

(No Model.)

J. BOOTH.  
HOLDER FOR SPINNING RINGS.

No. 370,234.

Patented Sept. 20, 1887.

Fig. 1.

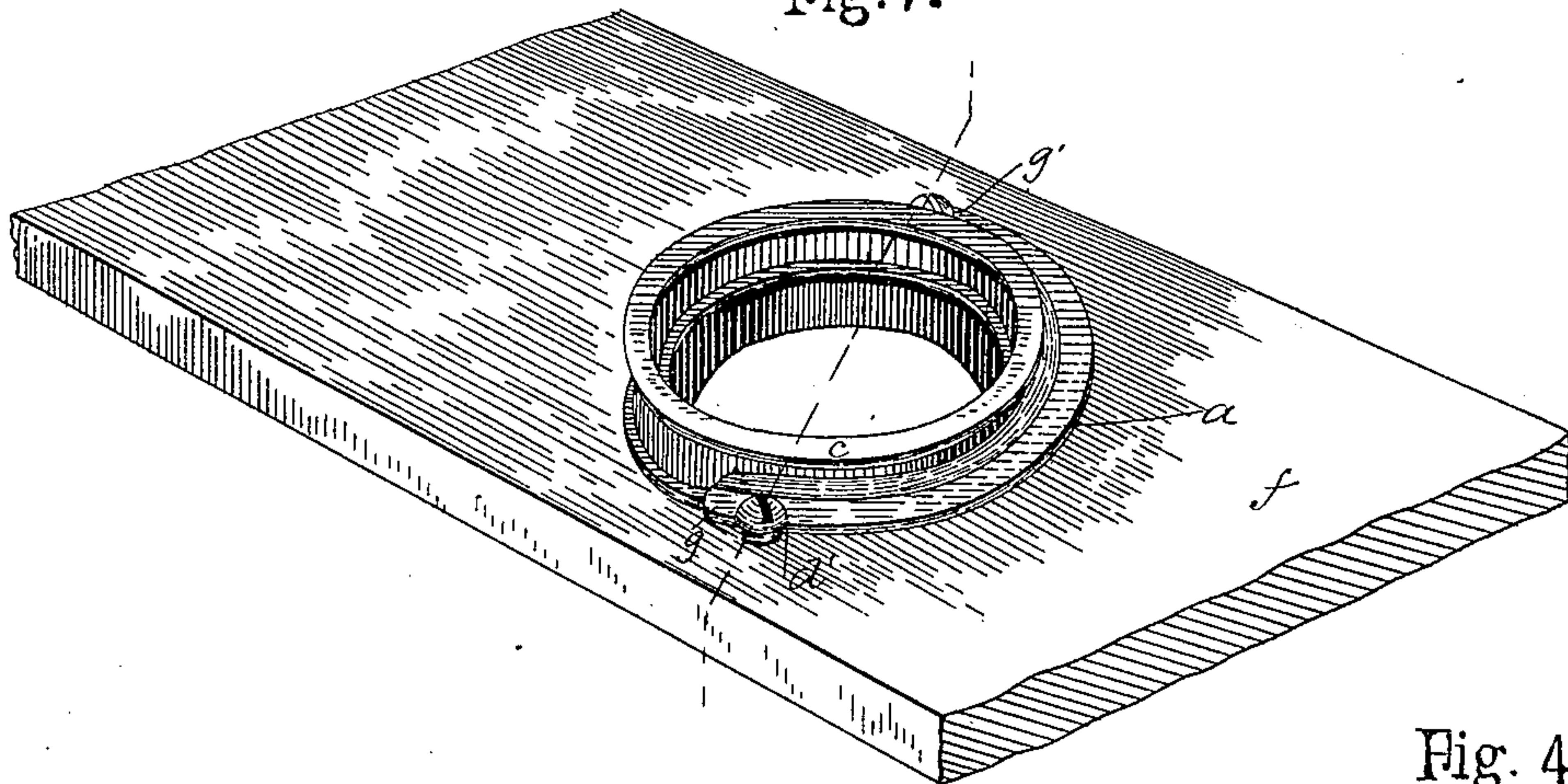


Fig. 4.

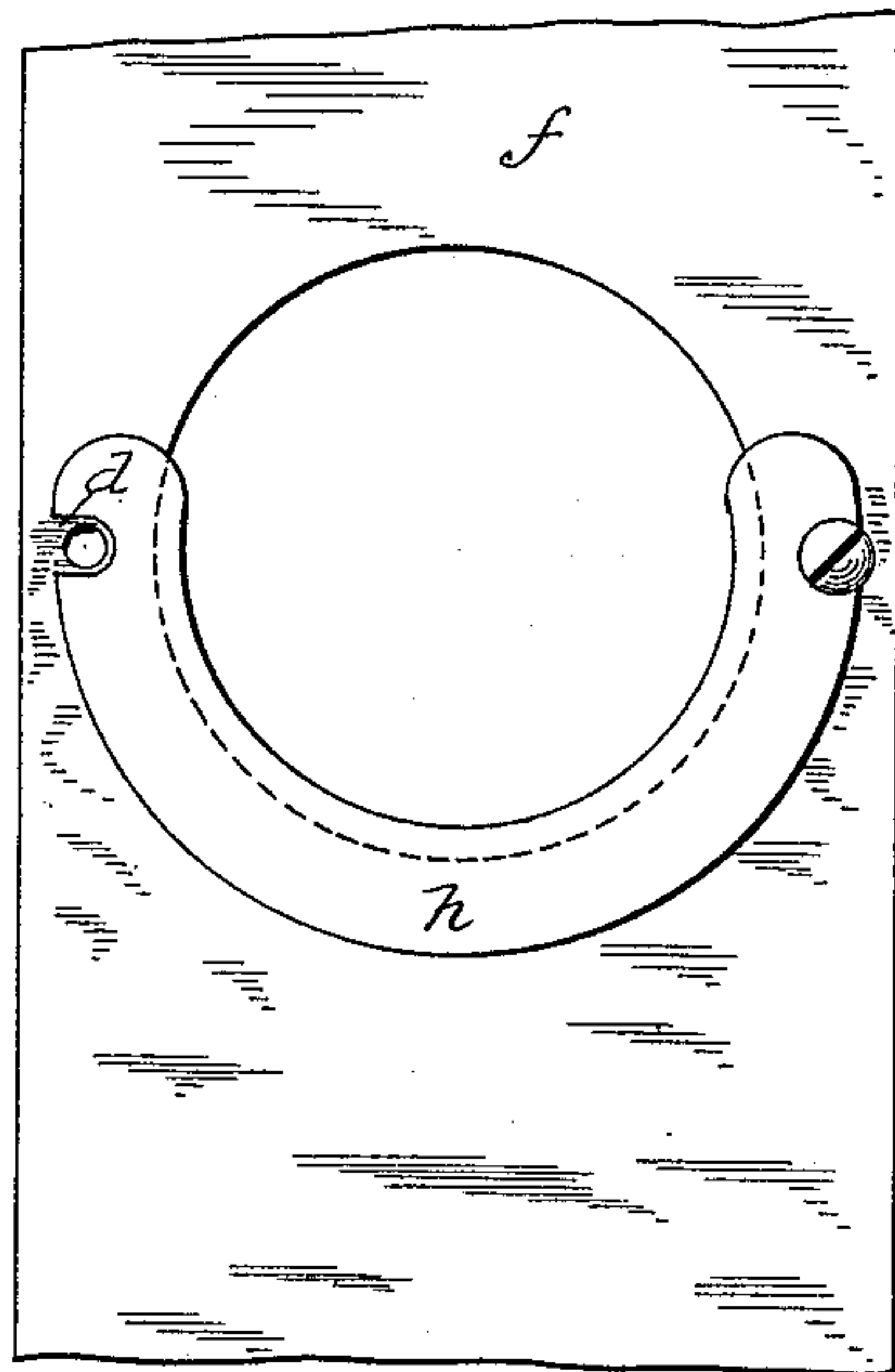


Fig. 2.

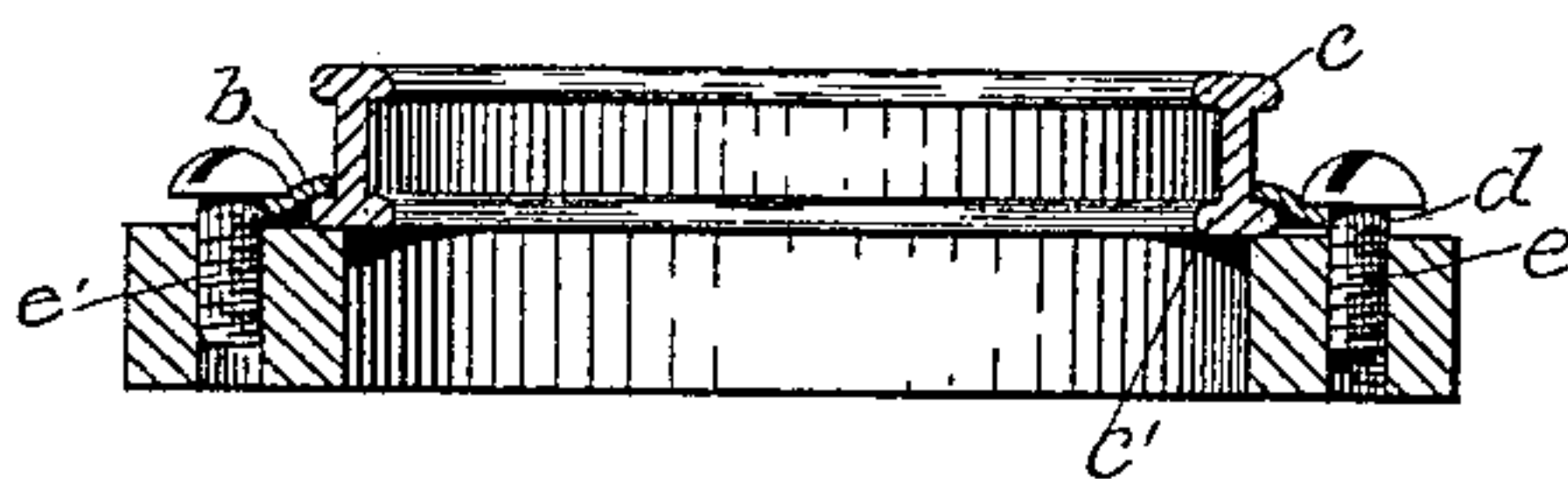
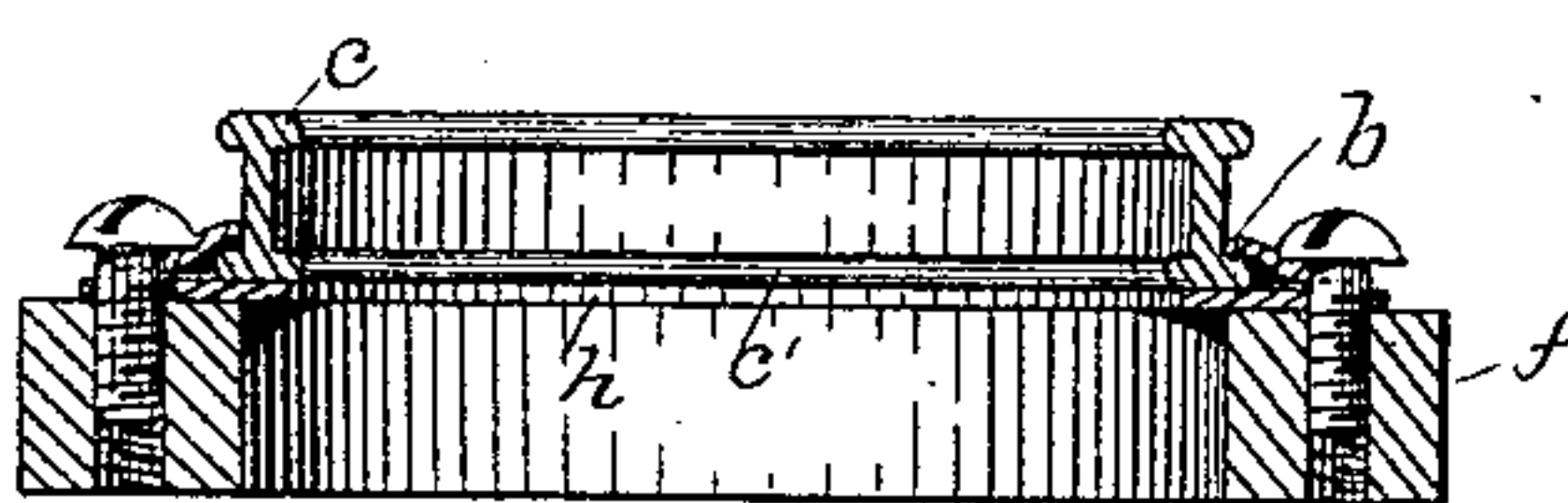


Fig. 3.



Witnesses:  
H. Brown.  
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# UNITED STATES PATENT OFFICE.

JOHN BOOTH, OF CENTRAL FALLS, RHODE ISLAND.

## HOLDER FOR SPINNING-RINGS.

SPECIFICATION forming part of Letters Patent No. 370,234, dated September 20, 1887.

Application filed December 4, 1886. Serial No. 220,649. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN BOOTH, of Central Falls, in the State of Rhode Island, have invented certain new and useful Improvements in Holders for Spinning-Rings, of which the following is a specification.

My invention relates to devices for fastening rings to the ring-rails of spinning-machines and for supporting the former on the latter, and particularly to such devices as are designed to support and secure a reversible or duplex race ring in position on the ring-rail.

It is the object of my invention to provide improved means for securely fastening the ring in position, and which will at the same time permit of its ready removal and replacement for the purpose of reversing its position on the rail, repair, &c.

It is also the object of my invention to provide means for supporting a ring which may happen to be smaller than the hole in the ring-rail through which the bobbin or spindle extends in proper position on said ring-rail.

It is also the object of my invention to provide means, in connection with those hereinbefore set forth, for adjusting or "centering" the ring with respect to the bobbin or spindle.

My invention consists in a ring-retainer formed as a segment or substantial half of an annulus flanged at its inner edge so as to lap upon the race of the ring substantially half-way around the same, or from one side around to the opposite side, the construction and relationship of the parts being such as to permit the ring to be freely slipped into place under the flange of the retainer or withdrawn therefrom, as also to be moved laterally, in order to "center" or adjust it with respect to the spindle or bobbin.

My invention also consists in certain improvements incidental to the foregoing, all of which I will now proceed to describe and claim.

Reference is to be had to the accompanying drawings, and to the letters of reference marked thereon, forming a part of this specification, similar letters indicating corresponding parts.

Of the drawings, Figure 1 represents a perspective view of a portion of a ring-rail having a ring secured thereto in accordance with my

invention. Fig. 2 is a vertical sectional view of the same. Fig. 3 is a view similar to that represented in Fig. 2, and showing in addition my improved ring-supporting device. Fig. 4 is a top plan view of a portion of a ring-rail and my improved means for directly supporting the ring.

So far as my invention relates to contrivances for securing a ring in position on the rail it is an improvement upon the device discovered in the patent to J. H. Sawyer, No. 117,934, granted August 8, 1871. In said patent is shown a split ring provided with a flange, which split ring was adapted to be sprung upon or over the lower race of the spinning-ring; but in order to so connect the latter ring with the split fastening-ring it is necessary to remove said split fastening-ring from the rail and exert considerable force or pressure, occasioning trouble and loss of time, not to mention the liability of so bending or springing the split fastening or retaining ring out of position as to impair its usefulness.

By my improvements the objections attending said patented device are overcome in the provision as a ring retainer or fastener of a segment or substantial half of an annulus, *a*, having a flange, *b*, formed on its inner edge, which flange is adapted to extend over and be clamped upon one of the races *c c'* of a reversible or duplex race-ring, *A*.

*d d'* represent slots formed in the sides of the ring-securing device *a*, for the reception of the shanks of the screws *e e'*, adapted to be screwed in the ring-rail *f*.

With the devices constructed as hereinbefore described, the ring can be slipped sideways between the ends *g g'* of the ring-securing device, under the flange *b* of the same, the screws *e e'* turned down, and the ring held in position with entire security.

Should it be desired to remove the ring to reverse its position, all that is necessary is to slightly loosen the screws *e e'*, when the ring may be moved laterally out from the securing device between the ends *g g'*, and the desired manipulation of said ring accomplished without unnecessary consumption of time, strain of the parts, or the removal of the securing device from the ring-rail.

Slots *d d'* being larger than the shanks of the



screws  $e e'$ , provision is made for adjusting or centering the ring with respect to the spindle or bobbin.

To provide for supporting rings upon a ring-rail having holes for the spindle or bobbin larger in diameter than the ring, I construct a washer-plate,  $h$ , of substantially the same form as the securing device  $a$ , which plate  $h$  is adapted to rest on the upper face of the ring-rail  $f$  and extend over a portion of the hole formed in the latter, forming the immediate rest or seat for the ring, the washer-plate resting on the top of the ring-rail, as clearly pictured in Figs. 3 and 4. Rings of varying diameter may be thus applied to old frames without regard to the diameter of the holes in the ring-rail, and by my improved securing device the ring can be held perfectly level and rigidly to the rail, and be at the same time easily and quickly removed, as before described, for the purpose of reversal, repair, or exchange.

The ring-retainer  $a$  being constructed as a substantial half of an annulus, the flange  $b$  is made to lap on the lower race of the ring substantially half-way around the same, or from one side around to the opposite side, and in this way hold the ring at the rear as well as at the sides, so that a tap or blow accidentally given to the ring in front, where it would be likely to fall if it occurred at all, would not displace the ring. Furthermore, by a slight loosening of the screws  $e e'$ , the ring may be readily adjusted on the rail, or removed, reversed, and replaced, and it is not necessary in centering the ring to give any attention to the securing device further than to turn down the screws  $e e'$ .

I am aware that it has been proposed to secure rings to ring-rails by a plurality of clamp-like holders, each composed of a base extending under the ring and between the same and the ring-rail, said base having an upturned hooked flange, which extends upward and over the interior portion of the race, and a separate plate adapted to bear on the exterior portion of the race, with a screw to secure each holder in position. The objections to this construction are, first, that it obstructs the interior area of the ring, interfering with the spinning operations and the doffing of the bobbin; second, that it consumes much time in securing a proper centering of the ring, by reason of the difficulty of holding and manipulating the several parts of the device, since the position of each of the several clamps, as well as that of the ring itself, must be seen to

at the same instant, and, third, that it does not provide a firm support for the ring or a means for the ready removal and replacement of the latter. These objections are entirely overcome by my improvements in that the interior area of the ring is left free and unobstructed, the ring is firmly and securely held in position and against accidental displacement, and, as has already been remarked, by a slight loosening of the screws  $e e'$  the ring may be readily removed, reversed, and replaced, and in centering it, it is not necessary to give any attention to the securing devices further than to turn down the fastening-screws  $e e'$ .

Having thus described my invention, what I claim is—

1. The ring-rail, a duplex race-ring, the ring-retainer  $a$ , constructed as a substantial half of an annulus, having a flange,  $b$ , at its inner edge, adapted to lap upon the lower race substantially half-way around the same, or from one side of the ring around to the opposite side, and screws for securing the ring-retainer and through the latter the ring to the rail, all combined substantially as and for the purposes hereinbefore set forth.

2. The ring-rail, a duplex race-ring, the ring-retainer  $a$ , constructed as a substantial half of an annulus, having a flange,  $b$ , at its inner edge, adapted to lap upon the lower race substantially half-way around the same, or from one side of the ring around to the opposite side, and provided with slots  $d d'$ , and fastening-screws  $e e'$ , said slots being larger than the shanks of said screws, to permit of the lateral adjustment of the ring, all combined substantially as and for the purposes hereinbefore set forth.

3. The ring-rail, a duplex race-ring, and the ring-retainer  $a$ , constructed as a substantial half of an annulus, having a flange,  $b$ , at its inner edge, adapted to lap upon the lower race substantially half-way around the same, or from one side of the ring around to the opposite side, in combination with the washer-plate  $h$ , adapted to be interposed between the ring and ring-rail, and the fastening-screws  $e e'$ , substantially as described.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 24th day of November, 1886.

JOHN BOOTH.

Witnesses:

ARTHUR W. CROSSLEY,  
C. F. BROWN.