

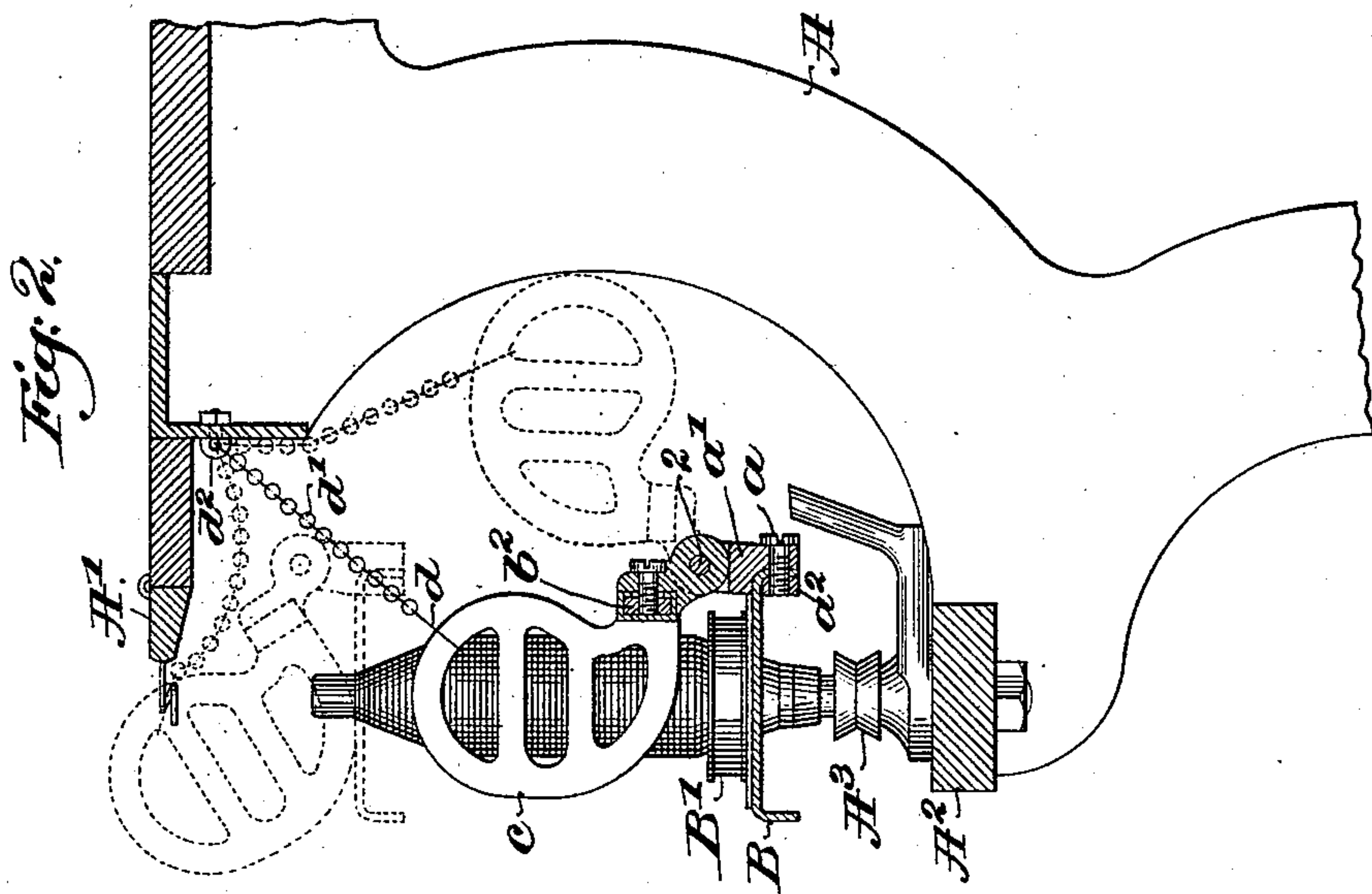
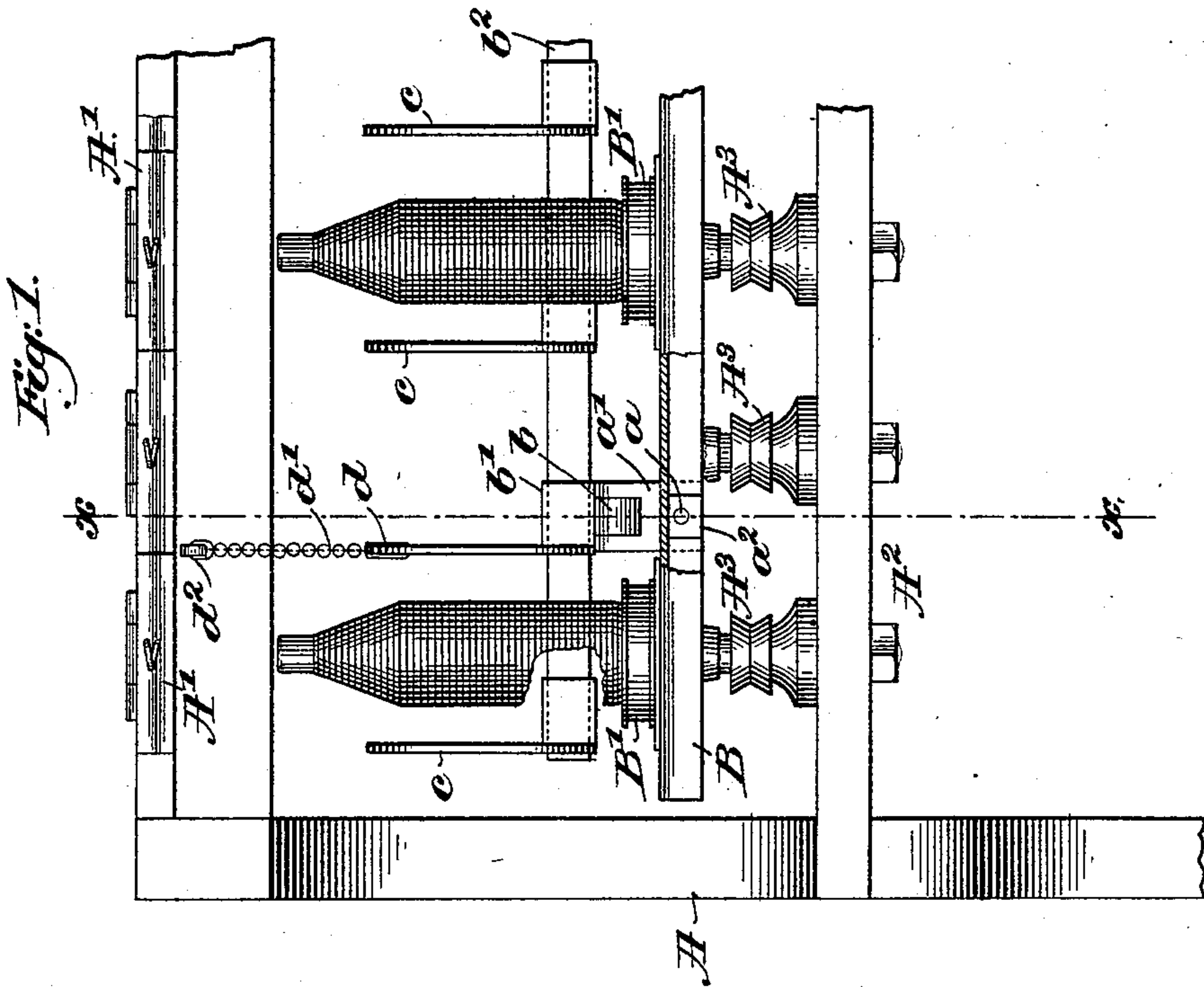
(No Model.)

G. O. DRAPER.

SEPARATOR FOR SPINNING AND TWISTING MACHINES.

No. 539,613.

Patented May 21, 1895.



Witnesses

A. C. Harmon
Thomas Drummond

Inventor.

By George O. Draper
Crosby & Gregory
Attys.

UNITED STATES PATENT OFFICE.

GEORGE O. DRAPER, OF HOPEDALE, MASSACHUSETTS, ASSIGNOR TO GEORGE DRAPER & SONS, OF SAME PLACE.

SEPARATOR FOR SPINNING AND TWISTING MACHINES.

SPECIFICATION forming part of Letters Patent No. 539,613, dated May 21, 1895.

Application filed October 15, 1894. Serial No. 525,939. (No model.)

To all whom it may concern:

Be it known that I, GEORGE O. DRAPER, of Hopedale, county of Worcester, State of Massachusetts, have invented an Improvement in Separators for Spinning and Twisting Machines, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

It is often found difficult, if not impossible, to adapt modern wide blades to old spinning machines, for the reason that there is not sufficient room in which the blades can move. I have aimed to produce a wide separator blade which may be readily applied to the ring rail of any usual form of machine, without in any way limiting the action of the machine.

In accordance with my invention, I mount upon the ring rail, and preferably clamp to the edges thereof, a series of stands to support the bar to which the separators are attached, and to turn the said bar with its attached separators as the ring rail rises, and bring the separators into the proper position as the ring rail descends, I connect the separators by a chain or flexible connection with a part of the frame, as will be hereinafter described. By or through the strain of the chain upon the separators as the ring rail descends, the said separators are made to take their positions of greatest efficiency when the ring rail is at the lower end of its traverse, and as the ring rail rises the chain or flexible connection permits the separators to readily turn forwardly and rest upon the ring rail between adjacent rings.

A set of separator blades adds considerably to the weight to be lifted by the builder motion. I therefore prefer to substitute in old frames a new rail composed of sheet metal, flanged at its front and rear edges, the stands sustaining the bar for the separator being made in two parts, so as to be readily clamped upon said edges.

Figure 1, in front elevation, shows a sufficient portion of a ring spinning or twisting machine with my improvements added to enable my invention to be understood, part of two of the spindles and the front of the ring-rail being broken out to better show the separator-bar and its supports; and Fig. 2 shows

a section of the frame represented in Fig. 1, the line of section being indicated by dotted line *x*.

The frame A, the guide-board A', the spindle rail A², and spindles A³ are and may be all as usual in spinning and twisting frames.

Herein I have shown the ring rail B as composed of sheet metal, its front and rear edges being flanged to stiffen the same, said ring rail having mounted upon it a series of suitable rings B', upon which, in practice, will run any usual traveler. Not shown. Upon the inner edge of the rail I have clamped by set screws *a* a series of stands *a'*, said screws entering suitable nuts or blocks *a*². Each stand is slotted or notched to receive an ear *b* of a block *b'* pivoted to the stand by a suitable pivot 2, said block being of suitable shape to receive and hold a bar *b*², upon which are mounted a series of broad metallic separators *c*. One or more of these separators are engaged or surrounded by a loop or ring *d* at one end of a suitable flexible connection *d'*, preferably made as a chain, suspended at its upper end by an eye-bolt *d*² or otherwise, the point of suspension being above the highest working position of the ring rail. The ring rail may be raised and lowered in usual manner.

The dotted lines in Fig. 2 show the ring rail in its highest position, and the full lines show it in its lowest position.

When the ring rail is down or in its lowest position, the chain or flexible connection *d'* holds the separator *c* up in its highest position of efficiency, and at such time the center of gravity of the separator is in front of the pivot 2 uniting the ear with the stand *a'* referred to. Now, as the spindle ascends, the separators, by the action of gravity, gradually tip forward until they meet the rail between adjacent rings, and by the time that the ring rail reaches its highest position, said separators assume the position represented by dotted lines, the chains or flexible connections in no way interfering with such movement, the loop or ring *d* at such time sliding freely on a part of the separator.

When the ring rail is down, and the bobbins are sufficiently full to be doffed from the spindles, the operator needs only to push against a separator and turn the same back-

wardly, as represented in Fig. 2, and as soon as the center of gravity of the separator passes the said pivot 2, the said separator, together with all those connected to the bar b^2 will assume the dotted line position Fig. 2.

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

1. The combination with a ring rail, a bar pivotally mounted thereon, and a series of separator blades carried thereby, of a flexible connection having one end supported above the highest position occupied by the ring rail and connected at its other end to a separator, the length of the said connection being so proportioned with relation to the vertical movements of the ring rail as to arrest and turn the free end of the separator upwardly

about its pivotal point as the ring rail descends, substantially as described.

2. A ring-rail provided with stands, a separator-carrying bar mounted thereon, and a series of separators attached to said bar, combined with a chain or flexible connection attached to said separators at one end and supported above the highest position occupied by the ring rail, whereby the separators are raised as the ring-rail is lowered, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

GEORGE O. DRAPER.

Witnesses:

GEO. W. GREGORY,

THOMAS J. DRUMMOND.