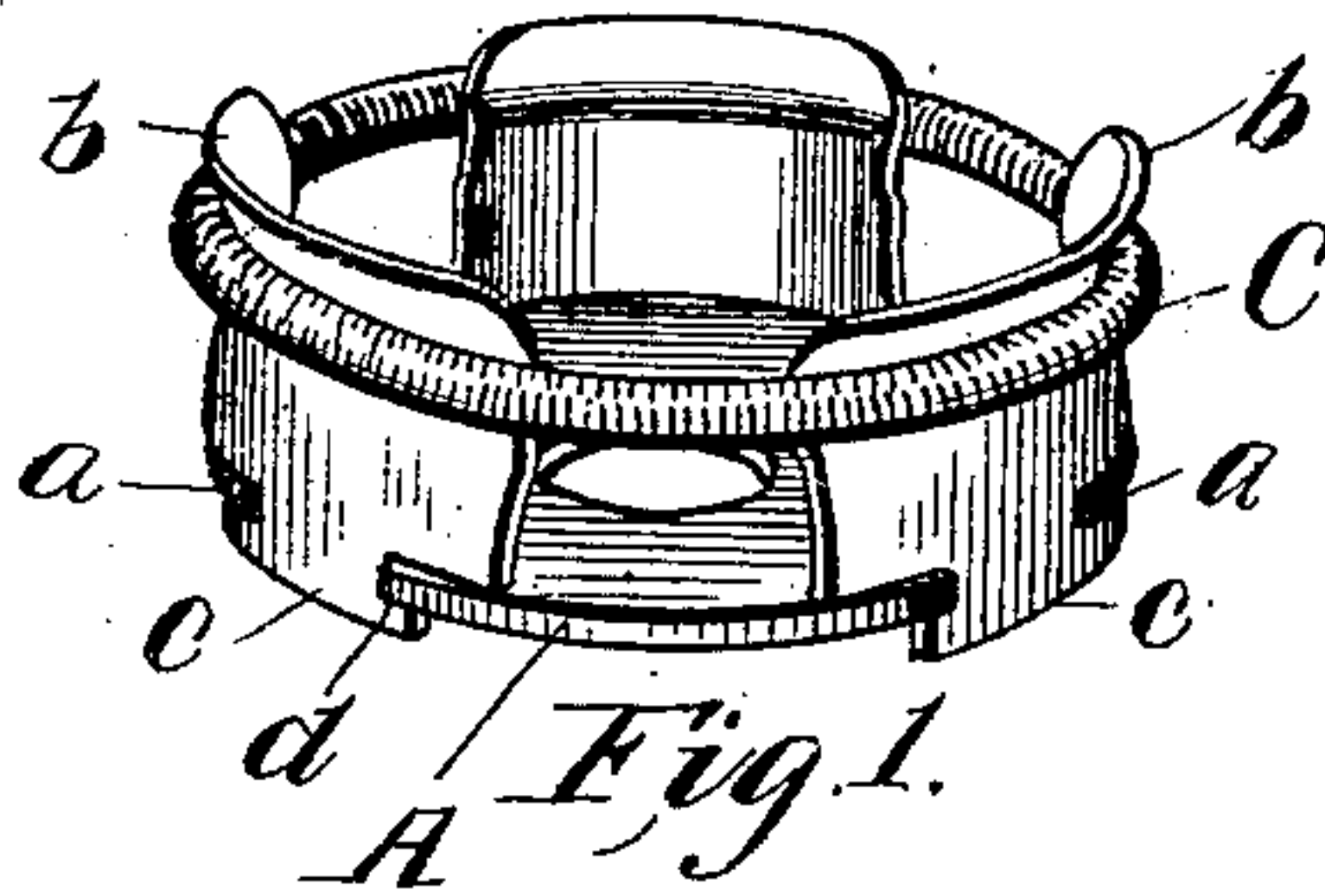


Fig. 2.

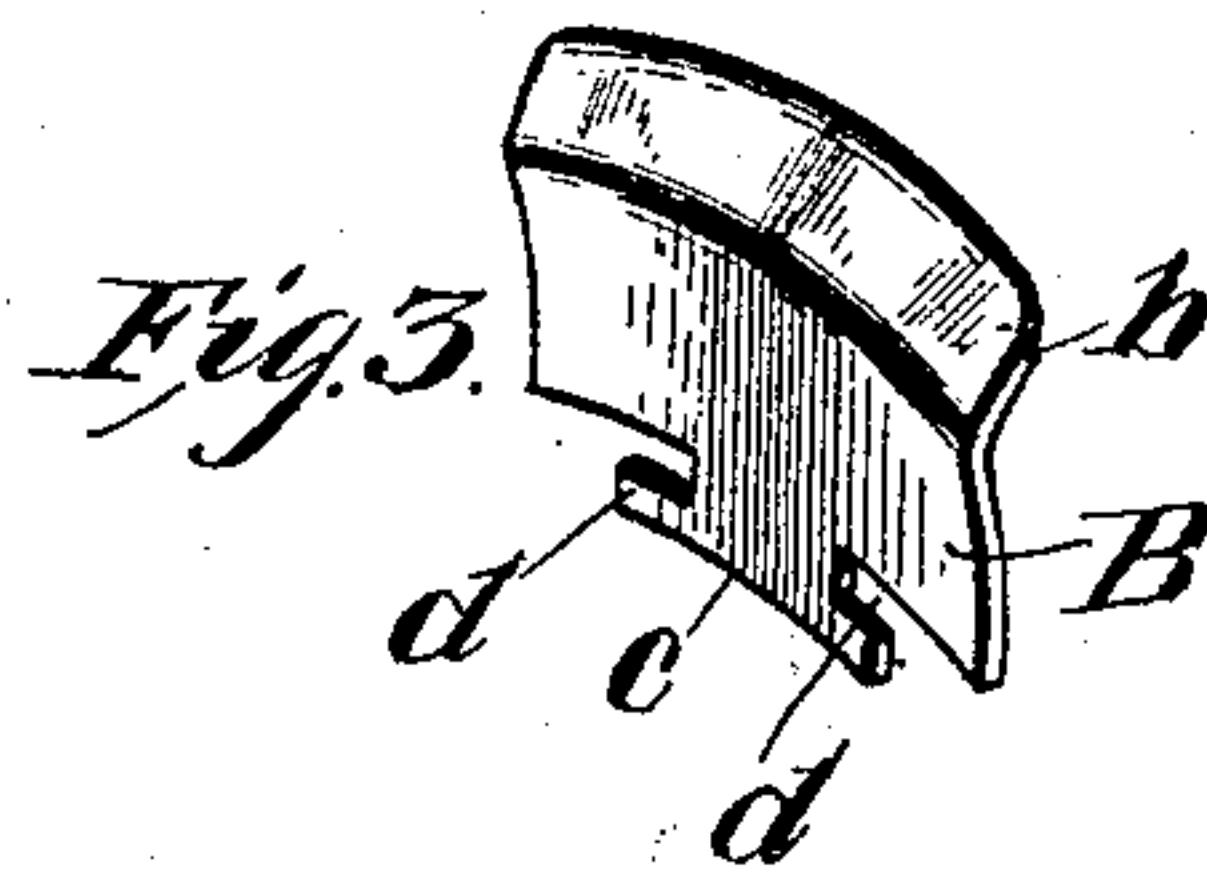
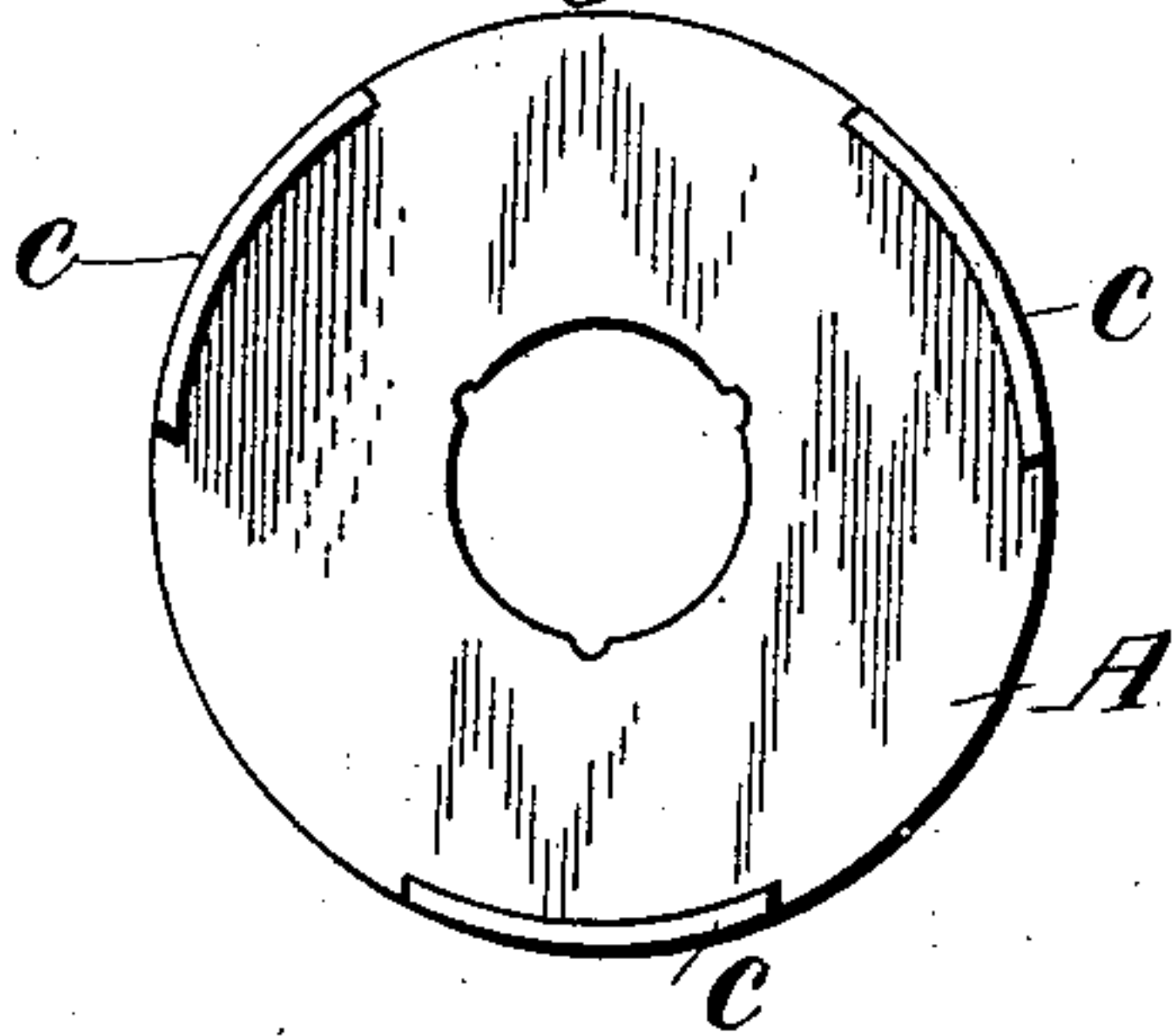


Fig. 3.

Fig. 4.

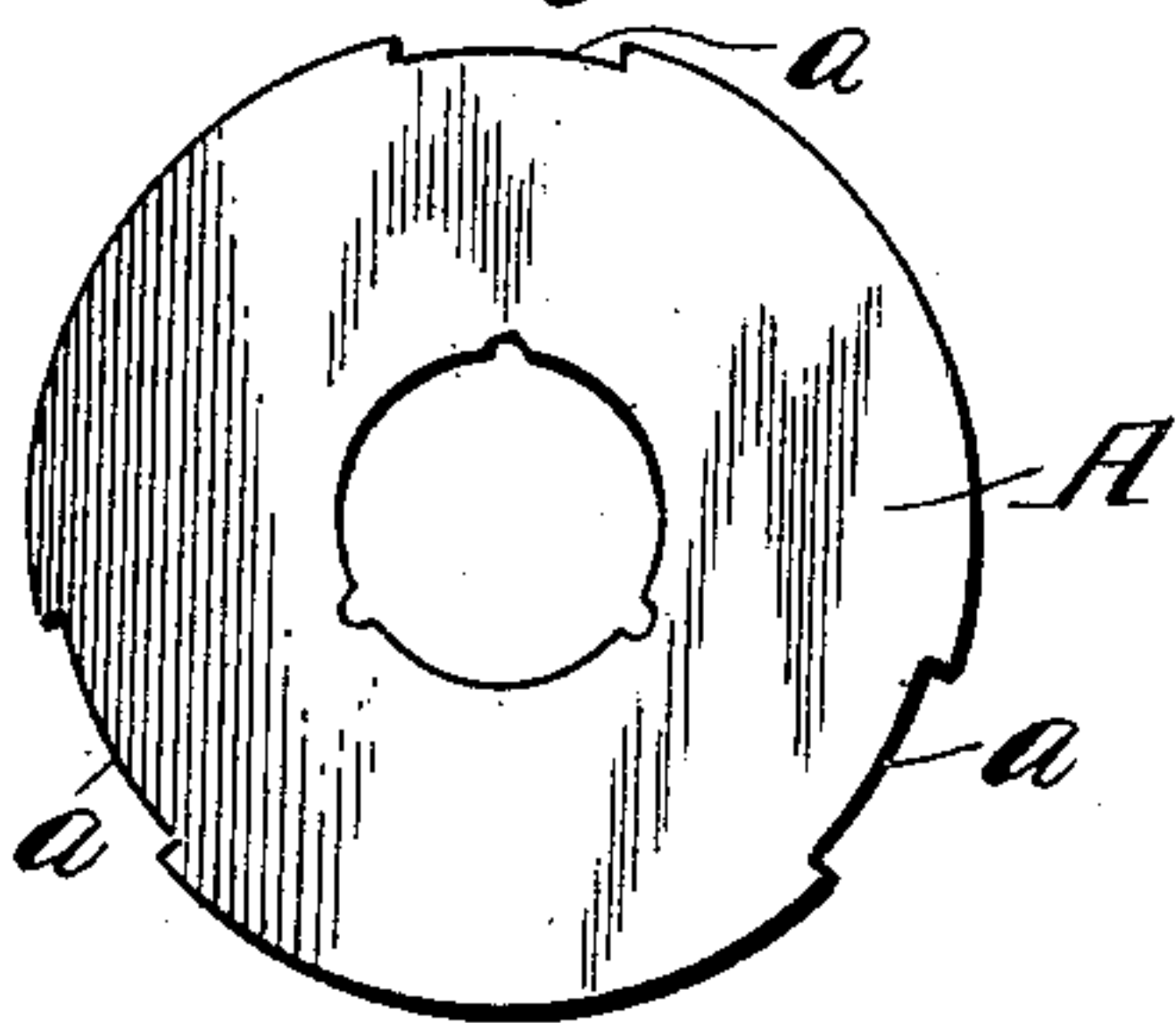


Fig. 5.

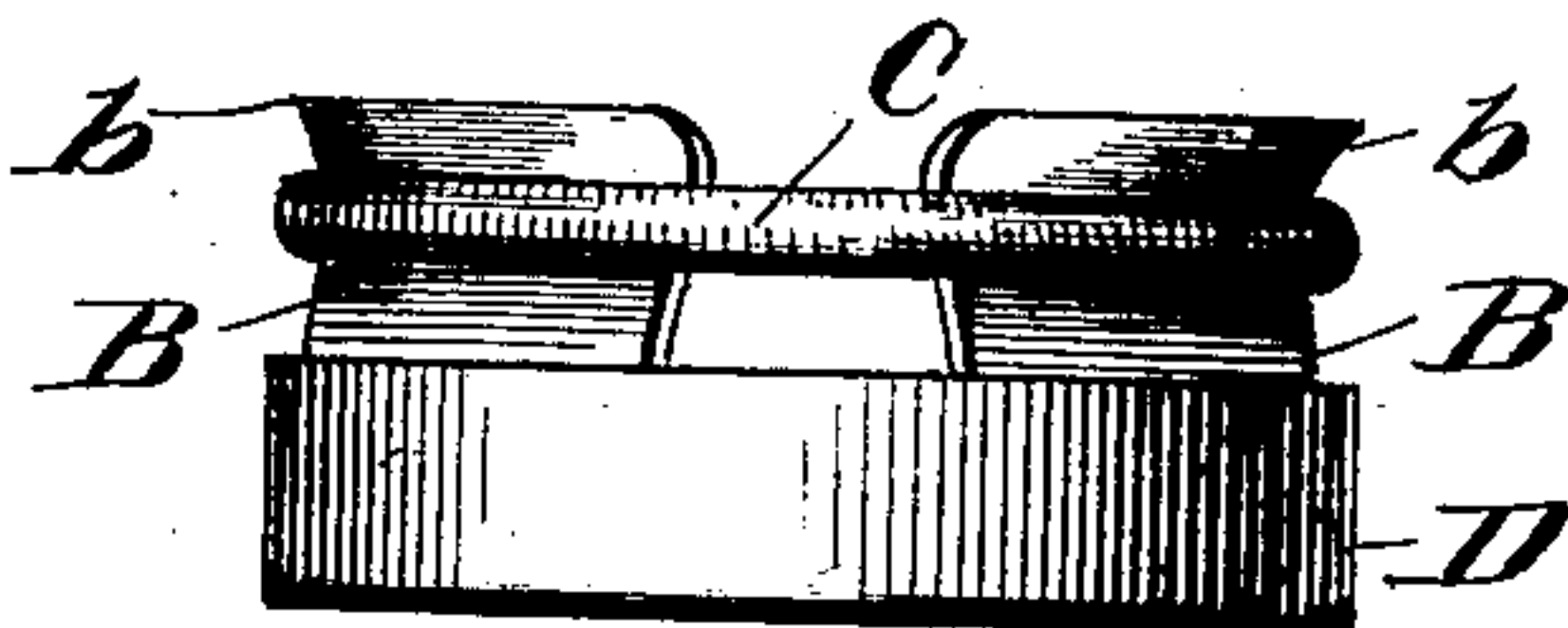


Fig. 7.

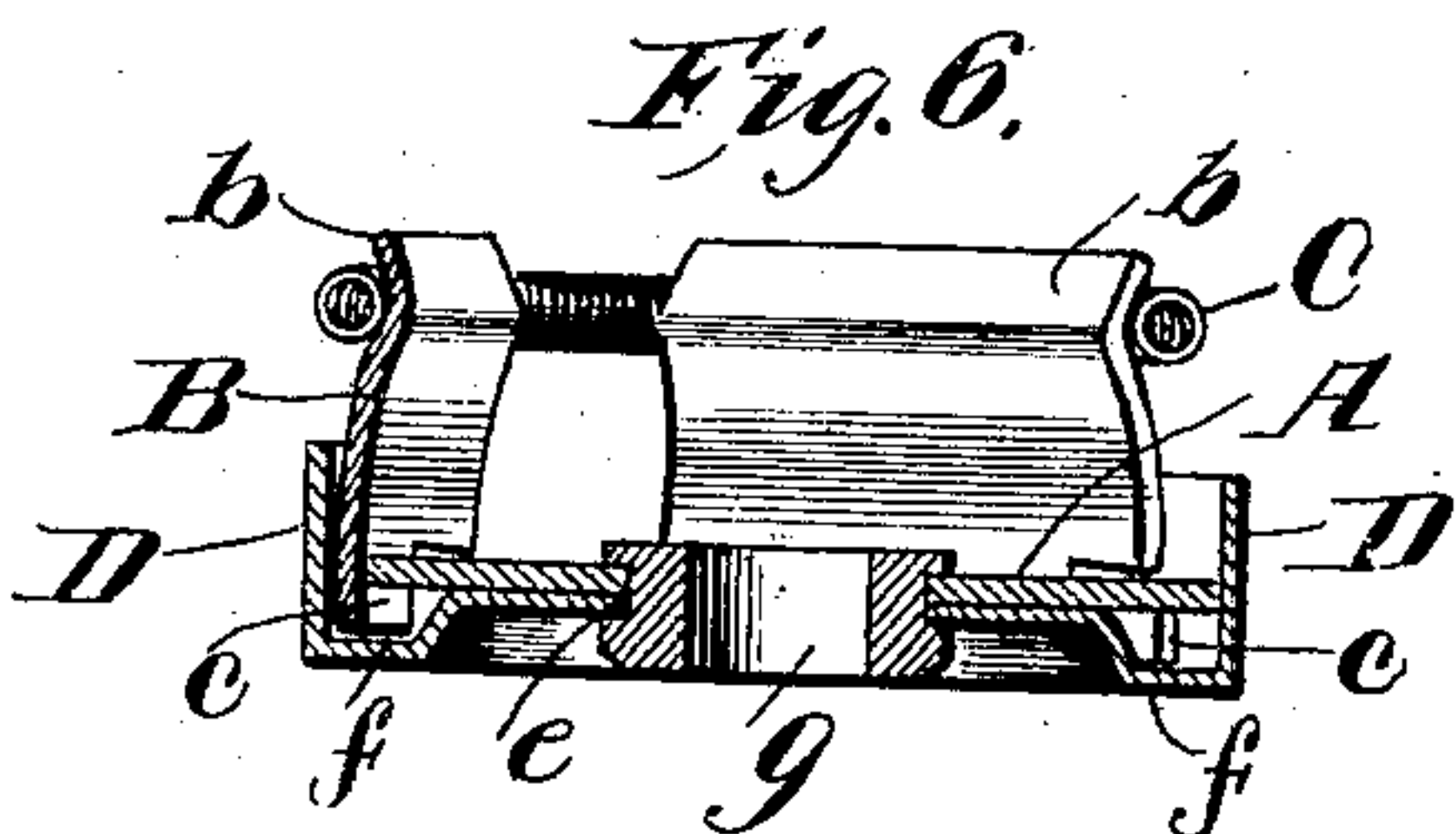
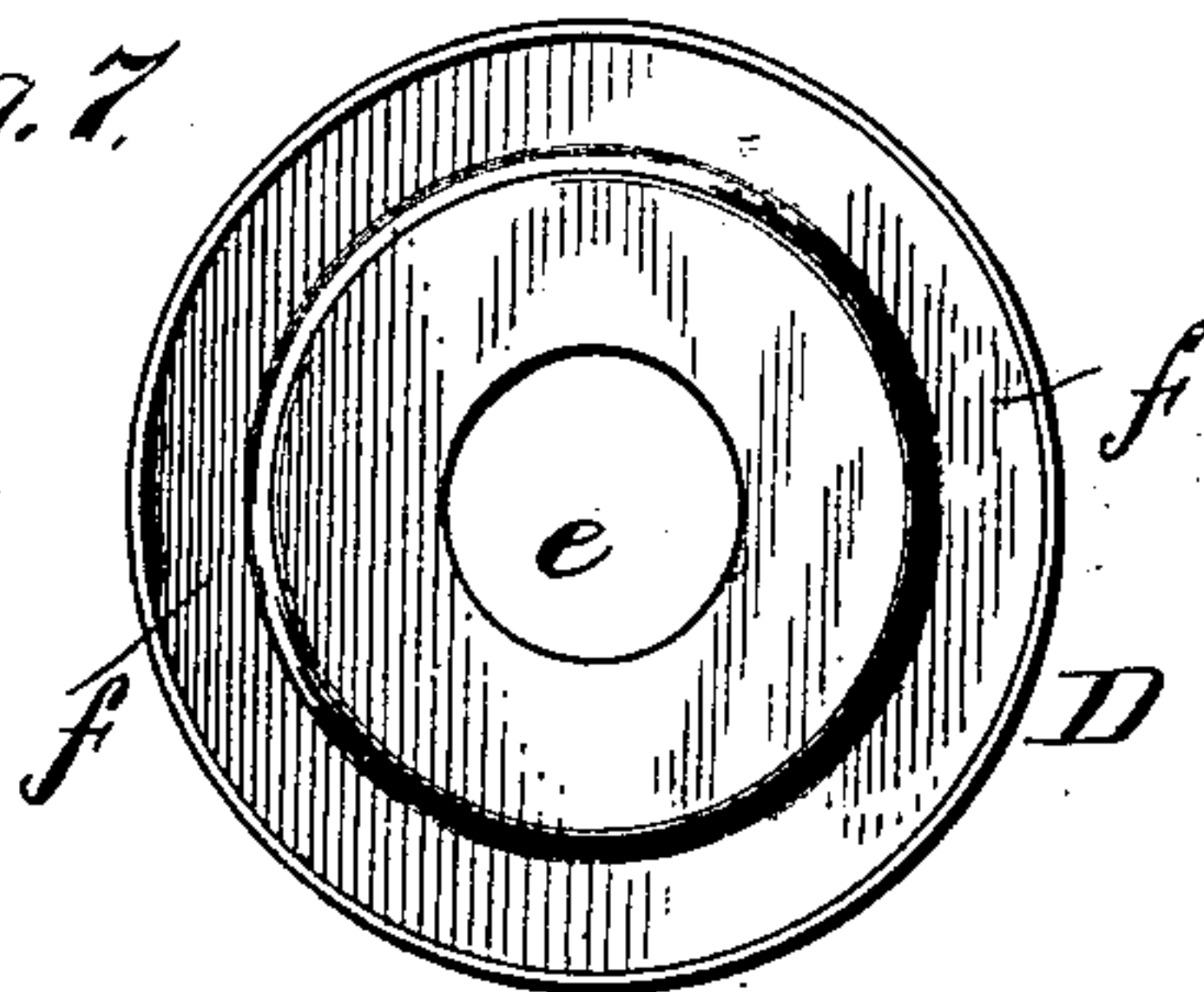


Fig. 6.

Witnesses  
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# UNITED STATES PATENT OFFICE.

JOHN RONEY AND JOHN C. RAE, OF WOONSOCKET, RHODE ISLAND.

## BOBBIN AND SPINDLE CONNECTOR.

No. 862,586.

Specification of Letters Patent.

Patented Aug. 6, 1907.

Application filed March 7, 1907. Serial No. 361,032.

*To all whom it may concern:*

Be it known that we, JOHN RONEY and JOHN C. RAE, citizens of the United States, residing at Woonsocket, in the county of Providence and State of Rhode Island, have invented new and useful Improvements in Bobbin and Spindle Connectors, of which the following is a specification.

Our invention has relation to bobbin holders or bobbin and spindle connectors; and it contemplates the provision of a bobbin holder or connector which while composed of a few simple and easily assembled parts, is highly efficient in holding a bobbin, is well adapted to withstand the usage to which bobbin and spindle connectors are ordinarily subjected, and is susceptible of being repaired with ease and expedition when necessity demands.

With the foregoing in mind the invention will be fully understood from the following description and claims when the same are read in connection with the accompanying drawings, forming part of this specification, in which:

Figure 1 is a perspective view on an enlarged scale illustrating the holder or connector constituting the preferred embodiment of our invention as the same appears when its cup is omitted. Fig. 2 is an inverted plan view of the same. Fig. 3 is a perspective view on an enlarged scale of one of the jaws of the holder, as the same appears when removed from the body of the holder. Fig. 4 is a detail plan view of the body of the holder. Fig. 5 is a side elevation of the complete holder. Fig. 6 is a diametrical section of the same, and: Fig. 7 is a detail plan view of the holder cup.

Similar letters of reference designate corresponding parts in all of the views of the drawings.

Our novel bobbin holder or bobbin and spindle connector comprises essentially a body A, radially-swinging, bobbin-engaging jaws B, and a spring C surrounding the jaws B and having for its office to yieldingly press the jaws inward so as to cause the same to properly engage the usual circumferentially grooved base of a bobbin. We also prefer to have our bobbin holder or connector comprise a cup D in which the remainder of the holder or connector is disposed and secured after the manner illustrated in Figs. 5 and 6.

As best shown in Figs. 2 and 4, the body A of the connector is in the form of a circular metallic plate, and this plate is provided in its perimeter with equi-distant shallow notches *a*. The bobbin-engaging jaws B have their upper ends flared, as indicated by *b*, to facilitate the placing of a bobbin in the connector and to retain the surrounding spring C on the group of jaws; and said jaws B which are curved in conformity to the perimeter of the body A, are provided at their lower ends with T-shaped lugs *c*, the stems of which correspond in length to or are of a slightly greater length than the thickness of the body plate. From this it follows

that notches *d* are afforded in the lower portions of the jaws B to receive the portions of the body plate at the opposite ends of the notches *a*, and it also follows that the lugs *c* connect the jaws B to the body A in such manner that the outer sides of the major portions of the jaws rest flush with the perimeter of the body, and also in such manner that the jaws are free to swing on the body, outwardly against the action of the spring C and inwardly under the impulse of said spring.

It will also be apparent that when the spring C is arranged as shown relative to the jaws B, the said spring will serve to hold the stems of the lugs *c* in the notches *a* of the body A, and the notches *d* of the jaws in engagement with the body A at opposite ends of the notches *a*, with the result that the lower portions of the jaws B are held to and on the body A, and this in such manner that the upper portions of the jaws are free to swing radially or inward and outward on the body.

It will further be apparent that our simple mode of interlocking the body A and jaws B enables the spring C to perform the two-fold function hereinbefore ascribed to it, and obviates the necessity of employing extraneous devices in the connection of the jaws with the body.

By reference to Figs. 6 and 7 it will be seen that the cup D of our improvements, which is preferably spun of metal, is provided with a central aperture *e* of a size such as shown, and is also provided in its bottom wall adjacent to its side wall or rim with a circular channel or depressed portion *f*. It will also be seen by reference to said Fig. 6 that the body A and jaws B of the connector are arranged in the cup D in such manner that the lugs *c* of the jaws are positioned in the groove or channel *f* of the cup so as to be free to move relative to the body A and the cup D when the upper portions of the jaws are moved inward or outward, and that the body A and the cup D are connected together, preferably through the medium of an annular piece *g*, preferably of brass, which has a reduced upper portion extending upward through the registered apertures of the cup bottom and body A and turned outward and downward against the upper side of the said body A. The annular piece *g* may be plain, as shown, to receive a spindle or may be threaded or otherwise adapted to positively engage a spindle, in the discretion of the manufacturer.

It will be gathered from the foregoing that when the body A is disconnected from the cup D, any one or all of the jaws B may be expeditiously and easily removed from the body A, and it will also be understood that when the body A and jaws B are positioned as shown in the cup D, the side wall or rim of the latter assists the spring C in preventing the lugs on the jaws B moving radially outward out of engagement with the body A.

It will be appreciated from the foregoing that our novel bobbin holder or bobbin and spindle connector

combines the advantages of simplicity, efficiency and durability, and that the parts of the said device are adapted to be easily and cheaply produced and assembled into a compact and neat device.

5 It will also be appreciated that a bobbin may be engaged with the connector by simply pressing the bobbin base down between the jaws B, and may as readily be removed from the connector by drawing the said base upward.

10 Having described our invention, what we claim and desire to secure by Letters-Patent, is:

1. The combination in a bobbin and spindle connector, of a body having equi-distant notches in its edge, a plurality of jaws having T-shaped lugs at their lower ends  
15 the stems of which are disposed in the said notches of the body and also having notches at opposite sides of said stems receiving the portions of the body at the ends of the notches, and a spring surrounding the jaws in a horizontal plane above the body.

2. The combination in a bobbin and spindle connector, 20 of a cup having a groove or channel in its bottom at a point adjacent to its side wall or rim, a body arranged in the cup and having equi-distant notches in its edge, a plurality of jaws having T-shaped lugs at their lower ends  
25 the stems of which are disposed in the said notches of the body and also having notches at opposite sides of said stems receiving the portions of the body at the ends of the notches; the lower portions of said jaws being disposed in the cup and adjacent to the side wall or rim thereof, and the lower ends of the lugs on the jaws being located in the  
30 groove or channel of the cup bottom, a spring surrounding the jaws and disposed above the body and the cup, and means connecting the bottom of the cup and the body.

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

JOHN RONEY.  
JOHN C. RAE.

Witnesses:

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ISABELLE SMITH.