J. RONEY & J. C. RAE.

BOBBIN AND SPINDLE CONNECTOR.

APPLICATION FILED NOV. 29, 1910.

999,059. Patented July 25, 1911.

Fig. 1.

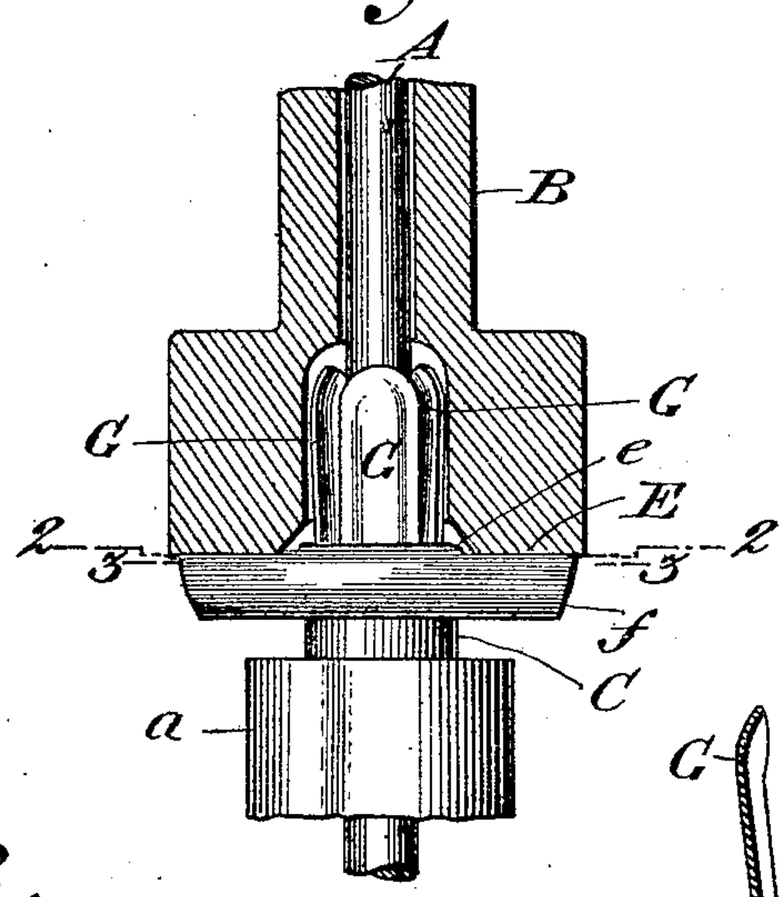


Fig. 2.

Fig. 3.

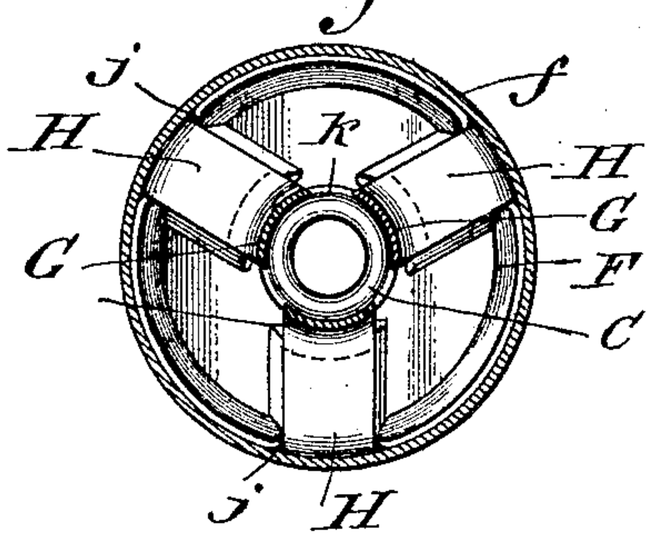


Fig. 4.

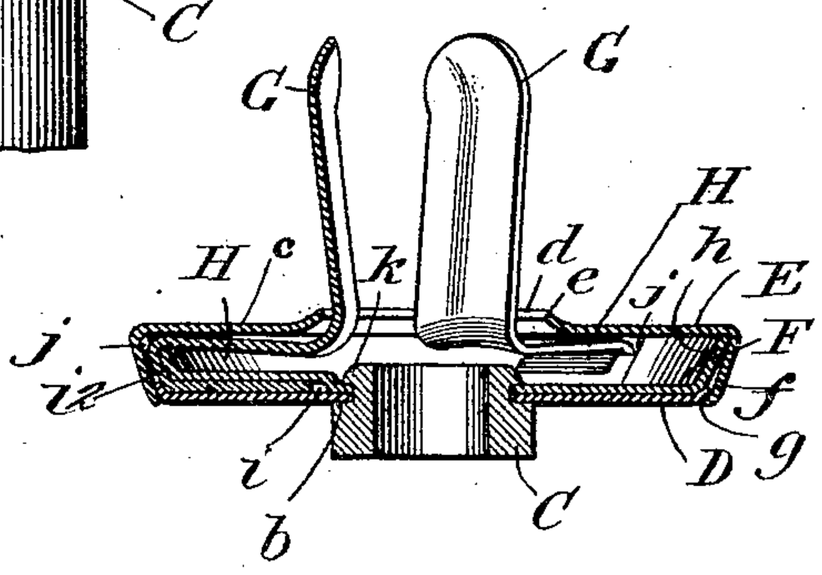


Fig. 5.

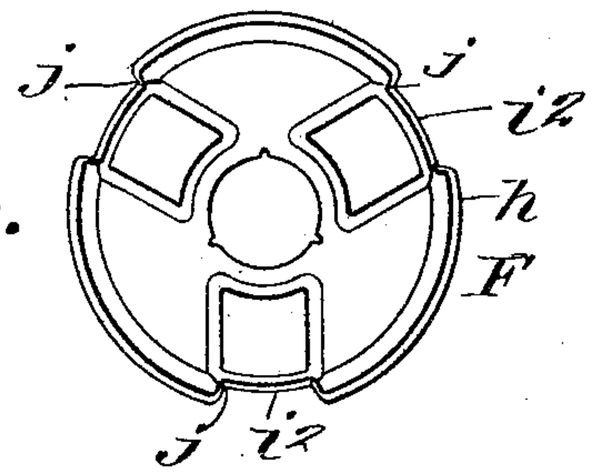


Fig. 6.

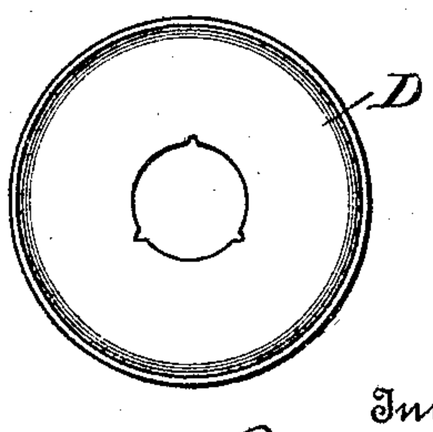
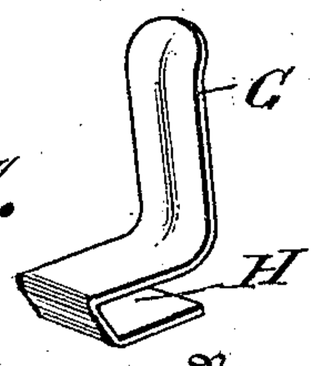


Fig. 7.



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BOBBIN AND SPINDLE CONNECTOR.

999,059. Specification of Letters Patent. Patented July 25, 1911.

Application filed November 29, 1910. Serial No. 594,763.

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 present invention has to do with what are known as internal-clamping bobbin and spindle connectors; and it seeks to provide a simple, compact and strong connector of the kind stated, and one which is also constructed with a view of preventing lint, etc., from getting in the casing body and clogging the clamping jaws.

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 drawings, accompanying and forming part hereof, in which:

Figure 1 is a view showing the connector constituting the preferred embodiment of our invention in use. Figs. 2 and 3 are horizontal sections taken in the planes indicated by the lines 2—2 and 3—3, respectively, of Fig. 1, looking downward. Fig. 4 is an enlarged diametrical section taken on the line 4—4 of Fig. 2. Fig. 5 is a plan of the clamping plate comprised in the connector. Fig. 6 is a plan of the lower section of the casing body. Fig. 7 is a perspective of one of the jaws comprised in the connector.

Similar letters designate corresponding parts in all of the views of the drawings, referring to which:

A is a spindle having the usual whirl *a*.

B is a bobbin.

C is the collar of our novel connector, and D and E are the lower and upper sections, respectively, of the casing body of the connector.

As best shown in Fig. 4, the collar C is provided with a shoulder *b*, and on the said shoulder is placed the apertured and flanged section D of the casing body. The upper section E of said casing body includes a top wall *c* in which is an aperture *d* surrounded by an upwardly directed flange *e;* and it also includes a depending marginal flange *f*. After the internal parts hereinafter described are properly positioned in the casing body, the said flange *f* of section E is designed to be clamped against the flange of section D at *g*, and when this is done the casing body will prevent the entry of lint and other foreign substance to the internal parts; it being understood in this connection that when the bobbin is placed on the connector, the base of the bobbin surrounds and rests over the flange *e* of the upper section E in the manner shown in Fig. 1.

In assembling the parts of our improvements, the lower section D of the casing body is first placed on the collar C, and then the clamping plate F and the jaws G are properly assembled and placed in an assembled state on the said section D. The clamping plate F is provided with an upstanding marginal flange *h;* and it is also provided with recesses *i* in its underside, and recesses i^2 in the outer side of its flange *h* which recesses i^2 communicate with the recesses *i*. In the edge of the flange *h* are notches *j* which communicate with the recesses i^2. The clamping jaws G which extend upward through the aperture *d* in the section E are preferably shaped as shown, and each is provided at its lower end with a loop-shaped shank H. The upper portions of the said loop-shaped shanks H rest in the notches *j* of the clamping plate F, the bights of the said shanks straddle the edge of the clamping plate and rest in the recesses i^2, and the lower of the shank portions rests in the recesses *i* and between the top walls of the said recesses and the lower section D, all as clearly shown in Fig. 4. From this it follows that when the upper end of the collar C is upset or riveted on the plate F, as indicated by *k* in Fig. 4, the plate F will be securely held down upon the lower section D, and, in turn, the said plate F will securely clamp and hold the lower portions of the jaw shanks H against the section D. It will be observed here that the flange *h* of the clamping plate F rests under and supports the horizontal portion of the upper section E of the casing-body, and at the same time enables said section E to hold said plate F down upon the lower section D. It will also be observed by comparison of Figs. 2 and 4, that the jaws G normally bear outward against the wall of the aperture *d* in the top section E, and that the said jaws are adapted to move inward as when a bobbin is placed over them, this being due to the resiliency of the jaws as a whole and

the space afforded between the collar C and the bends intermediate the jaws and their shanks H.

It will be gathered from the foregoing that the connector as a whole is very simple and compact and embodies no parts that are likely to get out of order after a short period of use; and it will also be gathered that in addition to clamping and holding the lower portions of the jaw shanks H against the body section D, the clamping plate F, by reason of its flange *h* resting under the outer ends of the upper shank portions, serves to support the said upper shank portions in such manner that the inner ends thereof and the jaws G are free to move downward. This is advantageous inasmuch as it contributes to the facility with which a bobbin can be placed over the jaws G, and also for the reason that it enables the jaws to exert lateral pressure outward and internally clamp and securely hold the bobbin.

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

1. A bobbin and spindle connector, comprising a lower casing-body section in which is a central aperture, an upper casing-body section having a top wall in which is a central aperture and also having a depending marginal flange clamped against the said lower section, a clamping plate having a central aperture and also having recesses in its underside and further having an upstanding flange and recesses therein and in communication with the first-named recesses, and notches in the upper edge of the flange and in communication with the second-named recesses; said clamping plate being superposed on the said lower casing-body section, clamping jaws extending upward through the aperture in the upper casing-body section and having shanks disposed in the casing body, which shanks are loop-shaped and have bights straddling the edge of the clamping plate and also have lower portions disposed in the first-named recesses of the clamping plate and between the same and the lower casing-body section, and a collar arranged in the apertures of the lower section and clamping plate and having a shoulder below the former and a portion upset on the latter.

2. A bobbin and spindle connector, comprising a lower casing-body section in which is a central aperture, an upper casing-body section having a top wall spaced from and connected with the lower section and also having an aperture in said top wall, a clamping plate having a central aperture and also having an upstanding marginal flange that supports the top wall of the upper casing-body section and is provided in its upper edge with notches; said clamping plate being superposed on the lower casing-body section, clamping jaws extending upward through the aperture in the upper casing-body section and having loop-shaped shanks disposed in the casing-body and straddling the edge of the clamping plate and also having the outer ends of the upper portions of said shanks arranged in the notches of the said flange, and the lower portions of the shanks interposed between the lower section and the clamping plate, and means holding the lower section and the clamping plate together.

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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