

(No Model.)

J. W. WATTLES.

SPINNING FRAME RING AND HOLDER.

No. 335,406.

Patented Feb. 2, 1886.

Fig. 1.

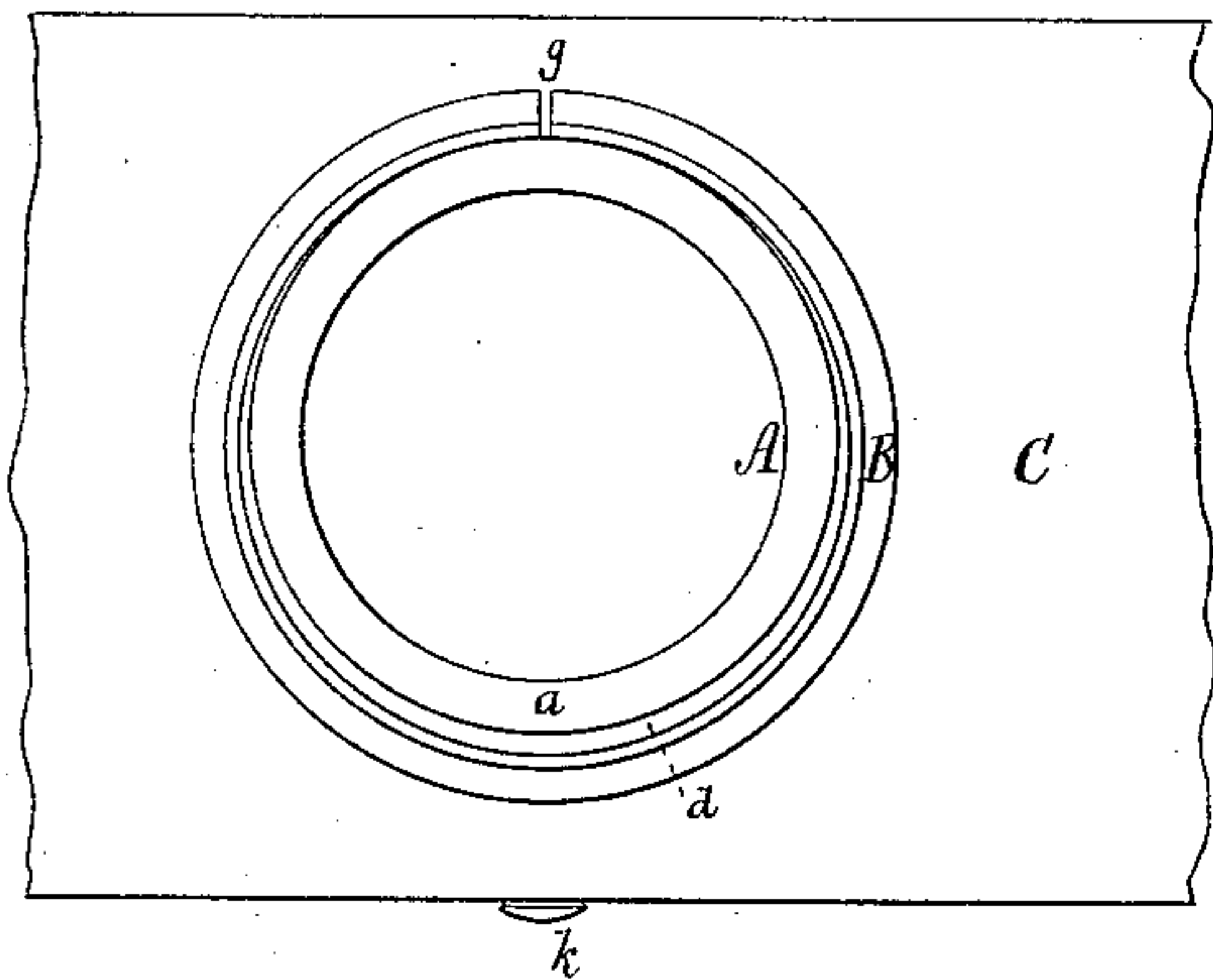


Fig. 2.

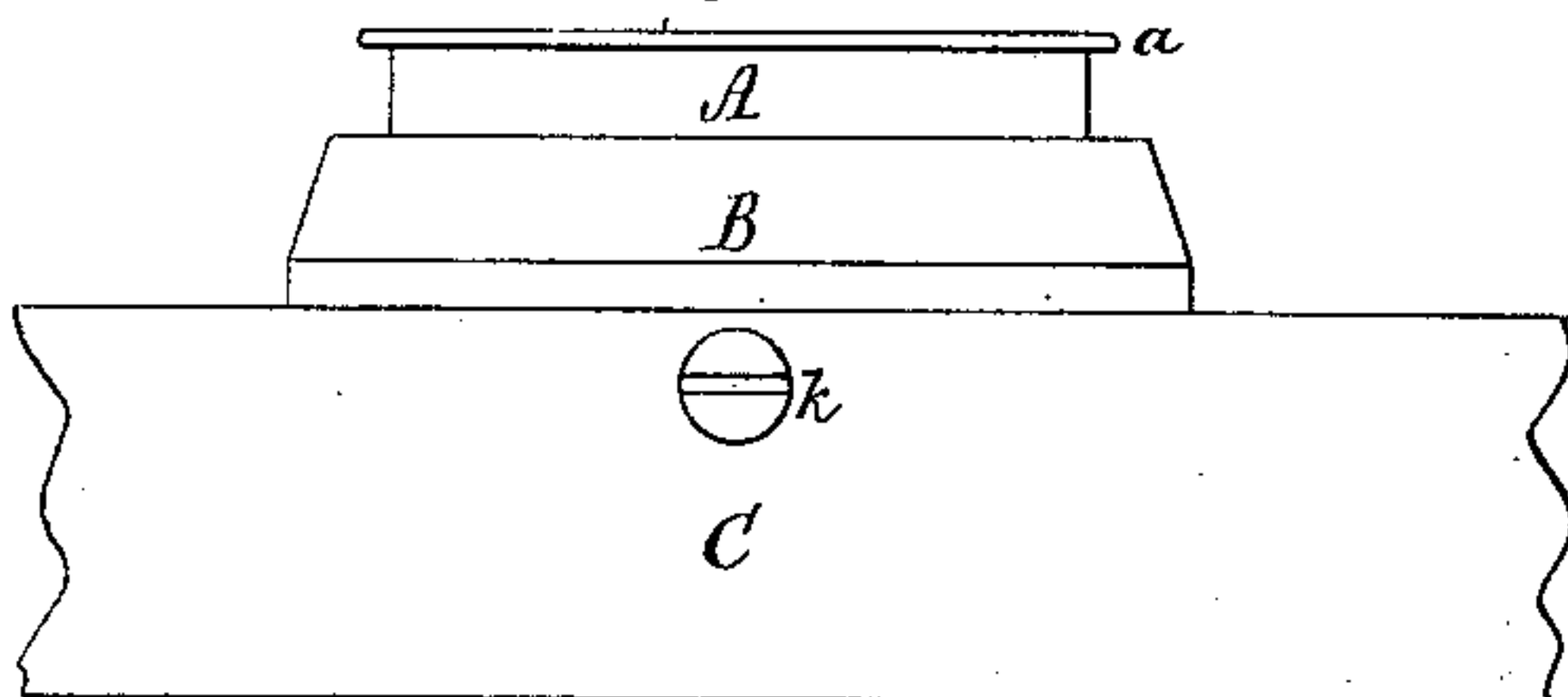


Fig. 3.

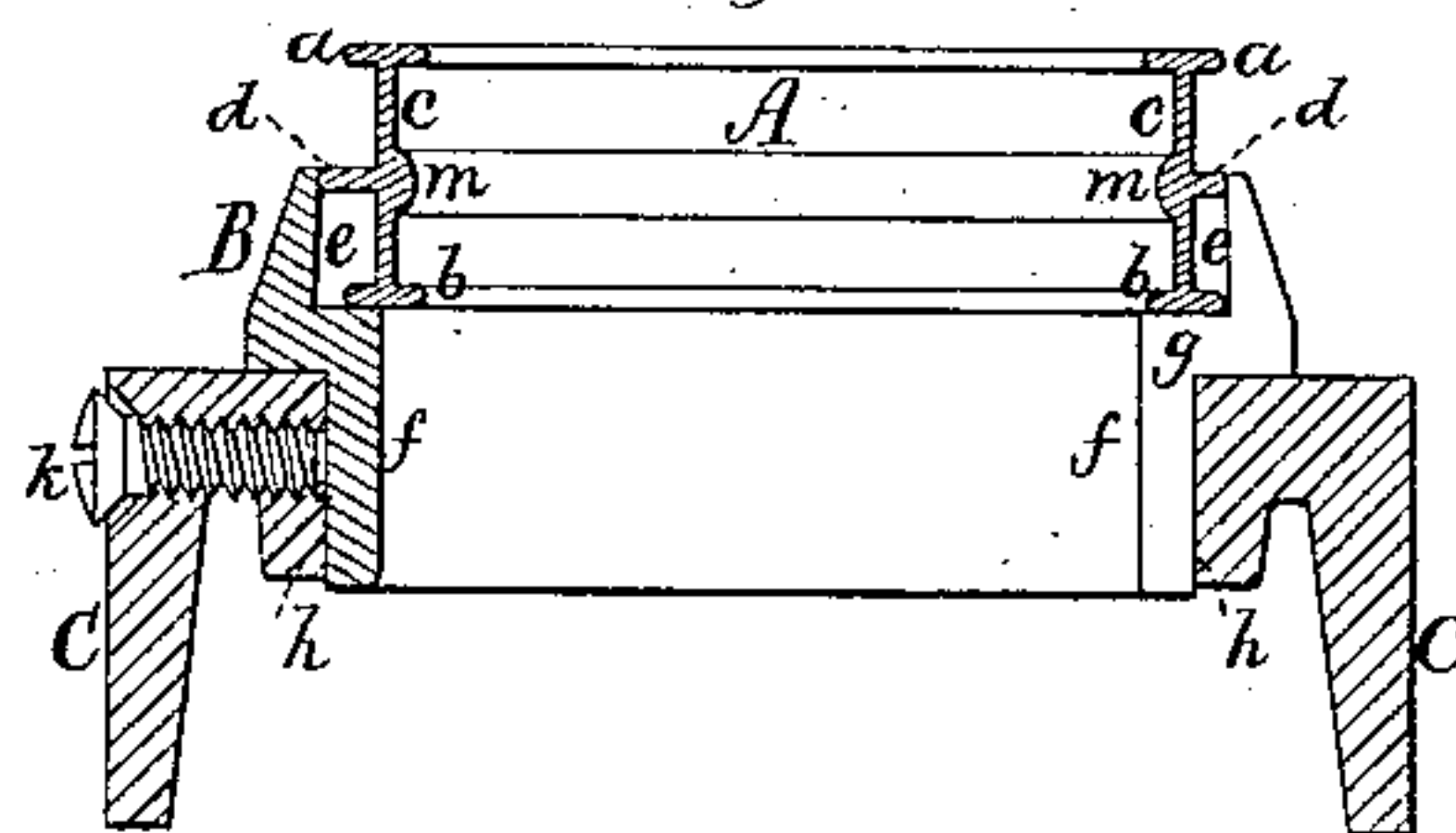


Fig. 7.

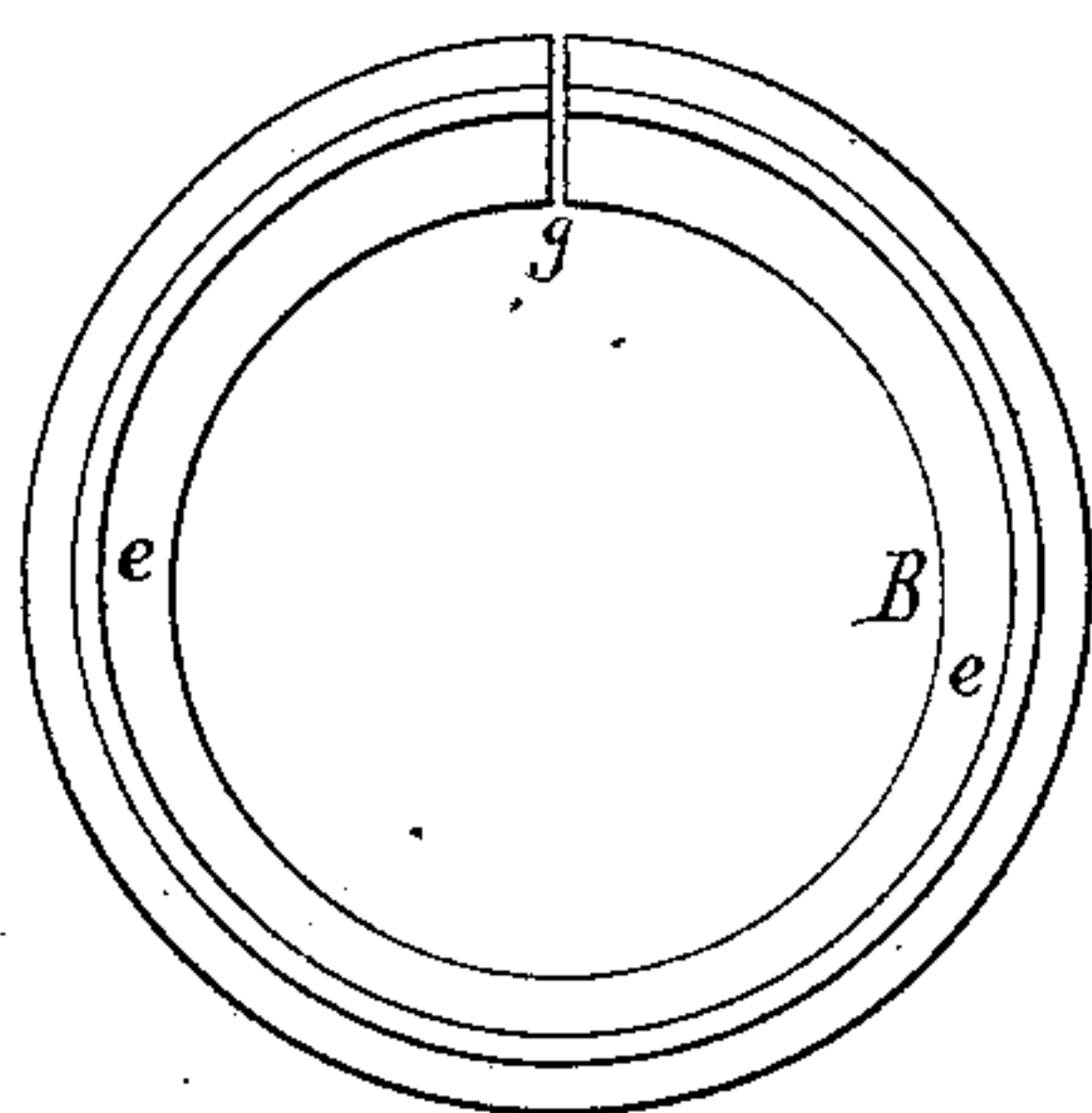


Fig. 8.

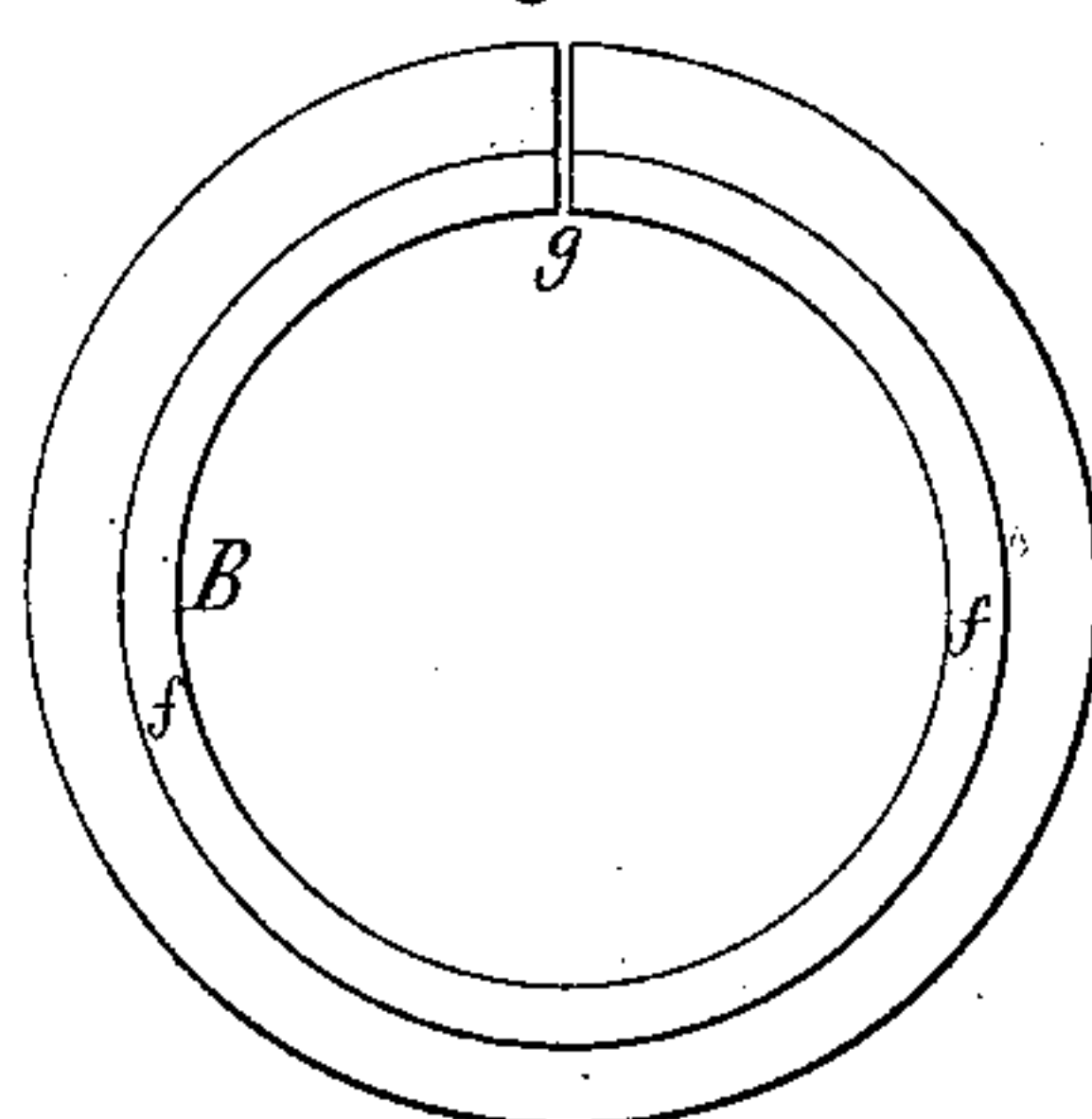


Fig. 4.

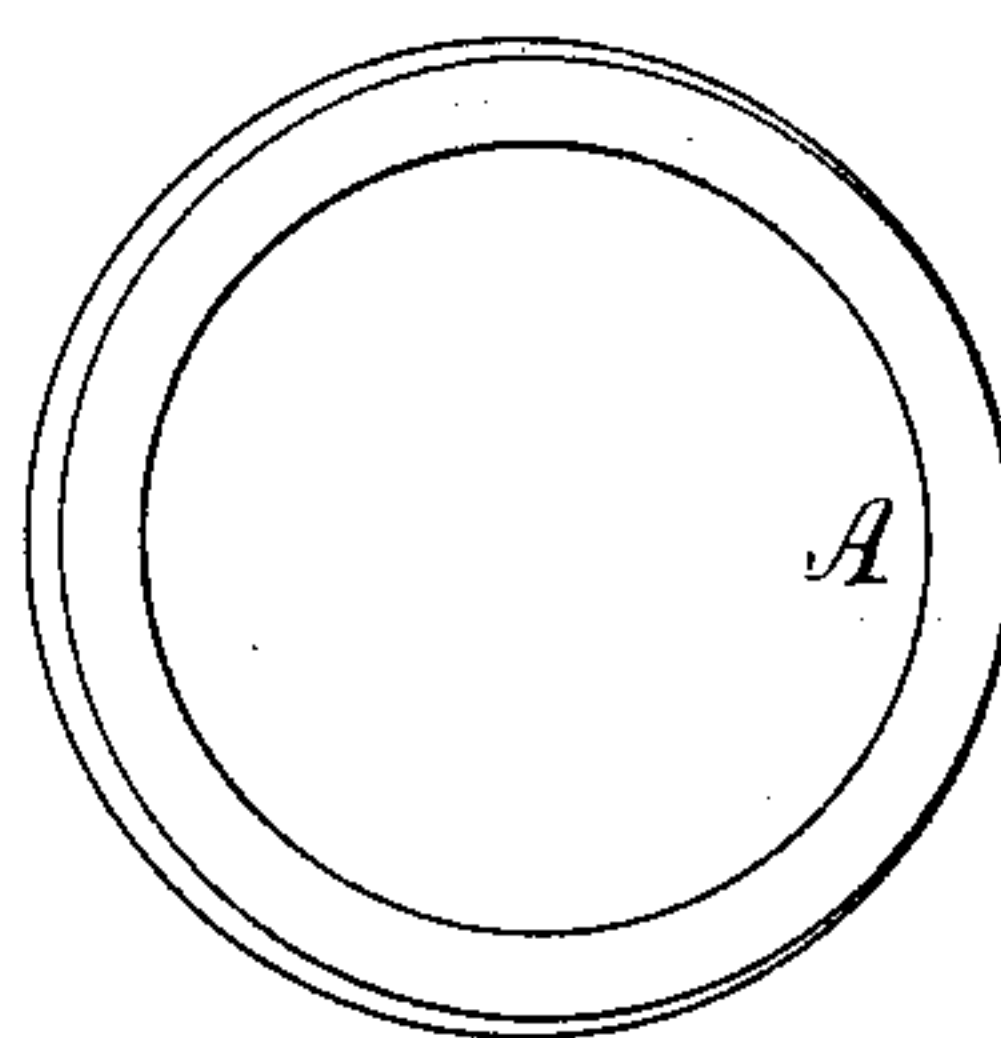


Fig. 9.

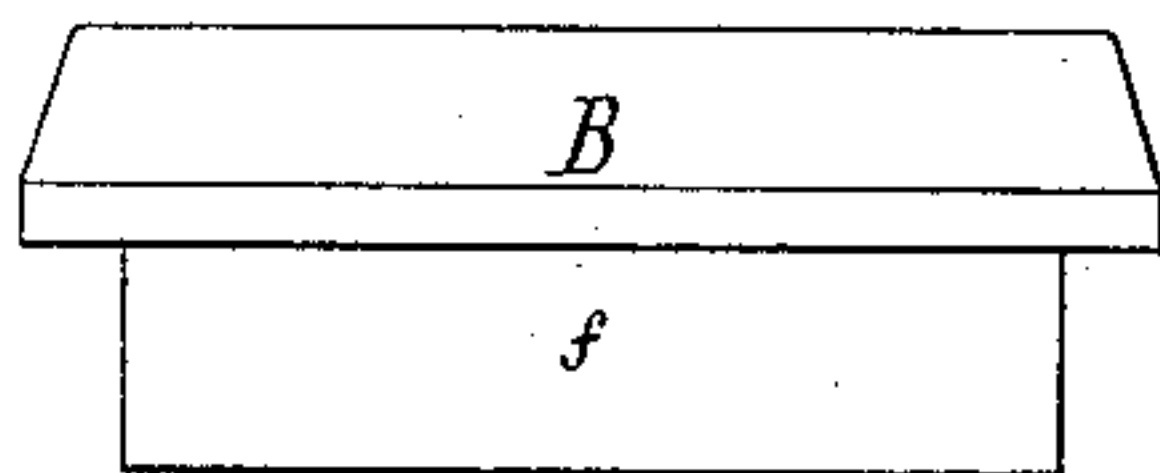


Fig. 10.

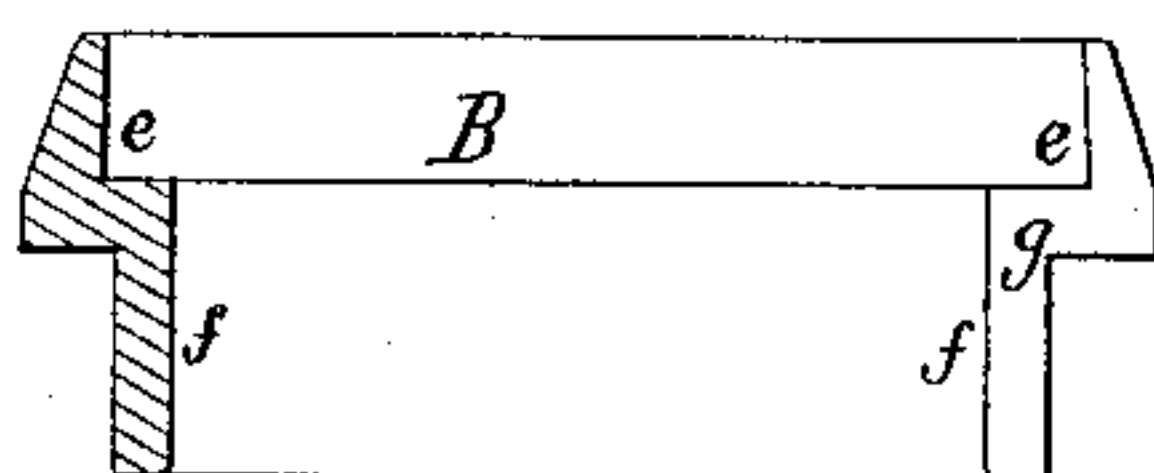


Fig. 5.

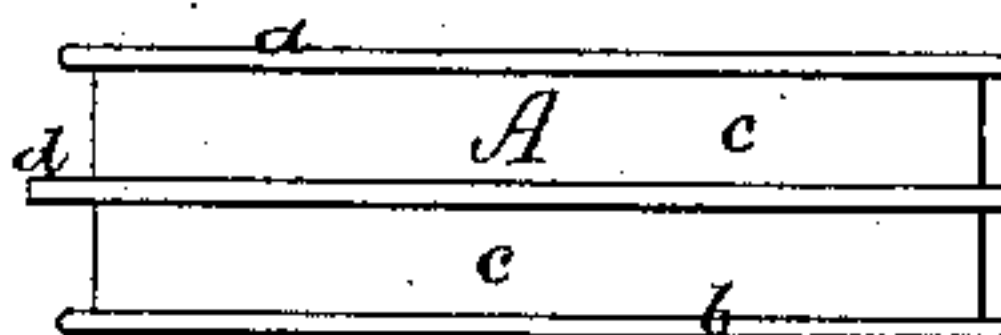
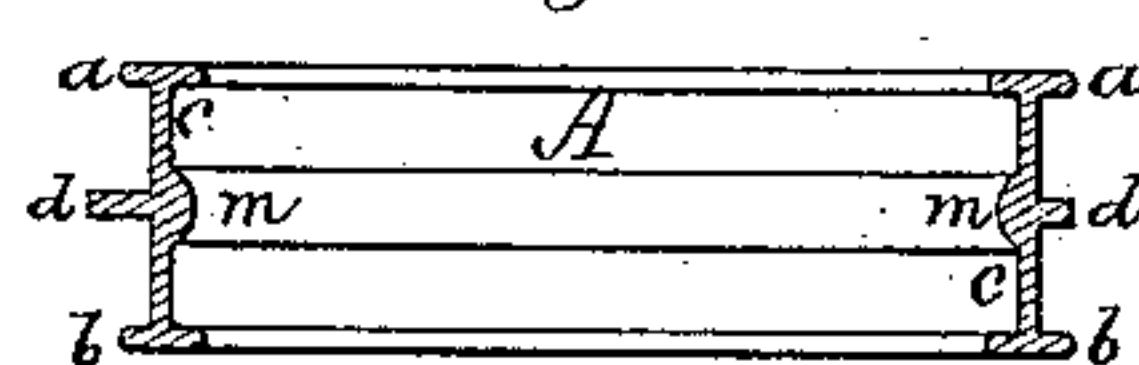


Fig. 6.



Witnesses.

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# UNITED STATES PATENT OFFICE.

JOSEPH WARREN WATTLES, OF CANTON, MASSACHUSETTS.

## SPINNING-FRAME RING AND HOLDER.

SPECIFICATION forming part of Letters Patent No. 335,406, dated February 2, 1886.

Application filed August 17, 1885. Serial No. 174,612. (No model.) Patented in England March 25, 1878, No. 1,173.

*To all whom it may concern:*

Be it known that I, JOSEPH WARREN WATTLES, of Canton, in the county of Norfolk, of the Commonwealth of Massachusetts, have invented a new and useful Improvement in Spinning-Frame Rings and Holders; and I do hereby declare the same to be described in the following specification and represented in the accompanying drawings, of which—

Figure 1 is a top view, Fig. 2 a front elevation, and Fig. 3 a transverse section, of a ring-rail, ring-holder, and ring provided with my invention. Fig. 4 is a top view, Fig. 5 a side view, and Fig. 6 a transverse section, of the ring. Fig. 7 is a top view, Fig. 8 a bottom view, Fig. 9 a side elevation, and Fig. 10 a transverse section, of the ring-holder.

The nature of my invention is defined in the claims hereinafter presented, it relating to spinning-frame rings having two races, or what are termed "duplex race-rings," and holders or receivers therefor inserted in sockets of the ring-rail.

In the said drawings, A denotes the ring, B its receiver or holder, and C the ring-rail. The said ring, made of metal, has two circular and annular races, *a* and *b*, arranged parallel to each other, and connected at their middles by a short cylindrical tube or annulus, *c*, extending from one race to the other, such annulus at the middle of its outer periphery being provided with a flange, *d*, circular on its periphery, but having such periphery eccentric with respect to each of the races. Within the said cylindrical annulus and projecting from and around the middle of its inner periphery, is a counter-flange, *m*, which is to stiffen the said annulus, in order to prevent it or the eccentric flange of it from springing out of its proper shape during tempering of the ring.

The ring holder or receiver (shown at B) is a metallic annulus, having within its upper portion an annular rabbet, *e*, having in its upper part an internal diameter corresponding to that of the eccentric flange *d*. The said rabbet has a depth equal to the distance between the top of the ring-flange and the bottom of the lower race. That part of the rabbet which encompasses the eccentric flange is eccentric with reference to the inner periph-

ery of the tubular shank *f* of such ring-holder. The outer periphery of such shank may be either concentric or eccentric with respect to the said inner periphery. The shank has a diameter less than that of the base part of the body of the holder, which rests on the ring-rail C when the shank is within the circular opening *h* for its reception. Furthermore, there is a cross cut or opening, *g*, in or through the ring-holder transversely on one side of the axis of such holder, such cross-cut being to enable the holder to be contracted or sprung upon the flange of the ring when such ring is within the rabbet and resting on the bottom thereof.

As hereinbefore stated, the ring-rail shown in part at C has in it a cylindrical socket or hole, *h*, for reception of the shank of the holder B. A screw, *k*, screwed into the ring-rail and against the said shank, serves to contract the holder upon the flange of the ring, as well as to confine the holder in its place in the rail.

Whenever one race of the ring may have become too much worn or injured by its traveler, the ring may be withdrawn from the holder and inverted and replaced therein, so as to bring the other race uppermost.

By means of the flange and rabbet arranged eccentrically relatively to the races of the ring and the bore of the shank of the holder in manner as represented, adjustment of the upper race of the ring into concentricity with the spindle can be easily effected by revolving the ring in the holder or the latter in the rail, or by revolving both ring and holder, as occasion may require.

With the holder constructed as described, rings varying in diameter may be used, so long as their eccentric flanges may be alike in diameter, such being important for spinning various numbers of yarn.

I do not herein claim a spinning-frame ring or a holder therefor constructed as represented in either of the United States Patents Nos. 115,160, 118,622, and 166,909; but I claim—

1. The combination of a spinning-frame ring having two races connected at their middles by a cylindrical annulus, and also having midway between such races a flange having a circular periphery arranged eccentrically with respect to each race, with a ring-holder hav-



ing an annular shank and above such shank  
an annular socket or rabbet having in its up-  
per part a diameter corresponding to that of  
the periphery of the flange of the ring, and a  
5 depth for it (the said rabbet) to receive the  
flange in said upper part when either race may  
be resting on the bottom of the rabbet, such  
holder having a cross-cut, and such rabbet be-  
ing eccentric relatively to the bore of the  
10 shank, as set forth.

2. The duplex race-ring holder, substan-  
tially as described, provided with an annular  
shank, in combination with a ring-rail having  
a socket corresponding to said shank, the said  
15 holder also having arranged above and eccen-  
trically relatively to the cylindrical bore of  
such shank an annular rabbet or socket to re-

ceive a ring, such rabbet having in its upper  
part a diameter corresponding with that of  
the periphery of the eccentric flange of the 20  
duplex race-ring, and also having a depth for  
the flange to enter such upper part when either  
race may be resting on the bottom of such  
rabbet, and such holder being cross-cut, so as  
to be contracted, as set forth, the whole being 25  
so as to admit of the ring being removed from  
the holder without the necessity of first de-  
taching the latter from the ring-rail, all being  
substantially as set forth.

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Witnesses:

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