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G. L. BROWNELL.
FLIER FOR SPINNING AND TWISTING MACHINES.
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901,226.

Patented Oct. 13, 1908.

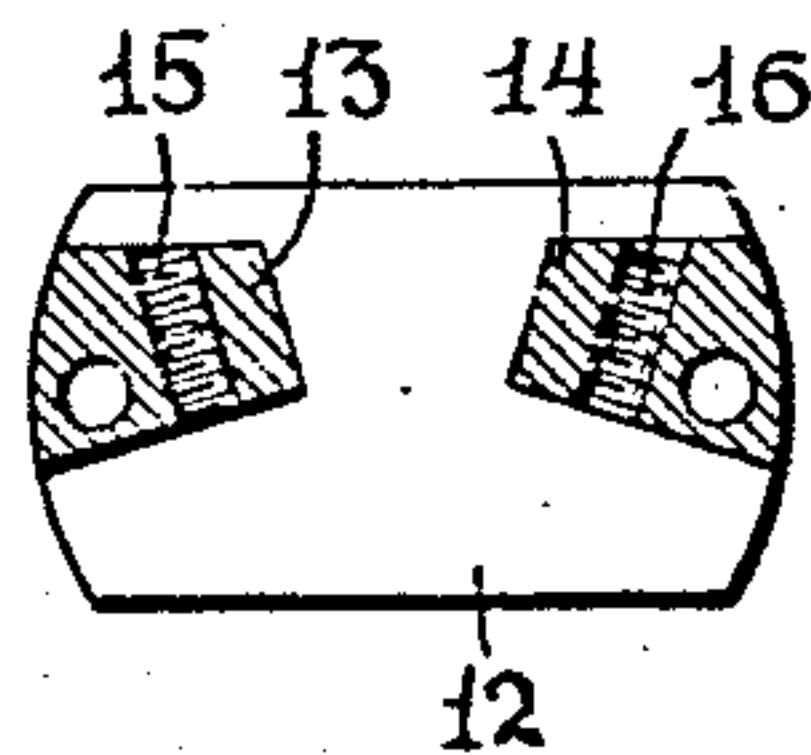
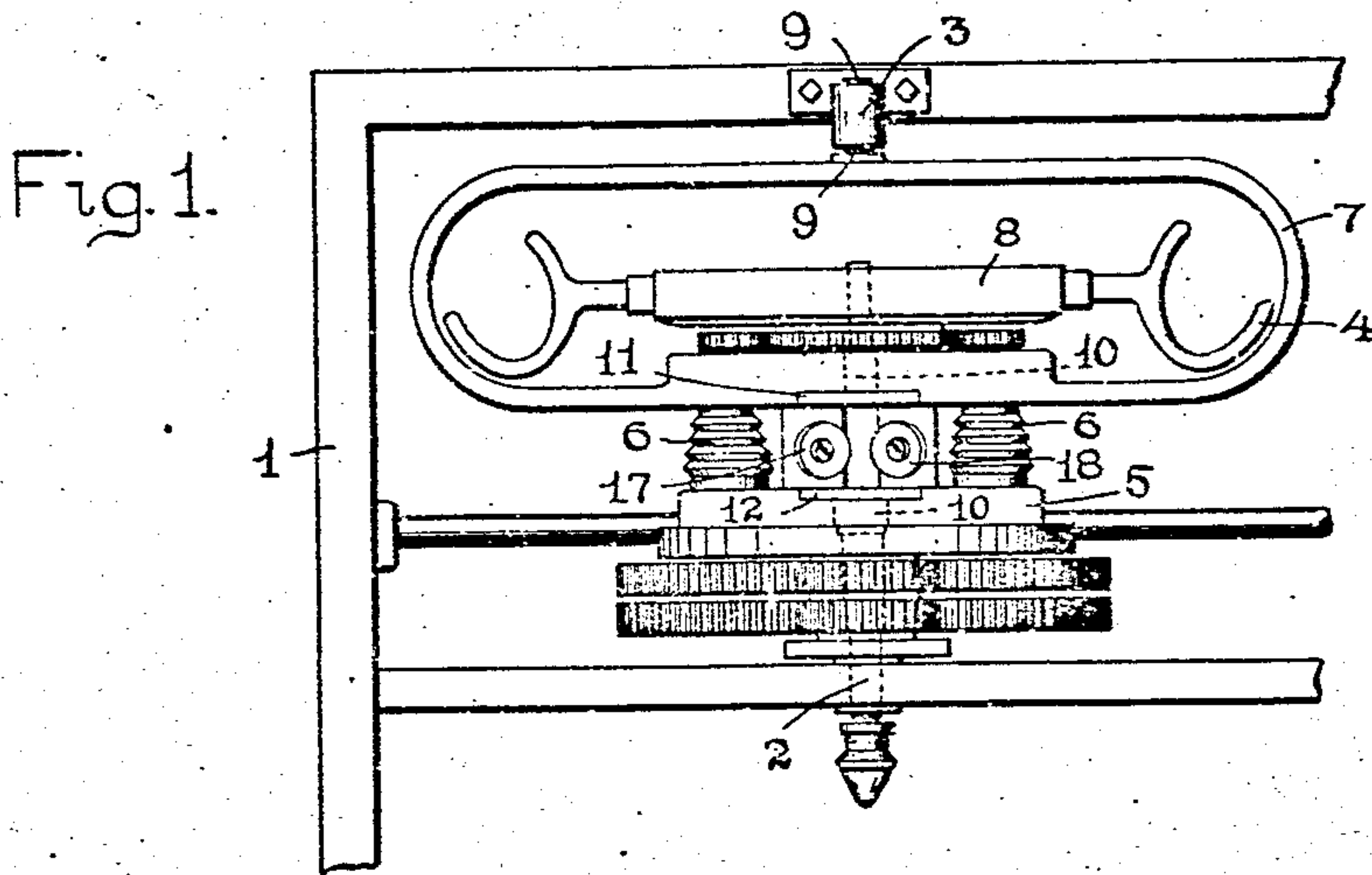


Fig. 3.

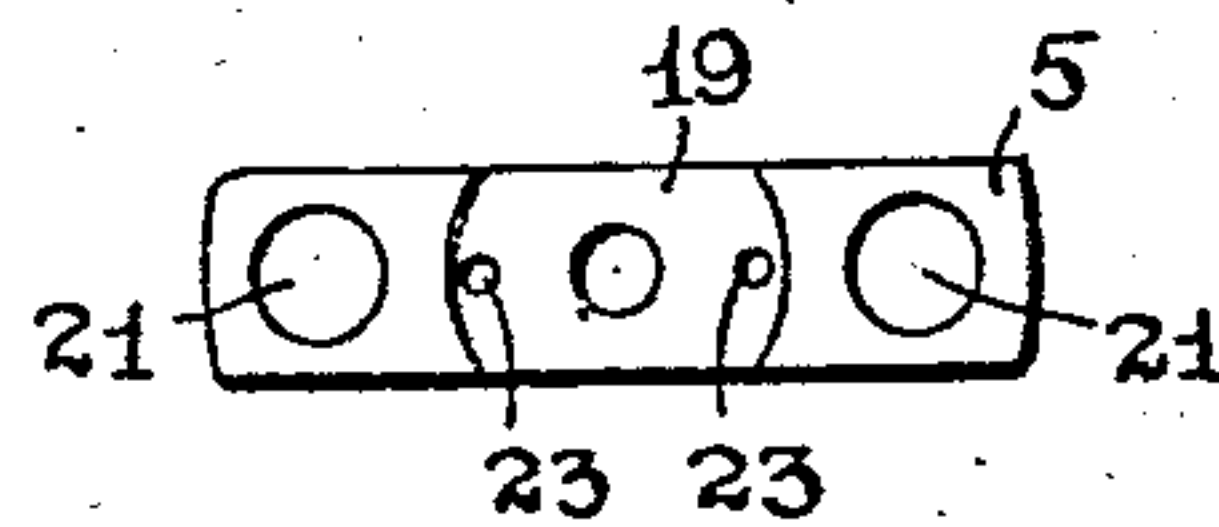
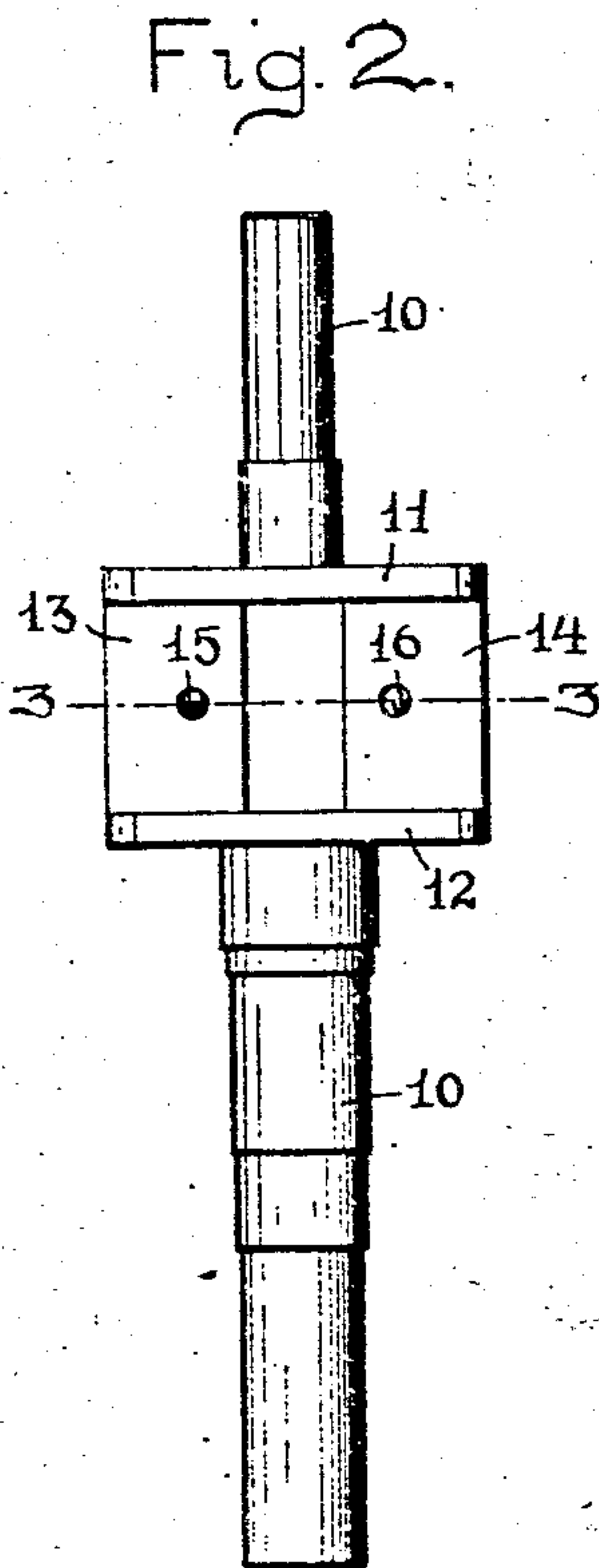


Fig. 4.

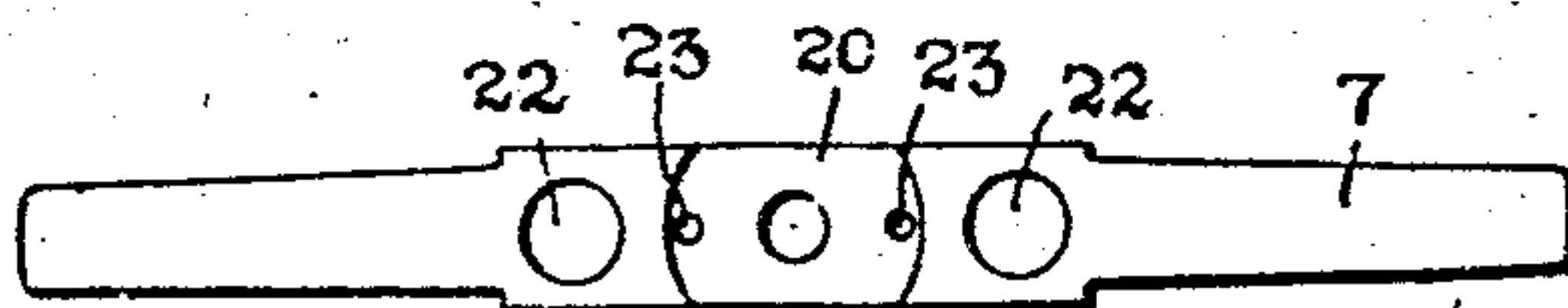


Fig. 5.

Witnesses

Roy D. Tolman.

Penelope Comberbach.

Inventor
George L. Brownell.
By *Rufus B. Fowler*
Attorney

UNITED STATES PATENT OFFICE.

GEORGE L. BROWNELL, OF WORCESTER, MASSACHUSETTS.

FLIER FOR SPINNING AND TWISTING MACHINES.

No. 901,226.

Specification of Letters Patent.

Patented Oct. 13, 1908.

Application filed April 6, 1905. Serial No. 254,081.

To all whom it may concern:

Be it known that I, GEORGE L. BROWNELL, a citizen of the United States, residing at Worcester, in the county of Worcester and Commonwealth of Massachusetts, have invented a new and useful Improvement in Fliers for Spinning and Twisting Machines, of which the following is a specification, accompanied by drawings forming a part of the same, in which

Figure 1 represents a front view of a portion of the framework of a twisting machine showing in elevation one of my improved fliers. Fig. 2 is a detached view of the rotating flier spindle. Fig. 3 is a transverse sectional view of the same on line 3—3, Fig. 2, and Figs. 4 and 5 are detached views of a portion of the flier frame.

Similar reference figures refer to similar parts in the different views.

My present invention relates to the construction of a flier, such as is used in spinning and twisting machines, and it has for its objects to reduce the cost and increase the rapidity and strength of the fliers.

My invention consists in the construction and arrangement of parts as hereinafter described and pointed out in the annexed claims.

Referring to the accompanying drawings 1 denotes a portion of the framework of a twisting machine, in which is journaled in bearings 2 and 3 a revolving flier 4 in form and operation similar to that of fliers now in common use, but containing the features of construction which embody my present invention. The flier 4 in the form shown in Fig. 1 comprises a bar 5 on which are mounted the scored stretching drums 6, 6, and a frame 7 which incloses the winding reel 8 and is provided with a gudgeon 9 journaled in the bearing 3. The bar 5 and frame 7 are attached to a rotating spindle 10 which is shown on a larger scale and detached in Fig. 2. The spindle 10 is provided between its ends with cross bars 11 and 12 which are connected at their ends by plates 13 and 14. The spindle 10, bars 11 and 12 and plates 13 and 14 are formed in a single piece, and the plates 13 and 14 are provided with screw-threaded holes 15, 16, to receive studs upon which the small scored guide pulleys 17 and 18 rotate.

The bar 5 is recessed upon its upper side

at 19 to receive the cross bar 12 to which it is securely attached, and the frame 7 is similarly recessed on its under side at 20 to receive the cross bar 11 to which it is securely attached. The bar 5 is provided with holes 21 and the bar 7 with similar holes 22 in alinement with the holes 21 to form bearings for the scored stretching drums 6. The cross bars 11 and 12 are formed integrally with the spindle 10, thereby avoiding joints which would be liable to become loosened by the rapid rotation of the flier. The cross bars 11 and 12 are also inserted in recesses 19 and 20 of the flier frame 7 and bar 5, so that the rotary motion of the cross bars is positively transmitted to the bar 5 and flier frame 7 without any strain upon the attaching screws which pass through holes 23 and are screwed into the cross bars 11 and 12.

What I claim as my invention and desire to secure by Letters Patent is:—

1. In a machine of the class described, the combination with a rotating flier spindle provided with an integral cross bar, of a flier frame provided with a recess to receive said cross bar, and means for attaching said frame and cross bar.

2. In a machine of the class described, the combination of a rotating flier spindle having a pair of cross bars integral with said spindle, connecting plates between said cross bars, a flier frame interlocked with one of said cross bars, and a bar interlocked with the other of said cross bars.

3. The combination of a rotating flier spindle having a pair of parallel cross bars connected by plates, said cross bars and plates being integral with said spindle, a flier frame attached to one of said cross bars and a bar attached to the other of said cross bars, a pair of stretching drums journaled between said bar and frame, and a winding mechanism inclosed in said frame.

4. In a machine of the class described, the combination of a rotating flier spindle provided with a cross bar integral with said spindle, a flier frame provided with a member parallel with said cross bar, and means for interlocking said cross bar and said parallel member.

GEORGE L. BROWNELL.

Witnesses:

RUFUS B. FOWLER,
PENELOPE COMBERBACH.