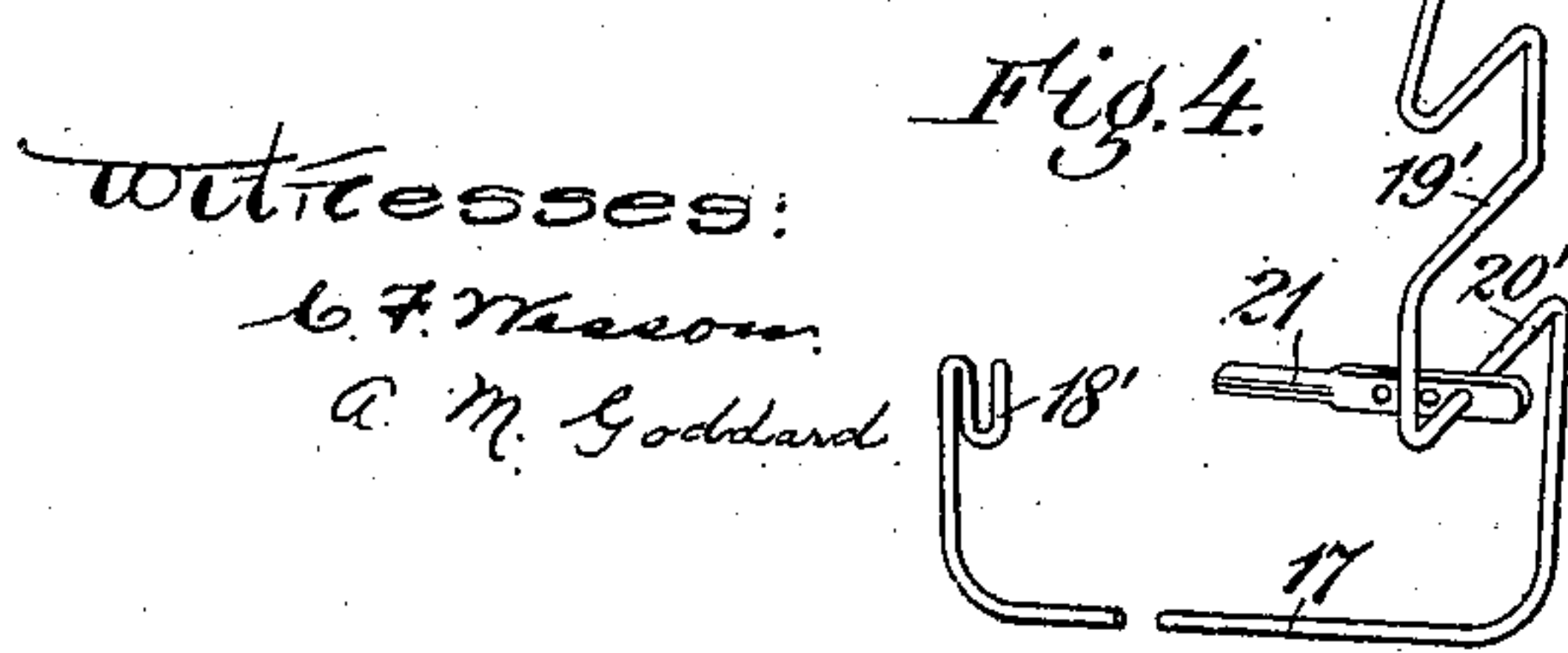
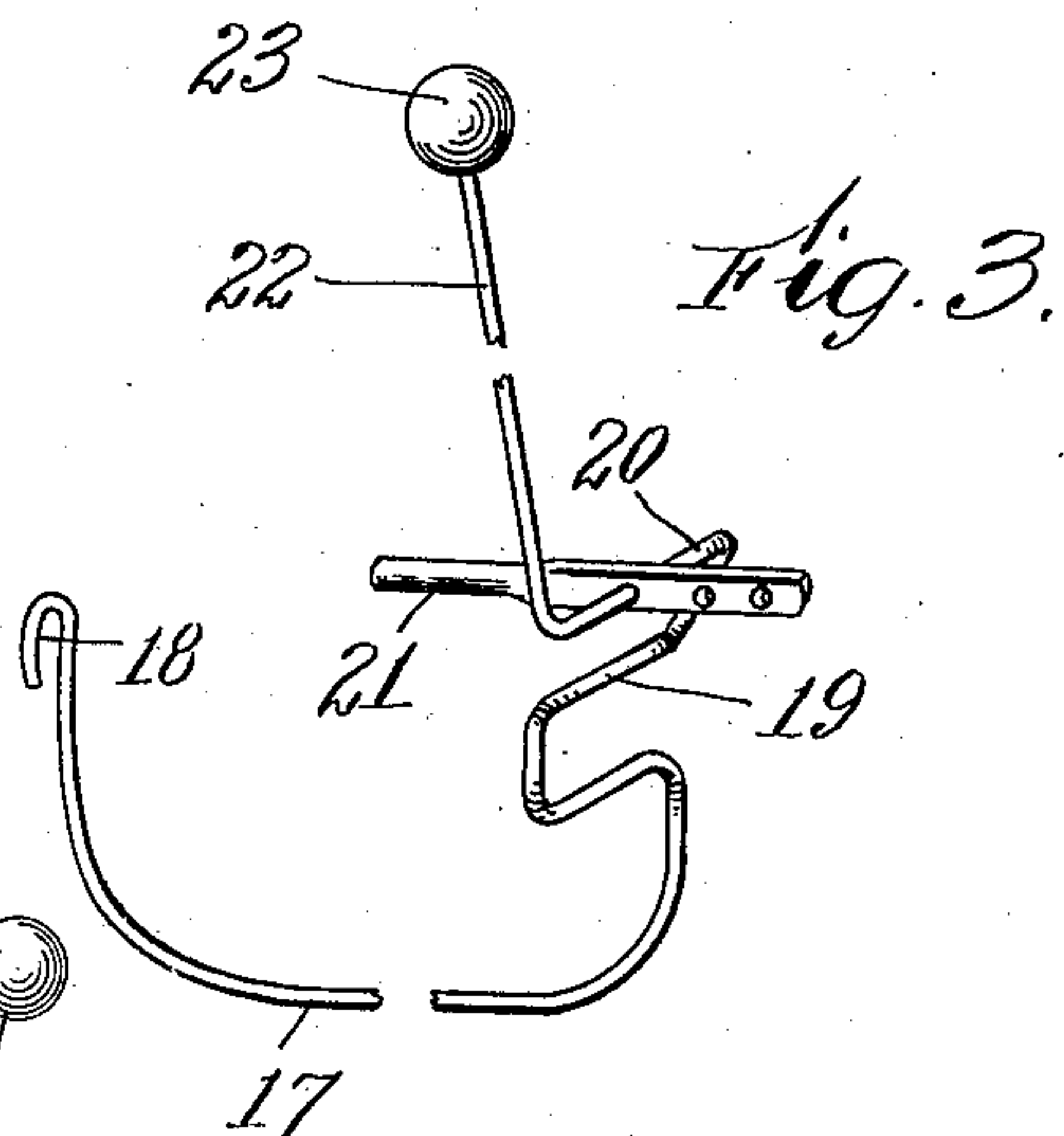
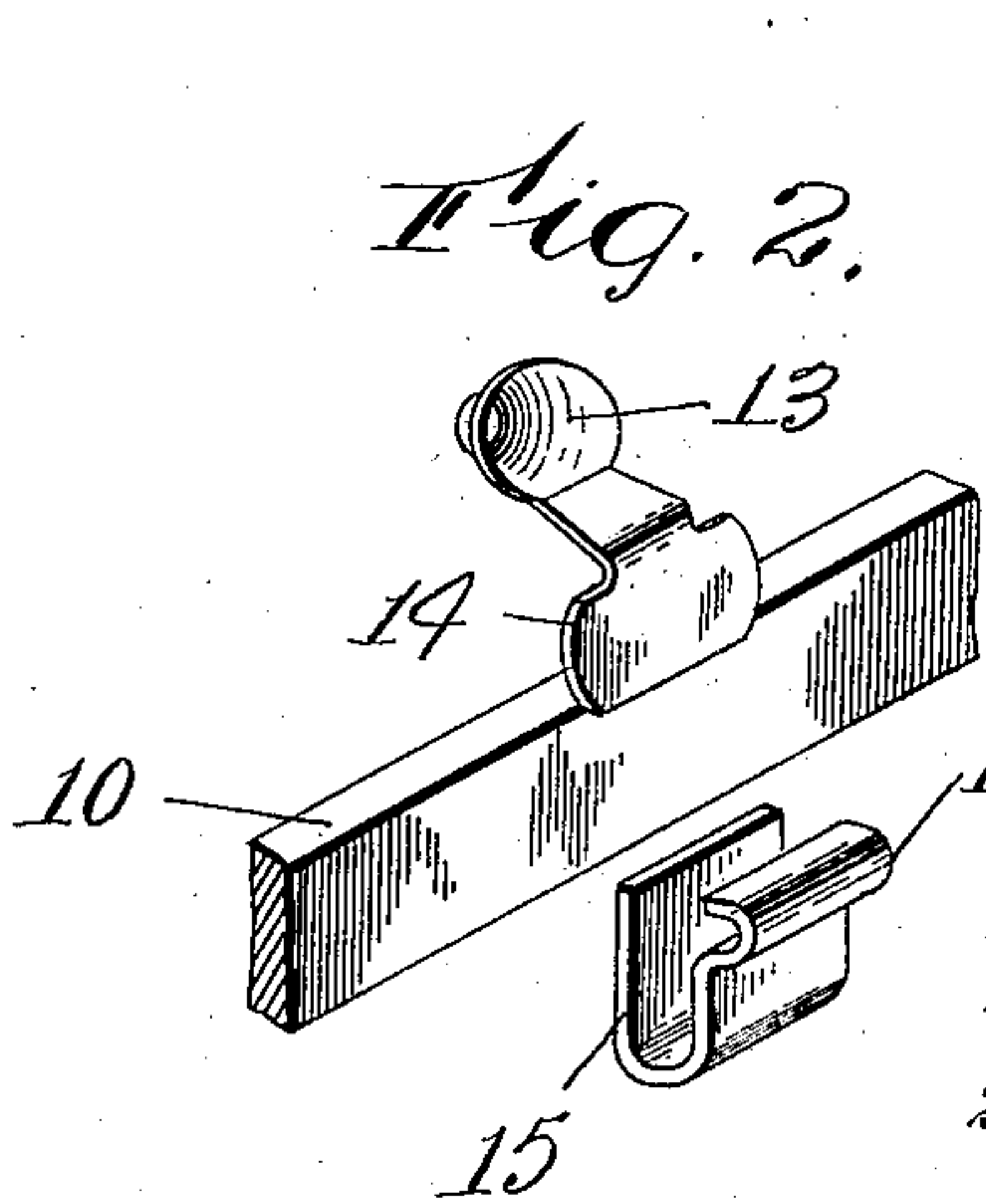
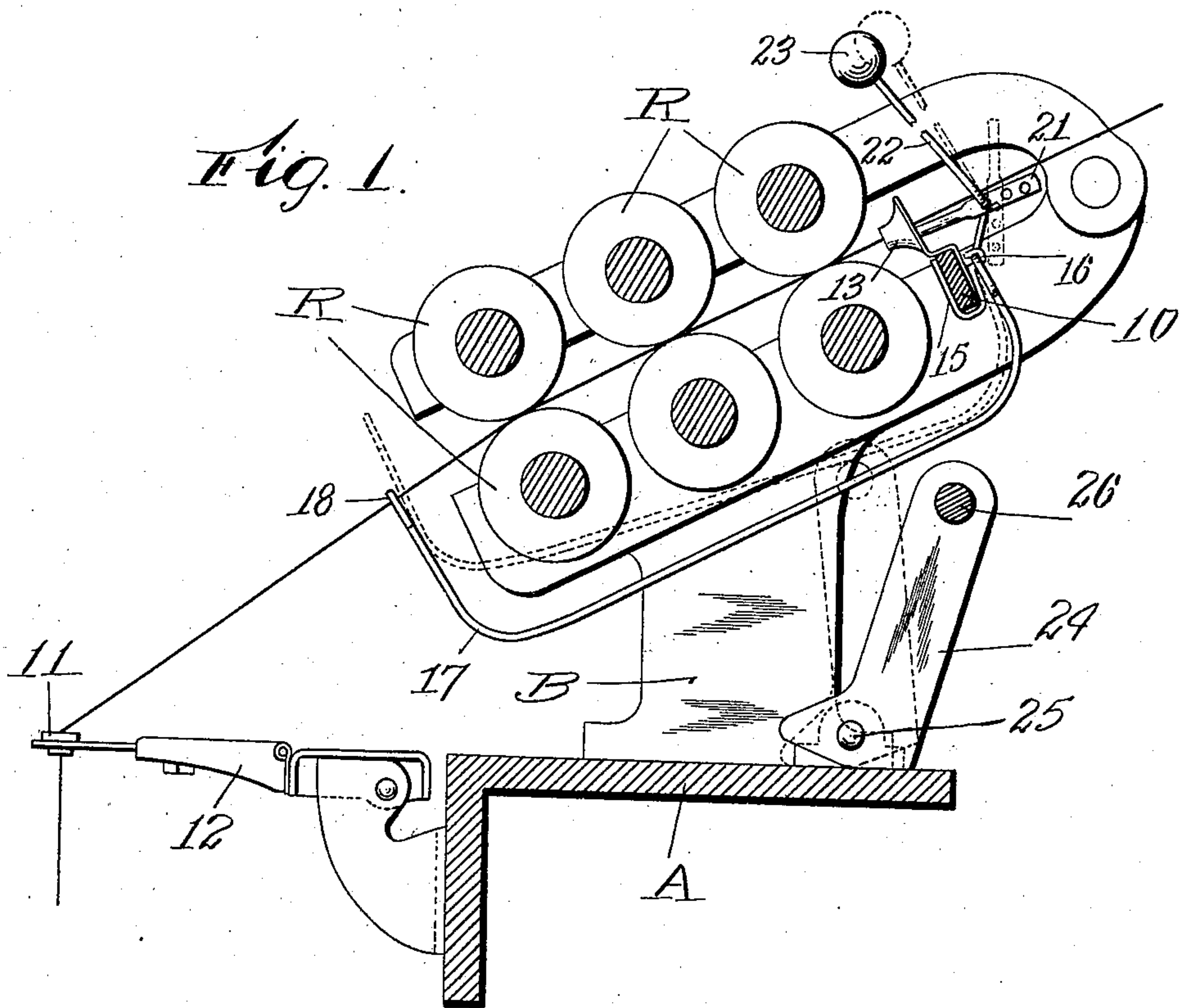


L. T. HOUGHTON.
 ROVING CLAMP FOR SPINNING OR TWISTING MACHINES.
 APPLICATION FILED MAR. 25, 1904.

919,354.

Patented Apr. 27, 1909.



Witnesses:
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UNITED STATES PATENT OFFICE.

LEWIS T. HOUGHTON, OF WORCESTER, MASSACHUSETTS.

ROVING-CLAMP FOR SPINNING OR TWISTING MACHINES.

No. 919,354.

Specification of Letters Patent.

Patented April 27, 1909.

Application filed March 25, 1904. Serial No. 199,958.

To all whom it may concern:

Be it known that I, LEWIS T. HOUGHTON, a citizen of the United States, residing at Worcester, in the county of Worcester and State of Massachusetts, have invented a new and useful Roving-Clamp for Spinning or Twisting Machines, of which the following is a specification.

This invention relates to a construction for stopping the action of the drawing rolls of a spinning or twisting frame upon any particular roving or thread whenever the thread breaks between the drawing rolls and the spinning point.

The especial objects of this invention are to provide a construction in which the operative parts are supported entirely upon and are movable with the traverse rail; to employ drop feelers which are hung upon the rovings or threads so that the same will fall by gravity; to combine the trumpet guides which are mounted on the traverse-rail with plugs longitudinally movable therein for clamping the rovings; and to construct the parts so that the clamping plug of any one feeler may be moved out of operative position, or so that the whole series of stop devices may be held inoperative so as not to interfere with the doffing of the frame.

In the accompanying drawing, Figure 1 is a transverse sectional view of sufficient parts of a spinning or twisting machine to illustrate the application of my invention thereto. Fig. 2 is a perspective view of the parts mounted upon the traverse-rail, Fig. 3 is a perspective view of one of the feelers and its plug, and Fig. 4 is a similar view showing a modification.

Referring to the accompanying drawing and in detail, A designates the roll-rail or part of the frame of a spinning or twisting machine. Mounted on the roll-rail A are roll-stands B which support the drawing rolls R. Movable longitudinally with respect to the drawing rolls is a traverse rail 10 which is moved back and forth during the operation of the machine.

The parts as thus far referred to may be of any of the ordinary or approved constructions, except that an iron traverse-rail is preferably employed instead of the stick of wood which is ordinarily used.

The manner in which the trumpet guides are secured in place upon the traverse-rail is most clearly illustrated in Fig. 2. As shown in this figure, each of the trumpets 13 is car-

ried by an arm extending from a fastening plate 14. The fastening plate 14 extends down on one side of the traverse rail 10 and is clamped by a spring-clip 15. The spring-clip 15 is provided in one of its legs with a hinged socket 16 for supporting one of the feelers. Each of the feelers consists of a frame or piece of wire 17 having a hook or bend 18 at one end for engaging the roving or thread, and having an S-bend at an intermediate point. One horizontal leg 19 of the S-shaped bend of the wire 17 is pivoted in the socket 16 of the spring-clip 15 and the other horizontal leg 20 pivotally supports a rod or plug 21 which extends longitudinally into the trumpet guide 13 substantially along the axis thereof toward its narrow portion and coöperates therewith to clamp the roving when its feeler falls by gravity. Extending up from the S-bend of each of the feelers is an arm 22 which is provided with a ball or counterweight 23 at its upper end. These counterweights are normally supported but slightly in front of the line of the pivotal point of the feeler so that they exert comparatively little tension when resting upon the threads in normal position. Whenever a feeler drops or moves down by gravity its counterweight 23 operates with an increased leverage to actuate the pin or plug 21. By bending or setting the arms 22 to proper position the feelers may have any desired tension upon the threads when in normal position. In practice, the feelers are weighted so that they will swing or drop down by gravity. It is obvious, however, that as shown in Fig. 4 the feelers may be counterweighted by the weights 23 so that they will tend to rise and by pivoting the feelers on a leg 19' above the plugs or pins 21, such rising feelers may be connected to directly operate such pins or plugs. In this case the other horizontal leg 20' is located below the leg 19', and the hook 18' is modified. In the use of drop feelers, however, a further advantage arises, as the series of arms 22 constitute, in effect, an indicator, which, by means of the swinging forward of any one of the weighted arms will clearly show which ones of the rovings or threads have been stopped and require splicing.

Whenever any particular roving or thread is to be spliced the stop-plug 21 therefor can be thrown out of operative position as indicated by dotted lines in Fig. 1, and this is regarded as advantageous because when the

plug 21 is thrown back it will not interfere with free access to the guide 13.

To hold an entire series of parts out of the way while a twisting or spinning frame is being doffed a construction is provided for rendering all the feelers inoperative. As illustrated herein, the arms 24 are pivotally mounted in bearing pieces 25 secured on the roll-rail A. Connecting the arms 24 is a throw-out rod 26 which may be swung forward to support the feelers, as indicated by dotted lines.

In the use of roving clamps constructed according to this invention, it will be seen that operative parts are mounted upon and carried entirely by the traverse rail so that the said parts will not interfere with the longitudinal movement of the rovings or threads. The front ends of the feeler wires 17 project up a short distance in front of the drawing rolls, and on this account they do not occupy any of the room required for turning up the thread boards during the doffing. It will also be noted that an apparatus constructed according to this invention may be employed without interfering with any of the ordinary spinning operations because any one of the plugs 21 may be thrown out of operative position or the entire series may be held inoperative by the supporting connections.

I am aware that numerous changes may be made in practicing this invention by those who are skilled in the art without departing from the scope thereof as expressed in the claims. I do not wish, therefore, to be limited to the construction I have herein shown and described, but

What I do claim and desire to secure by Letters Patent of the United States is:—

1. In a roving clamp for spinning or twisting machines, the combination of a guide, a feeler and a pin or plug operated thereby longitudinally with respect to the guide, said pin or plug being pivoted so that it can be thrown to the other side of its pivot to give access to the guide.

2. In a roving clamp for spinning or twisting machines, the combination of a trumpet-guide, a pin or plug substantially parallel with the axis of the trumpet-guide, and movable longitudinally therein, a feeler actuating the pin, and means for holding the pin out of operative position to permit piecing.

3. In a roving clamp for spinning or twisting machines, the combination of a longitudinally movable clamping pin, a thread guide which the pin is adapted to engage, a feeler for actuating the pin, and means for holding the pin out of operating position to permit piecing.

4. In a construction of the class described,

the combination of a set of feelers, a clamp operated by each of said feelers, and a release bar or rod movable to engage the under sides of the feelers to hold the entire series of clamps in inoperative position when desired.

5. In a construction of the class described, the combination of trumpet guides, a pin or plug arranged substantially parallel with the axis of each trumpet guide and movable longitudinally therein, a feeler for each of the trumpet guides, and a release bar or frame mounted to be swung into engagement with the feelers and to hold the same inoperative when desired.

6. In a roving clamp for spinning or twisting machines, the combination of a trumpet-guide, a pin or plug substantially parallel with the axis of the trumpet-guide and movable longitudinally therein to clamp the roving independently of the drawing rolls, and a feeler for actuating the pin.

7. In a roving clamp for spinning or twisting machines, the combination of a guide of a trumpet shape, and a movable clamping pin mounted to move substantially along the axis of the guide toward the narrow portion thereof to clamp a thread in the guide.

8. In a roving clamp for spinning or twisting machines, the combination of a guide of a trumpet shape, a clamping pin mounted to move substantially along the axis of said guide toward the narrow portion thereof to clamp a thread in the guide, and a pivotally mounted wire having means on one end for engaging the roving and an indicator on the other to show when said clamping pin is in clamping position, said clamping pin being supported and operated by said wire.

9. In a roving clamp for spinning or twisting machines, the combination with a guide of a trumpet shape, of a clamping pin mounted to move substantially along the axis of the guide to clamp the roving in the narrow portion thereof, and a pivotally mounted frame having an arm on which said pin is pivotally mounted, said arm being parallel with the axis on which the frame is pivoted, an arm extending inwardly from said first named arm and having an indicator thereon located above the drawing rolls and serving as a counter-weight, and an arm extending downwardly from the point at which the frame is pivoted and provided with means for engaging the roving.

In testimony whereof I have hereunto set my hand, in the presence of two subscribing witnesses.

LEWIS T. HOUGHTON.

Witnesses:

PHILIP W. SOUTHGATE,
J. ELMER HALL.