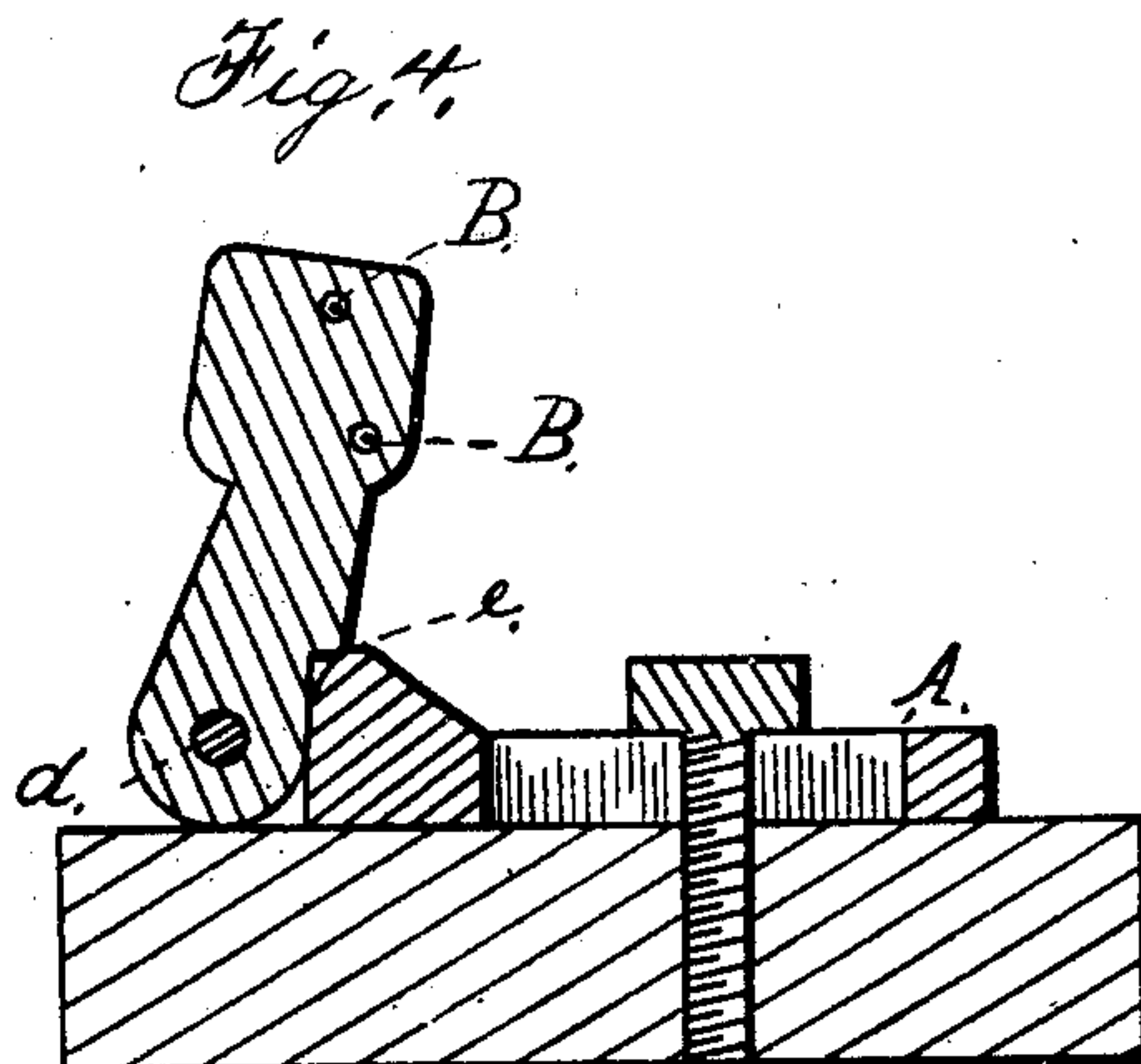
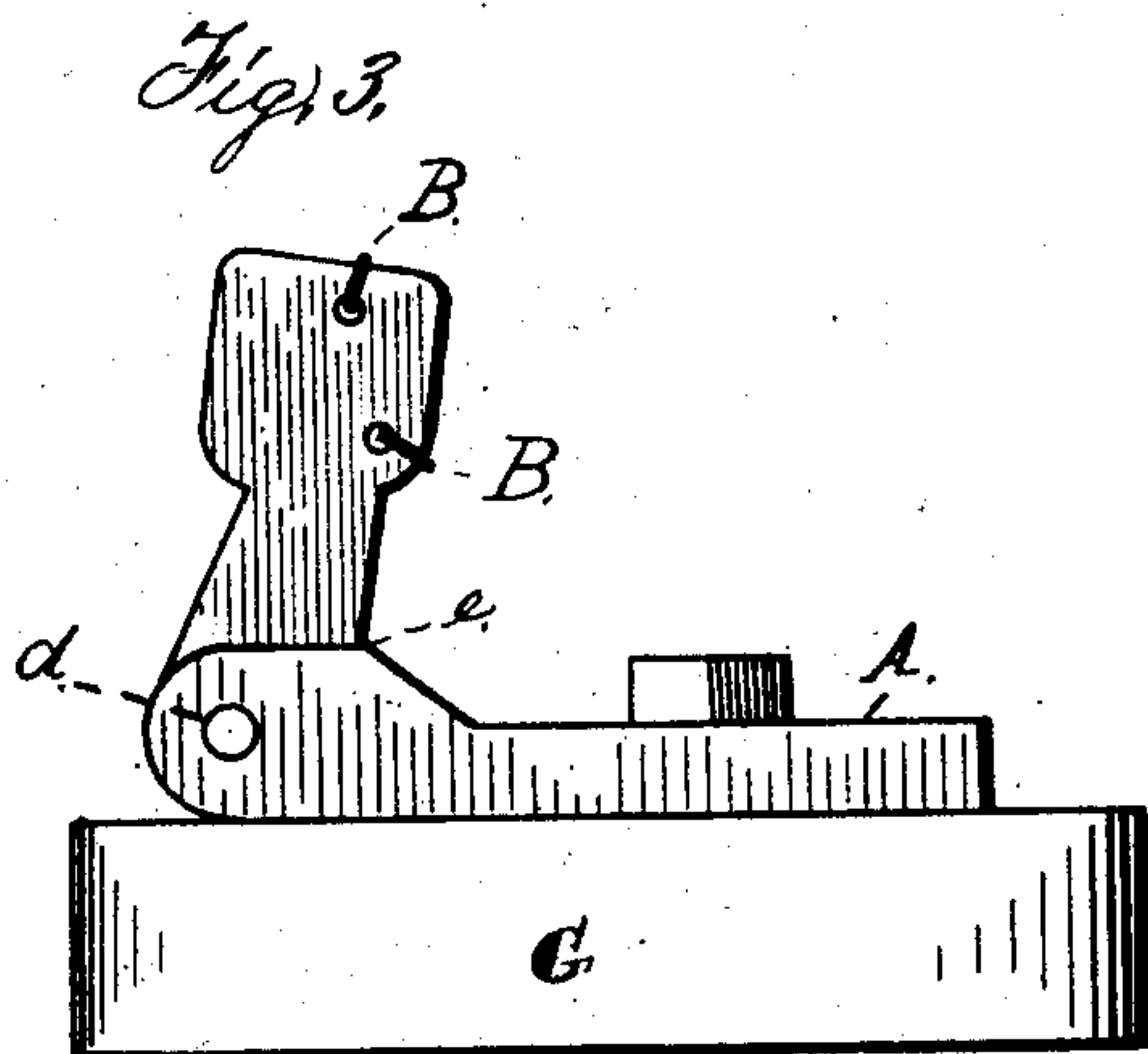
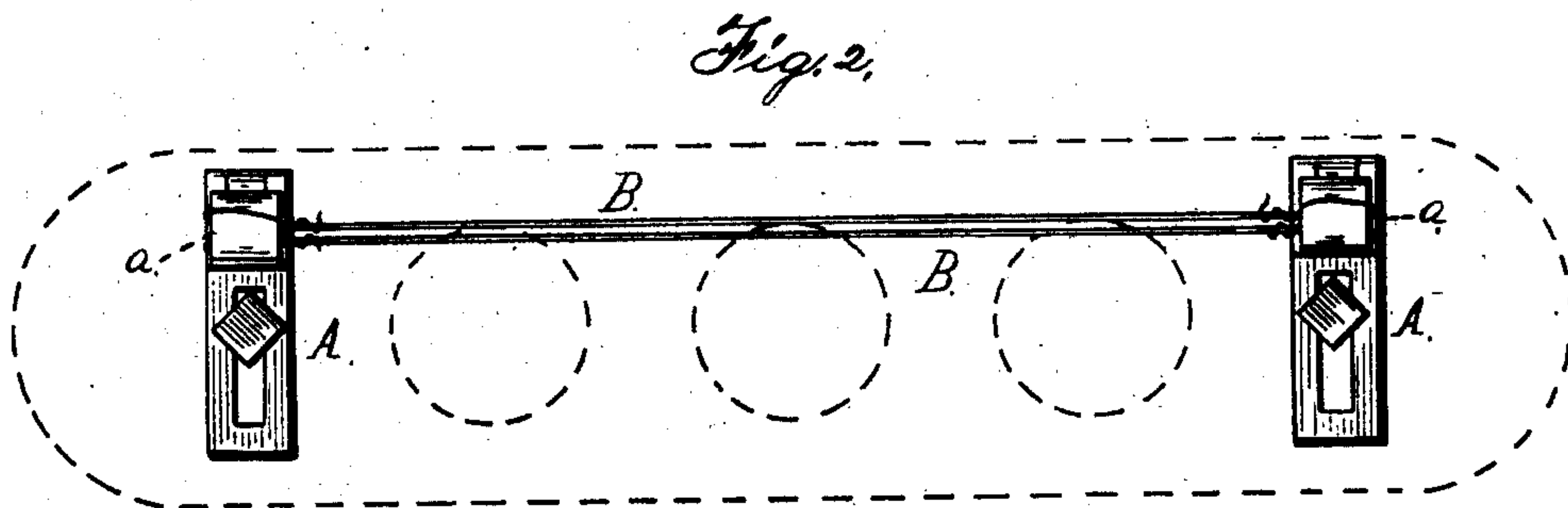
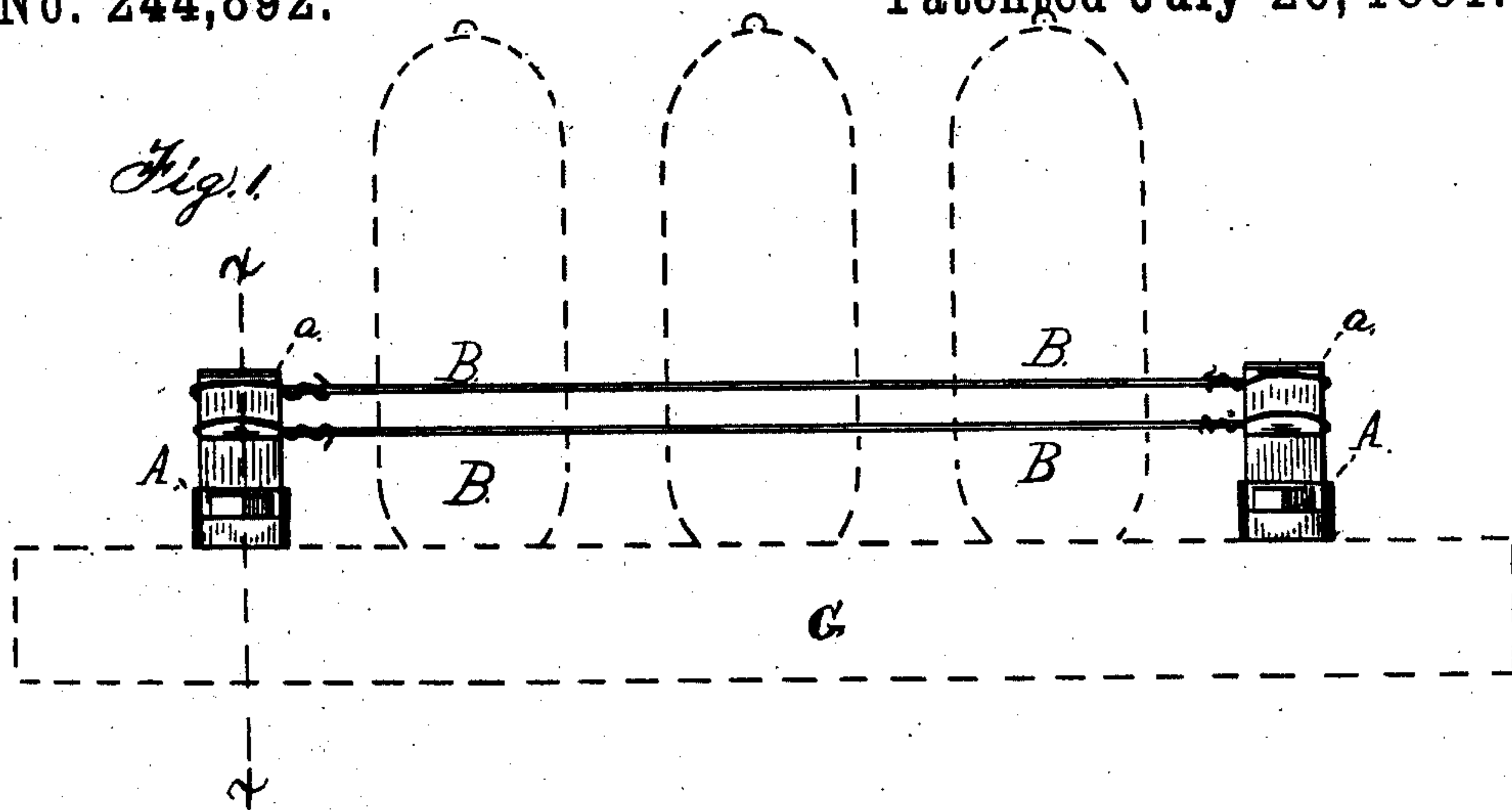


(No Model.)

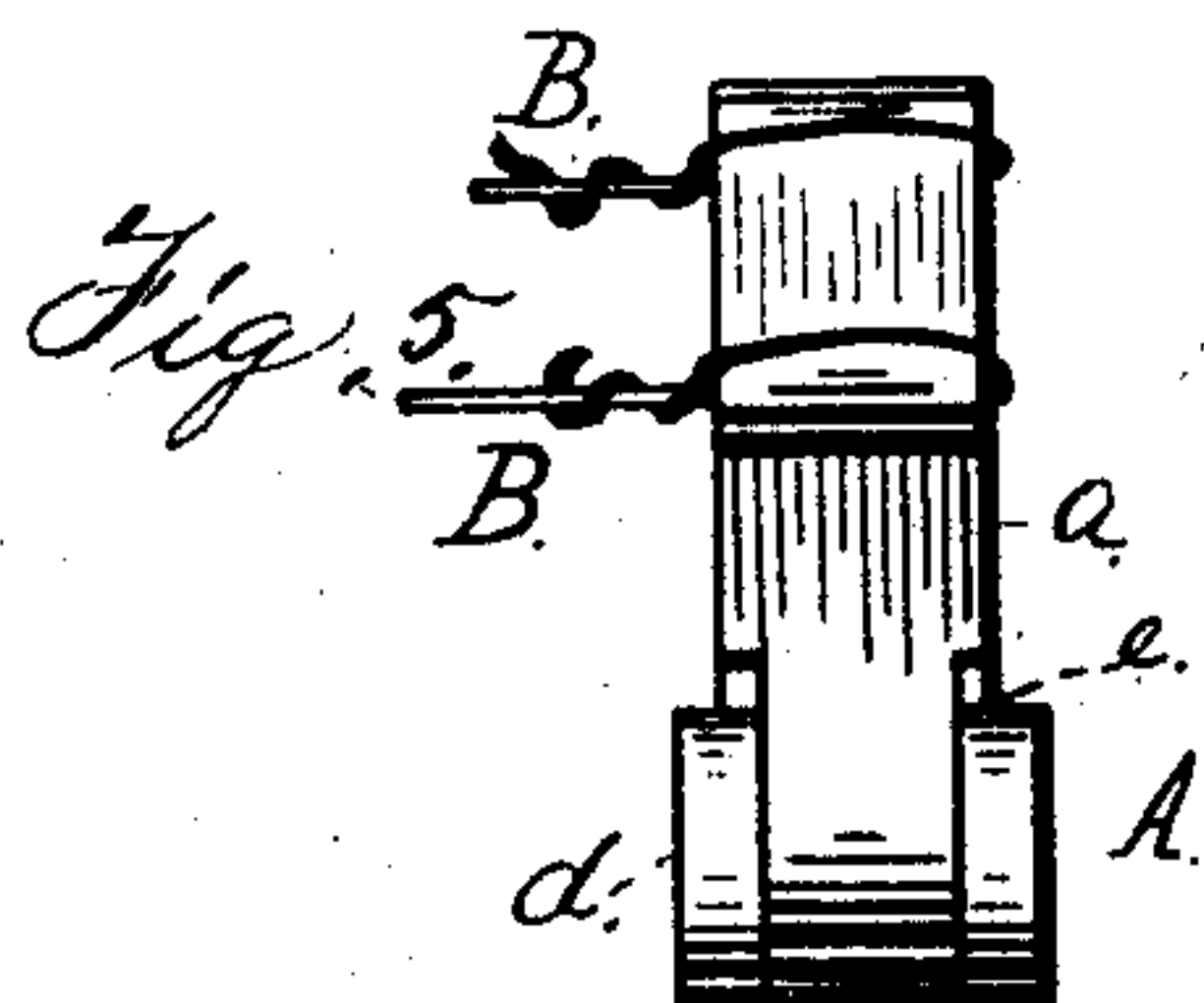
H. D. HELLERMAN.  
SPINNING FRAME.

No. 244,892.

Patented July 26, 1881.



Witnesses:  
J. W. Cox.  
James Thomas.



Inventor,  
Henry D. Hellerman.  
By Lewis F. Broun,  
Atty.



# UNITED STATES PATENT OFFICE.

HENRY D. HELLERMAN, OF FRANKFORD, PHILADELPHIA, PENNSYLVANIA.

## SPINNING-FRAME.

SPECIFICATION forming part of Letters Patent No. 244,892, dated July 26, 1881.

Application filed October 8, 1880. (No model.)

*To all whom it may concern:*

Be it known that I, HENRY D. HELLERMAN, a citizen of the United States, residing in Frankford, Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented a new and useful Improvement in Spinning-Frames, of which the following is a specification.

My invention relates to improvements in spinning-frames, in which two guard-wires suitably mounted are placed in the rear of the bobbins and operate in connection with the yarn; and the object of my improvement is to so house the yarns as to prevent one of them striking its neighbor, and by so doing break either or both down. I attain this object by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a front view of my invention, showing its application to a ring-rail, which is delineated by dotted lines. Fig. 2 is a top or plan view of the same. Fig. 3 is an end view thereof, showing the ring-rail in full lines. Fig. 4 is a vertical section of the device, taken in the line *x x*, Fig. 1. Fig. 5 is a detached view of one of the stands.

Similar letters refer to similar parts throughout the several views.

Referring to the drawings, G represents the ring-rail of a spinning-frame, upon which, at suitable distances, are located stands A A, having pivoted loosely at their back ends arms *a a*. Fastened to and stretched between these arms *a a* are two parallel wires, B B. The arms *a a*, which carry the wires B B, are loosely pivoted at *d d* in the stands A A. These arms have shoulders *e e*, which serve to limit the motion of the arms *a a* forward.

Now, as the distance between the rolls and the traveler which form guides for the yarn is the greatest when the ring-rail G reaches its lowest point, the yarn which has imparted to it a high centrifugal action flares the greatest while the ring-rail is down. The stands A A are so secured at a point on the ring-rail G that the arms *a a* carrying the wires B B, which are set angularly in said arms, may both assume such a position allowed them by the shoulders *e e* as to receive this flare of the yarn, which by so doing so houses the yarn that

the flare will be completely broken by compelling the said yarn to pass between the wires and the bobbins to prevent any two threads situated adjacent to each other from striking, and so breaking down. The gradual ascent of the ring-rail G tends to lessen the flare of the yarn by shortening the distance between the traveler and the rolls. The wires rising with it guard it, and as the bobbin is being wound the arms *a a*, having free action on the pivots *d d*, accommodate the bearing of the wires B B on the yarn until the bobbin is completed. The angle in which the wires B B are set in the arms *a a* is such that when the ring-rail reaches a certain point in its ascent the yarn comes in contact with but one wire only. The effect of the action of these wires, by being so related to the yarn during the process of spinning, will be such that it will cause more yarn to be wound upon the bobbin by winding it much tighter, for when the yarn assumes a position during the descent and ascent of the ring-rail where the flare in the operation of spinning takes place the wires then force the yarn to pass between them and the partially-wound bobbin, which will be, as stated, to wind it much tighter; and by not allowing one yarn to strike another it will not chafe and destroy the fiber, and will make no waste by breaking any threads.

While the traveler in its present capacity corresponds in weight to the number of yarn to be spun, to keep a tension on it, and to a certain extent to prevent it from flaring too much during the operation of spinning, the invention herein set forth so houses the yarn as to require but one weight of traveler to each number of yarn, thereby using a much lighter traveler. In preference, for practical purposes fine wire is used. This gives an elastic bearing to the yarn, and by using the two wires and securing them angularly, as stated, and allowing the arms *a a* free action on the pivots *d d*, and constructing and angularly pivoting the shoulders *e e*, as shown, the said wires preserve by their own weight against the yarn a suitable tension at all times during the construction of the bobbin, which will be uniform, without waste or attention, and can be made the size of the ring without chafing.

In cleaning or doffing, the hinged joint allows the wires to be pushed back, thus leaving the ring-rail G without obstruction.

Where the rail is extremely long, thereby  
5 supplying space for a large number of spindles for bobbins, the number of stands may be increased to supply equal rigidity to the wires throughout their entire length.

Having thus described my invention, what  
10 I claim as new, and desire to secure by Letters Patent, is—

The guard-wires B B, stands A A, and arms a a, pivoted to said stands, in combination with the ring-rail G, substantially as described, and for the purpose set forth.

HENRY D. HELLERMAN.

Witnesses:

WM. B. HILT,

LEWIS F. BROUS.