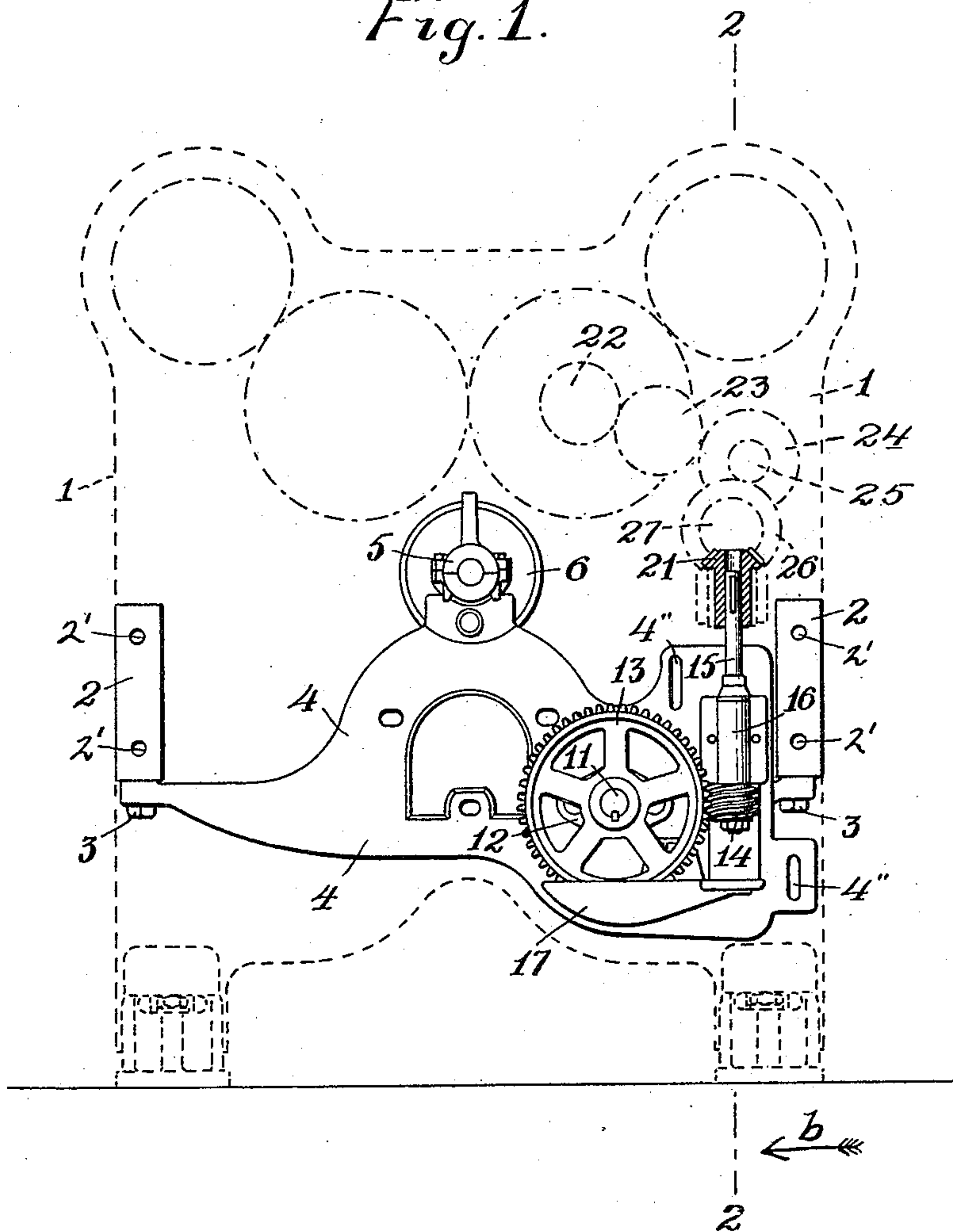


**916,977.**

4 SHEETS—SHEET 1.

*Fig. 1.*



A. D. Tolman.  
W. Haas.

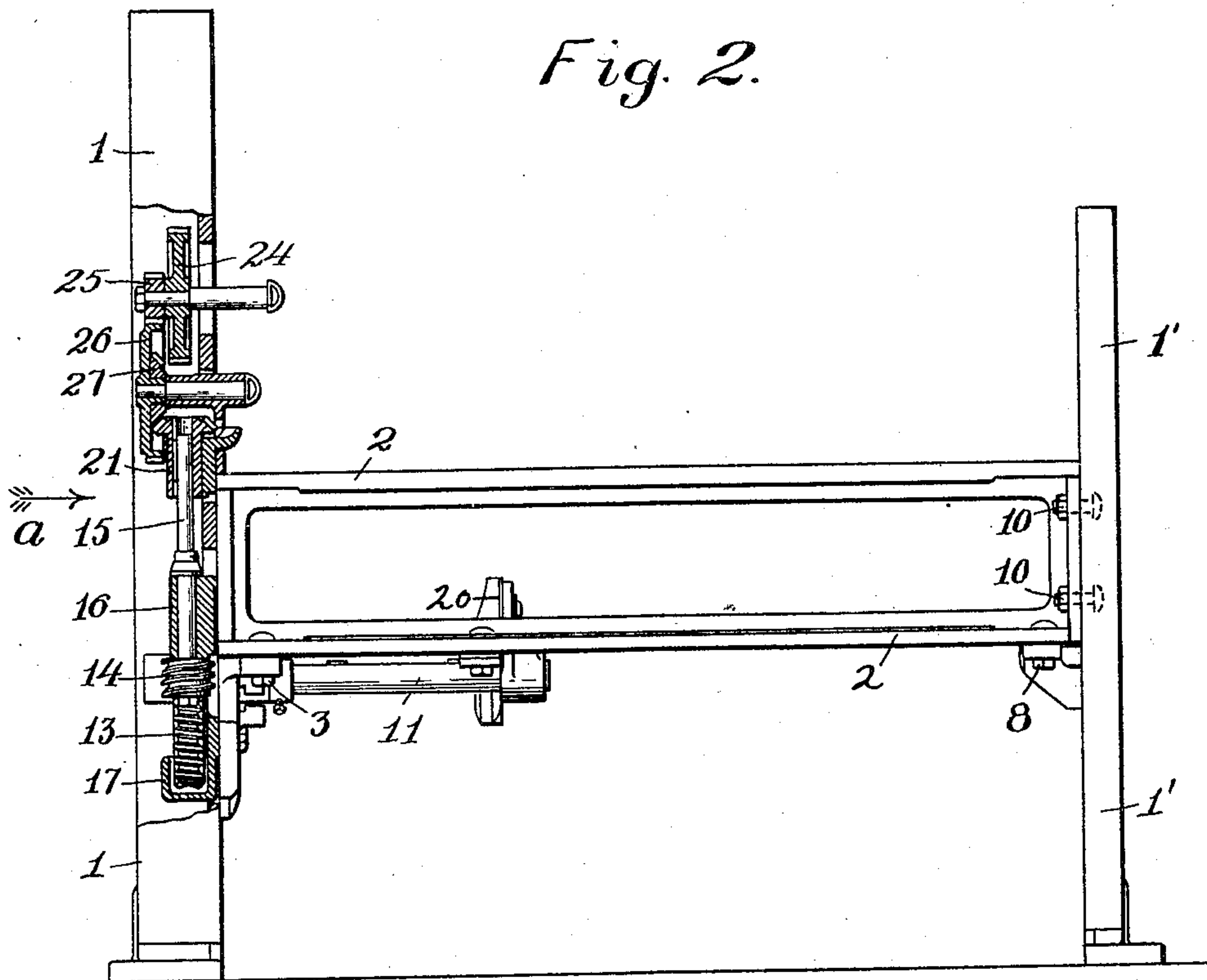
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H. G. BEEDE.  
SPINNING OR TWISTING MACHINE.  
APPLICATION FILED MAY 21, 1908.

916,977.

Patented Apr. 6, 1909.

4 SHEETS—SHEET 2.



*Witnesses*

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*W. Kaas.*

*Inventor*  
*H. G. Beede.*

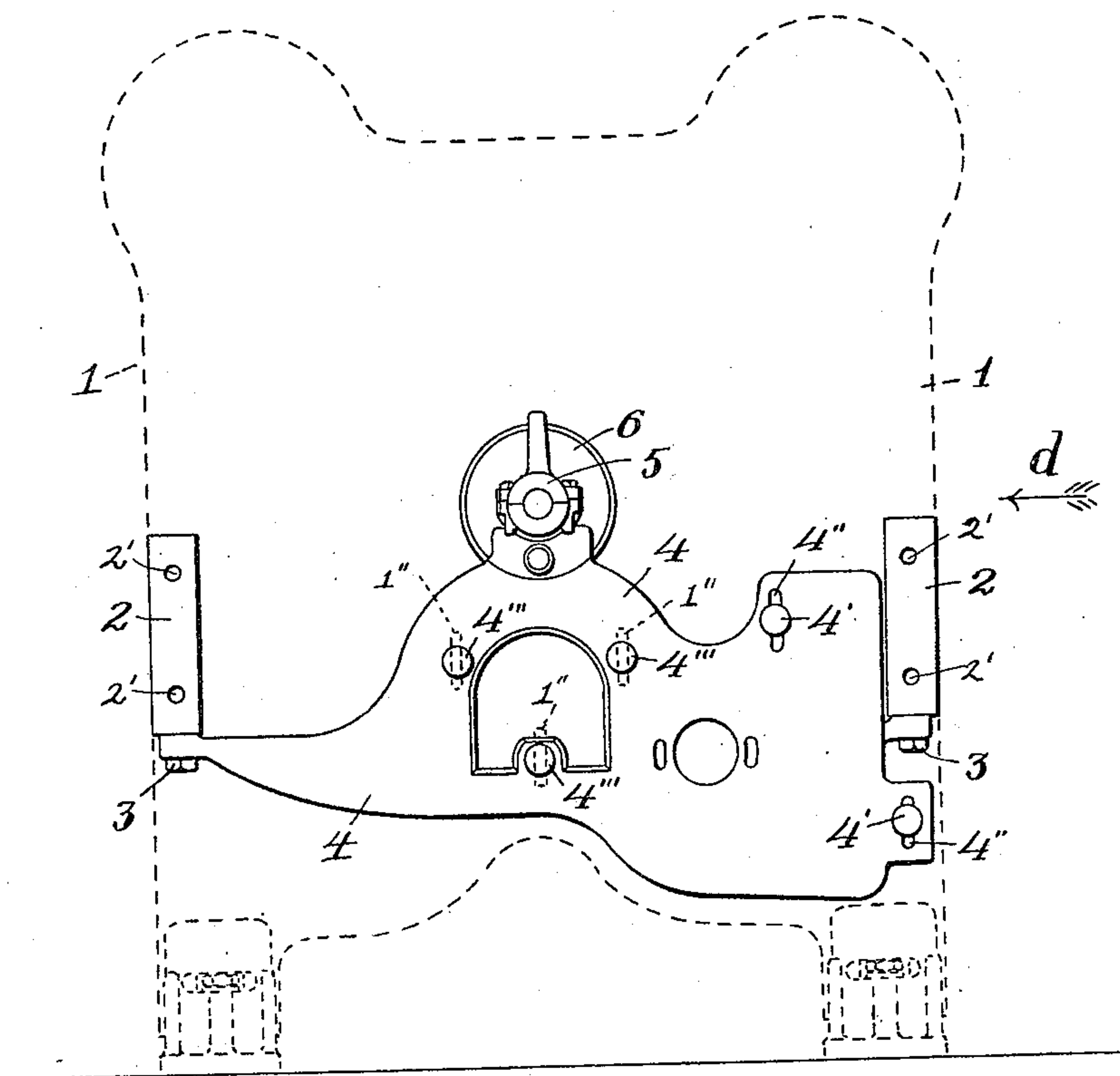
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4 SHEETS—SHEET 3.

Fig. 3.



Witnesses

A. D. Tolman.  
W. H. Reed.

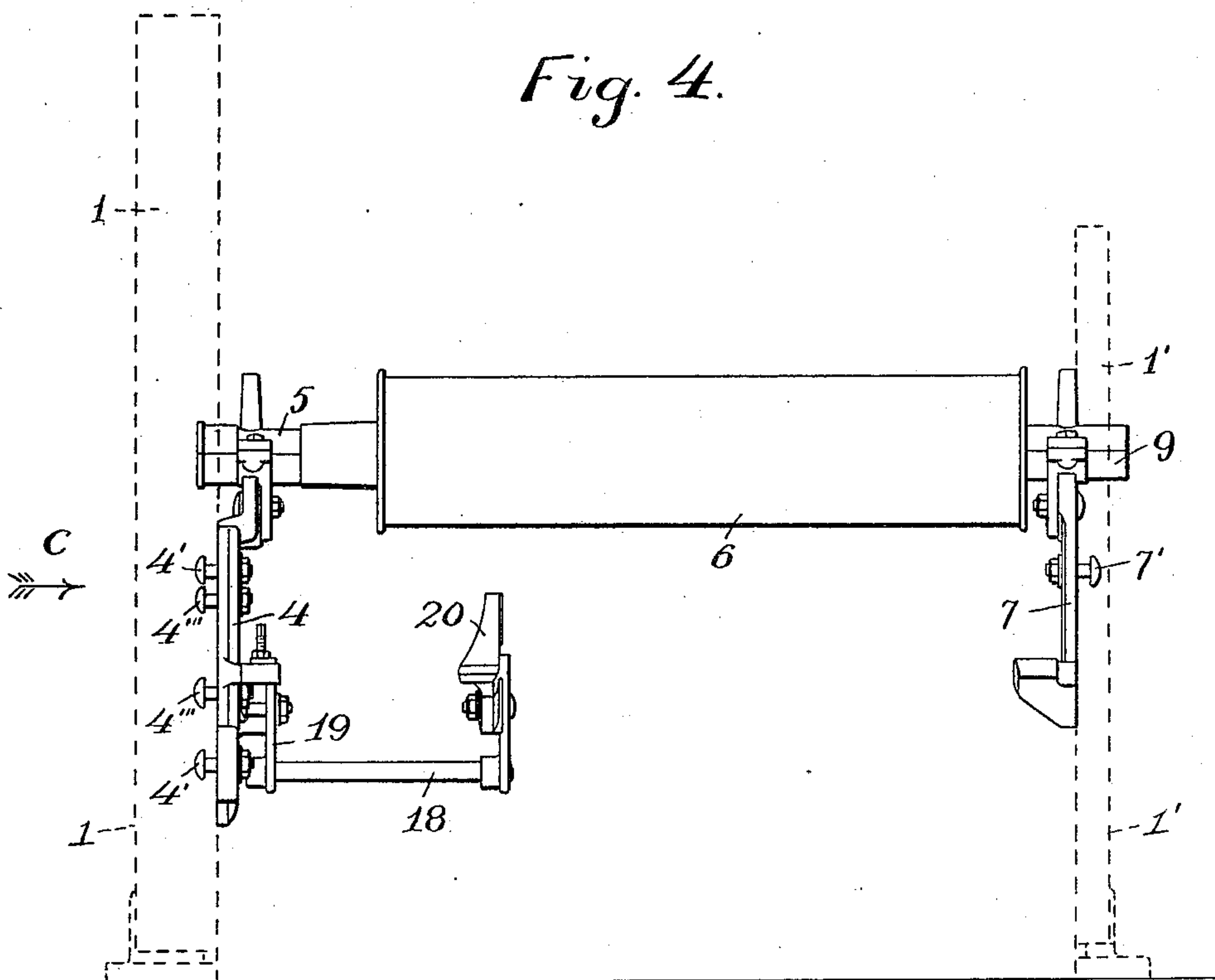
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*Fig. 4.*



*Witnesses*

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# UNITED STATES PATENT OFFICE.

HERBERT G. BEEDE, OF PAWTUCKET, RHODE ISLAND.

SPINNING OR TWISTING MACHINE.

No. 916,977.

Specification of Letters Patent.

Patented April 6, 1909.

Application filed May 21, 1908. Serial No. 434,021.

*To all whom it may concern:*

Be it known that I, HERBERT G. BEEDE, a citizen of the United States, residing at Pawtucket, in the county of Providence and State of Rhode Island, have invented certain new and useful Improvements in Spinning or Twisting Machines, of which the following is a specification.

My invention relates to a spinning or twisting machine, and the object of my invention is to improve upon the construction of a spinning or twisting machine as ordinarily made, and more particularly to provide a spinning or twisting machine in which the spindle rails, and the parts attached thereto, may be readily raised or lowered, and secured in their adjusted position, to meet the various requirements of traverse for fine or coarse work, without taking the machine to pieces, or rebuilding the machine.

In carrying out my improvements, I attach to the spindle rails, by means of girths or cross pieces, all the parts which have to be raised or lowered with the spindle rails.

My invention consists in certain novel features of construction of my improvements as will be hereinafter fully described.

I have only shown in the drawings a detached portion of a spinning or twisting machine, with my improvements combined therewith, sufficient to enable those skilled in the art to understand the construction and operation thereof.

Referring to the drawings:—Figure 1 is a head end view of a spinning or twisting machine, showing my improvements combined therewith, looking in the direction of arrow *a*, Fig. 2; the head end of the frame, and the driving gears, and some other parts are shown by broken lines. Fig. 2 is a sectional edge view, on line 2, 2, Fig. 1, looking in the direction of arrow *b*, same figure. Fig. 3 corresponds to Fig. 1, but shows the girth or cross piece, with other parts left off, and looking in the direction of arrow *c*, Fig. 4, and, Fig. 4 is an edge view of the parts shown in Fig. 3, looking in the direction of arrow *d*, same figure.

In the accompanying drawings, 1 is the head end of a spinning or twisting machine, 2 are the spindle rails, which extend in the direction of the length of the machine. Extending transversely through the machine and attached to the spindle rails 2 at each

end, in this instance by bolts 3, is a girth or cross piece 4. The girth 4 carries the cylinder box 5 for the cylinder 6. At the opposite or foot end 1' of the spinning or twisting machine is a transverse girth or cross piece 7, see Fig. 4, which is attached at each end to the spindle rails 2, in this instance by bolts 8, see Fig. 2. The girth or cross piece 7 carries a cylinder box 9, see Fig. 4, for the other end of the cylinder 6. The cylinder 6 will be raised and lowered with the spindle rails 2.

When the spindle rails 2 are in their desired raised or lowered position, they can be secured by bolts 10, extending through holes 2' in the ends of the spindle rails 2, and through elongated openings in the foot end 1' of the machine, as shown in Fig. 2, to the foot end 1' and by similar bolts, not shown, to the head end 1. The head end girth or cross piece 4 may be secured in its adjusted position to the head end 1, by bolts 4' extending through elongated openings 4'' in said girth, see Fig. 1, and also by bolts 4''' extending through elongated openings 1'' in the head end 1, see Fig. 3. The foot end girth 7 can be secured to the foot end 1' by bolts 7', see Fig. 4, which extend through elongated openings in said girth 7. The cylinder 6 may be made in one or more lengths, according to the size of the machine, bearings for the cylinders being provided on the regular cross girths, not shown, in the usual way.

The head end cross girth 4 carries a shaft 11, and the bearing 12 for said shaft. On the shaft 11 is fast the worm gear 13 which meshes with and drives the worm 14 fast on the lower end of the upright shaft 15, which is mounted in a bearing 16 secured to the cross girth 4. An oil pan 17 extends under the worm gear 13. All of these parts are supported on the girth or cross piece 4, and are raised and lowered with said girth, and with the spindle rails 2. To the cross girth 4 is also attached the builder arm stud 18, by means of the stud plate 19. The opposite end of the shaft 11, and of the stud 18, are supported by a girth 20, in the usual way.

It will thus be seen that all of the parts above mentioned will be raised or lowered with the spindle rails 2, when said rails are raised or lowered.

The upright shaft 15 must be maintained in a position parallel to the line of adjustment of the spindle rails 2, so that in raising

105



or lowering said spindle rails, the shaft 15 will telescope into the bevel gear 21, see Figs. 1 and 2, which gear is splined on said shaft, so as to be operative in any position of adjustment of the spindle rails 2.

To drive the shaft 11, through worm gear 13, worm 14, shaft 15, and bevel gear 21, I preferably use a chain of gears 22, 23, and 24, with a change or variable gear 25, which can be used to regulate the speed of the builder motion, also a gear 26, and a bevel gear 27 meshing with the bevel gear 21. In the chain of gears, 22, 23, and 24, one or more additional gears may be used if necessary.

It will be understood that the details of construction of my improvements may be varied if desired, and they may be used on spinning or twisting frames of any ordinary construction and operation, and by means of my improvements the spindle rails can be raised or lowered and adjusted as desired, and with them the girths or cross pieces attached to said rails, and the parts supported on said girths or cross pieces.

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

1. In a spinning or twisting machine, a head end girth or cross piece attached to the spindle rails, and having a bearing for one end of the cylinder, said girth being adjustably secured to the head end of the machine, and adapted to be raised and lowered with the spindle rails.

2. In a spinning or twisting machine, a foot end girth or cross piece attached to the spindle rails, and carrying a bearing for one end of the cylinder, said girth being adjustably secured to the foot end of the machine,

and adapted to be raised and lowered with the spindle rails.

3. In a spinning or twisting machine, a head end girth or cross piece attached to the spindle rails, and carrying a box for one end of the cylinder, said girth being adjustably attached to the head end of the machine, and a foot end girth attached to the spindle rails and having a bearing for one end of the cylinder, said girth being adjustably secured to the foot end of the machine.

4. In a spinning or twisting machine, an adjustable head end girth or cross piece carrying bearings for the gears, and the shafts, etc., which have to be raised or lowered in adjusting the spindle rails, to suit the various lengths of traverse.

5. In a spinning or twisting machine, an adjustable head end girth attached to the spindle rails, and carrying a bearing for one end of the cylinder, also carrying bearings for the gearing and shafts, etc., which it is necessary to raise and lower with the spindle rails, to suit the various lengths of traverse.

6. In a spinning or twisting machine, a positive gear driven builder motion, consisting of a chain of two or more gears, a change gear to vary the speed of the builder motion, a gear and a pair of bevel gears, one of said bevel gears arranged parallel to the line of adjustment of the spindle rails, and adapted to receive a shaft which can telescope into said gear, according to the upward or downward movement of the spindle rails.

HERBERT G. BEEDE.

Witnesses:

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