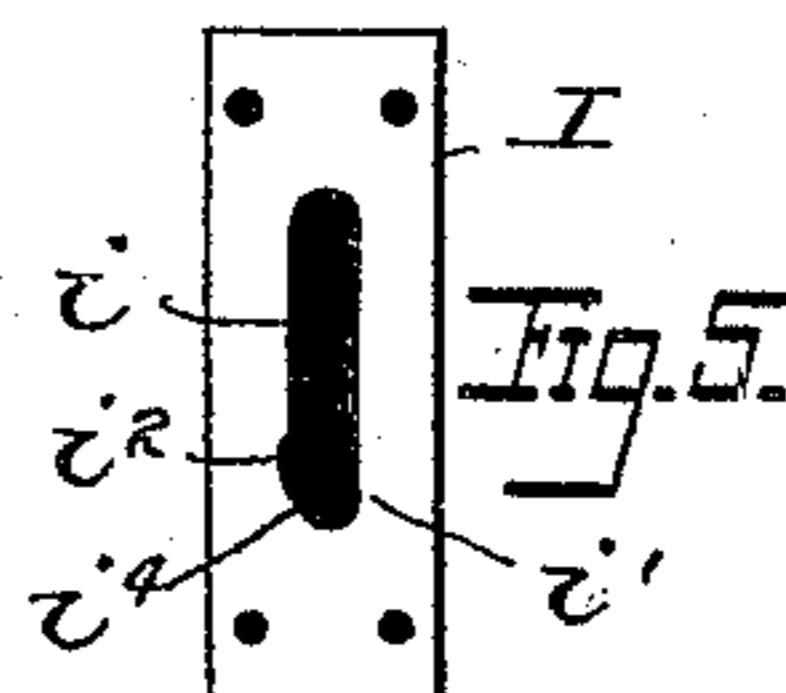
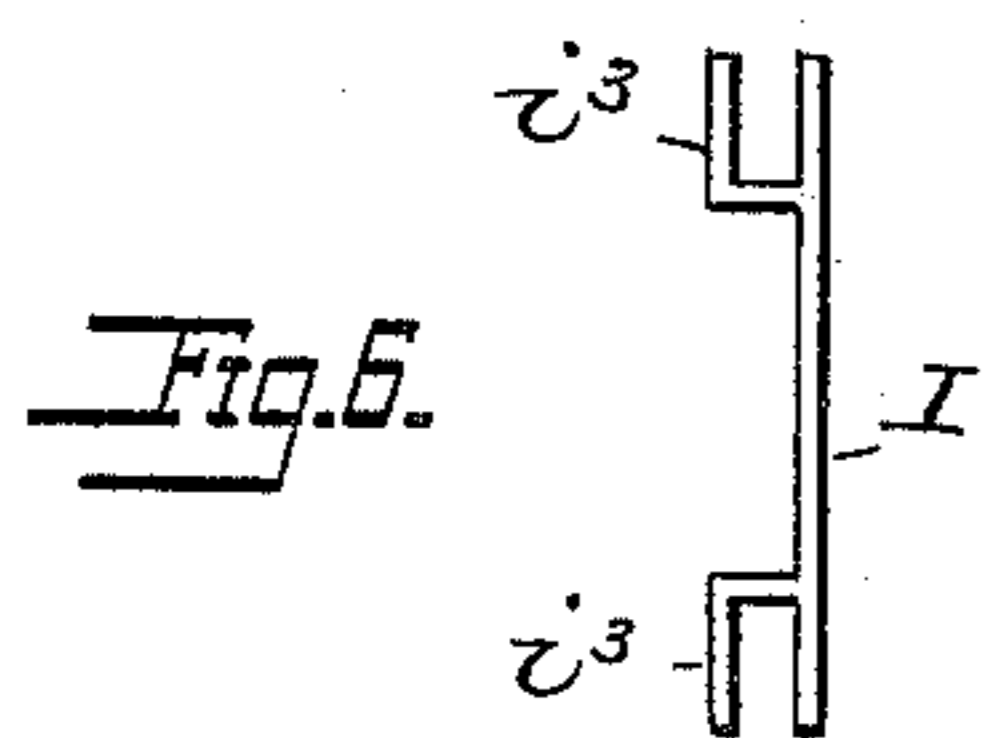
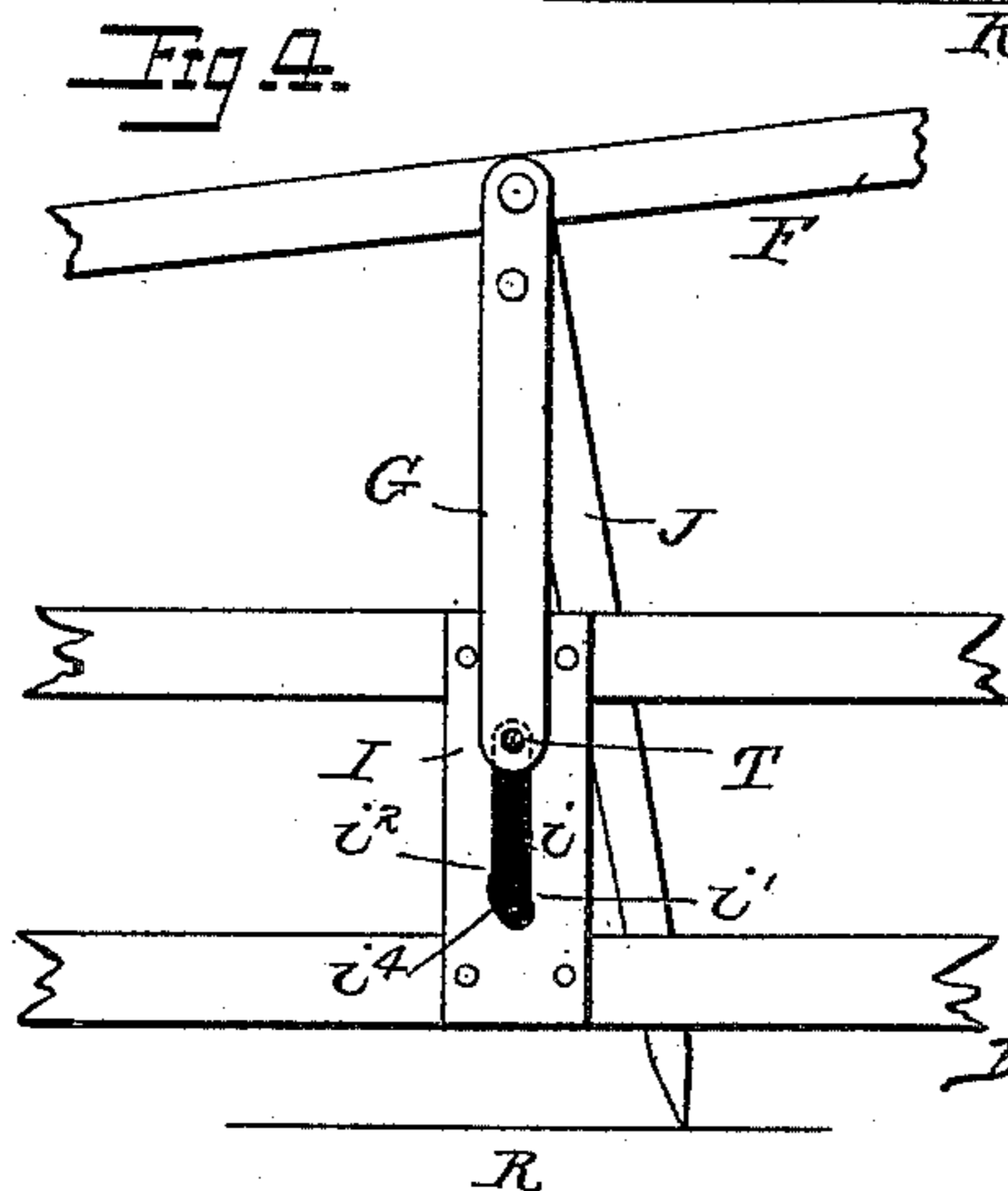
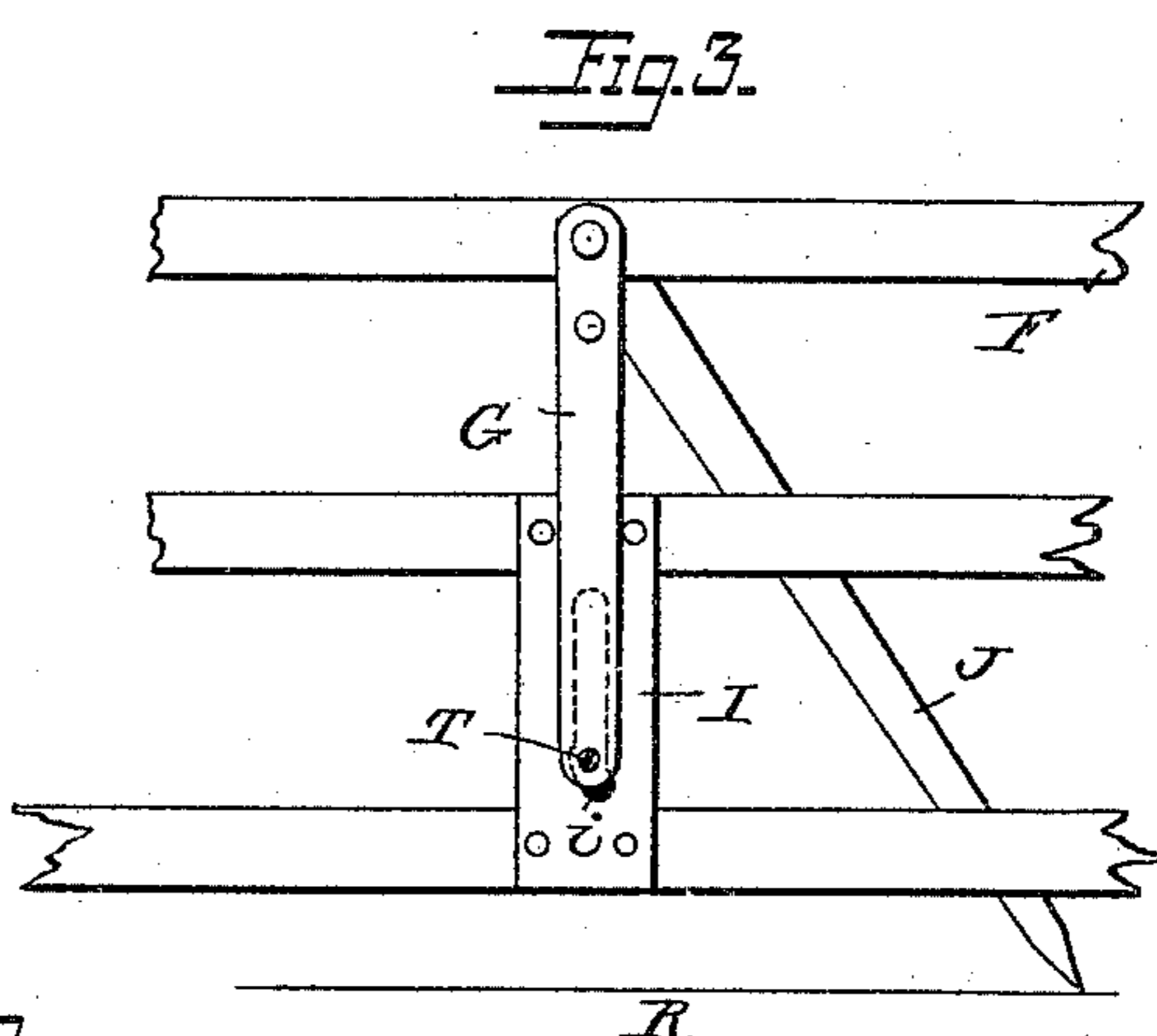
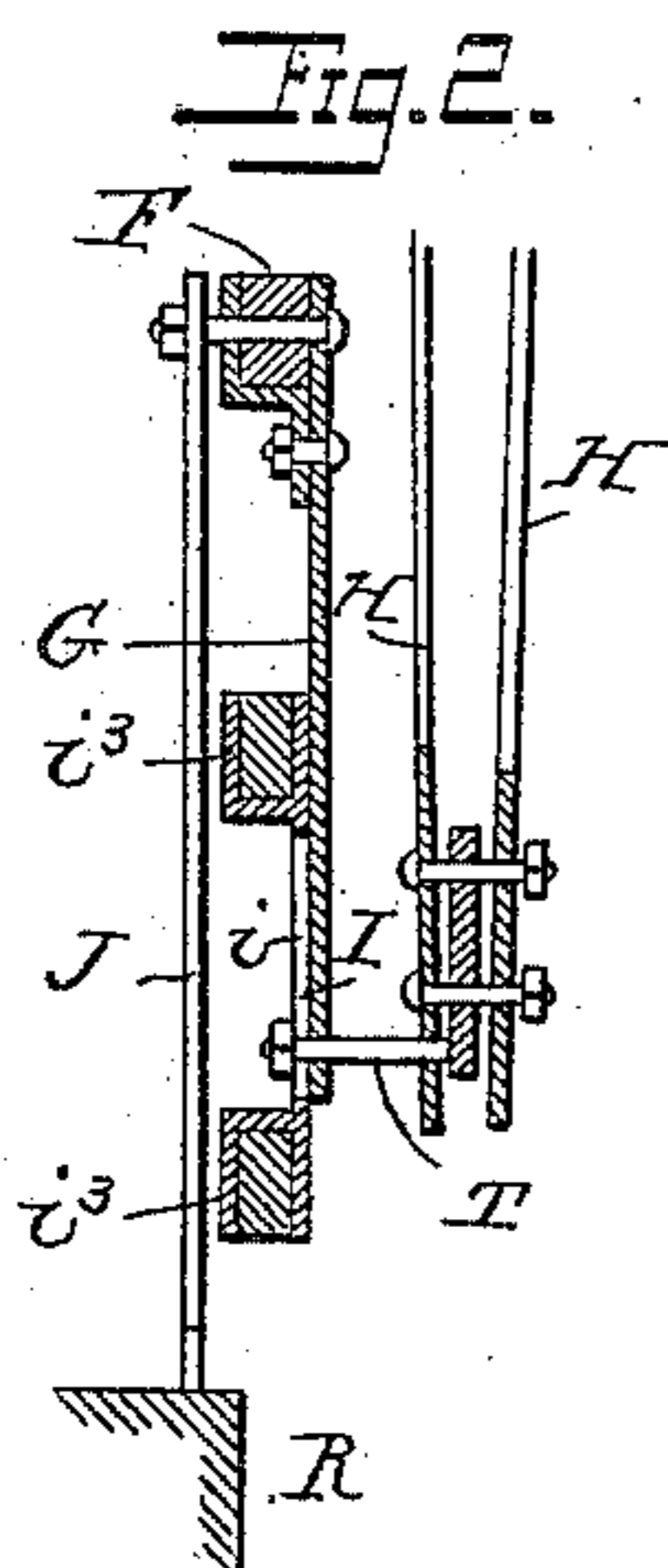
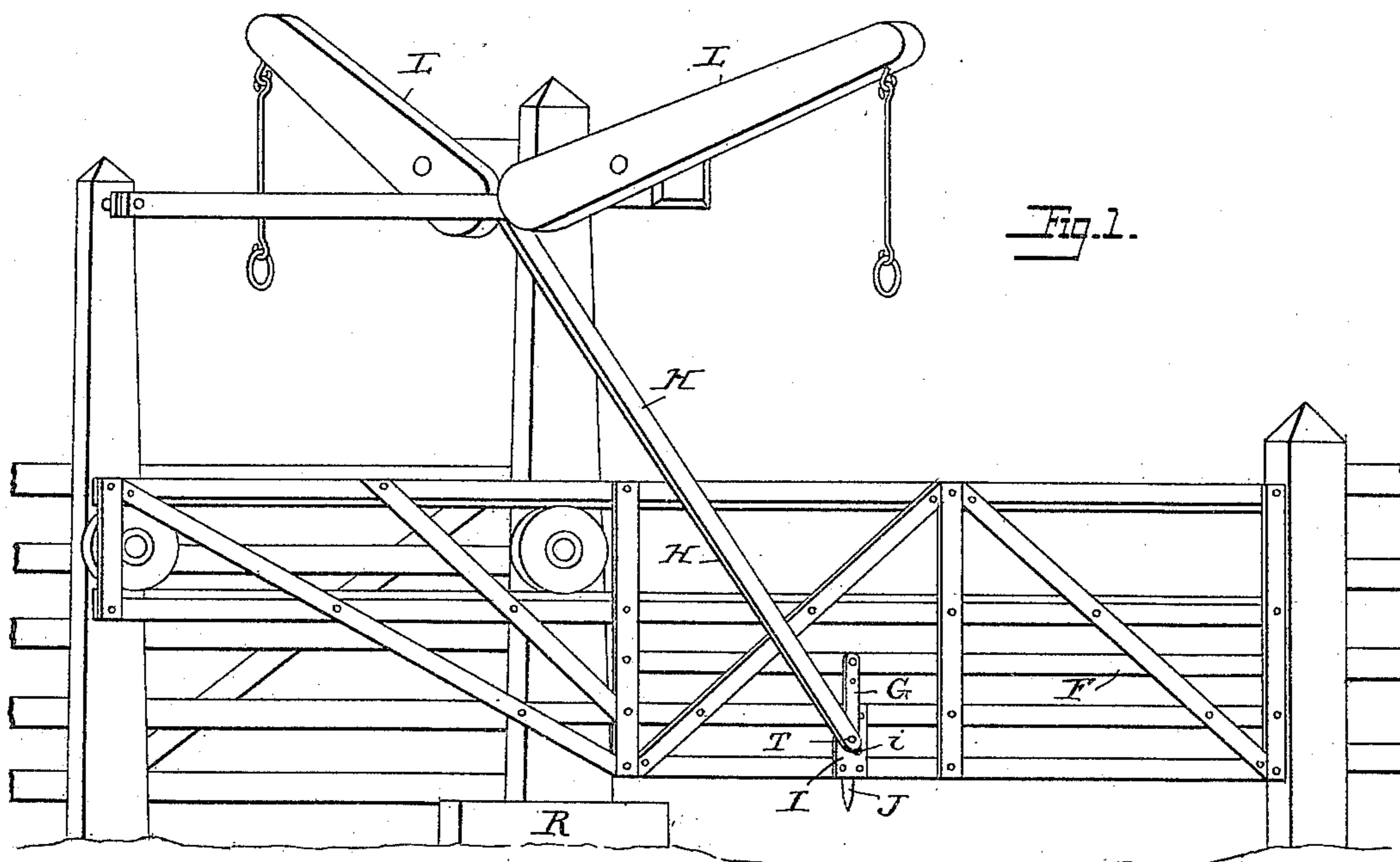


(No Model.)

W. R. WHITE.
GATE.

No. 446,605.

Patented Feb. 17, 1891.



WITNESSES

Jno. G. Hinkel
Chas. S. McArthur

INVENTOR

Wm. R. White
By Foster Freeman
Attorneys.

UNITED STATES PATENT OFFICE.

WILLIAM RICHARD WHITE, OF BLOOMINGTON, ILLINOIS.

GATE.

SPECIFICATION forming part of Letters Patent No. 446,605, dated February 17, 1891.

Application filed November 22, 1890. Serial No. 372,355. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM RICHARD WHITE, a citizen of the United States, residing at Bloomington, McLean county, Illinois, have invented certain new and useful Improvements in Gates, of which the following is a specification.

This invention relates to sliding gates; and it consists in various improvements in the operating devices of the gate patented to me April 3, 1888, No. 380,613.

In the accompanying drawings, Figure 1 is a perspective view of my improved gate. Fig. 2 is a section on the line 2 2 of Fig. 1. Figs. 3 and 4 are partial side views showing the parts in different positions, and Figs. 5 and 6 are side and edge views of the guide-plate I.

In operating the gate described in my aforesaid patent I have found that sometimes through accident or carelessness persons neglect to pull down the operating-lever with sufficient force to throw the gate over the dead-center.

My present invention consists in devices whereby the gate may be started from the dead-center simply by an additional pull on the operating-lever, the movement of the gate being always continued in the direction in which it moves onto the center.

For a detailed description of the gate and so much of the operating devices as are old I will refer to the aforesaid patent.

In general the gate, which may be of any desired patent, slides backward and forward upon rollers or other suitable ways fixed upon the adjoining fence. In order to cause the gate to move from its closed position to its open one, and vice versa, I connect the gate near its middle portion with the overhead operating-levers L by means of a swinging strip or strips H H, the strips being connected to the levers by universal joints. As in my former patent, the swinging strips H H are connected to the latch-bar of the gate by means of a connecting-arm G, so that when the upper ends of said strips are raised the latch-bar will first be raised to unlock the gate, and afterward the gate, by virtue of the tendency of the strips to swing into a vertical position, will be carried to the other extreme of its movement. Should the gate by reason of an insufficient pull upon the lever lodge upon

the dead-center, or the position in which the swinging strips are vertical, I provide means as follows for throwing it off: To the latch-bar F is pivotally attached a rod or bar J, which is long enough to extend some distance below the gate. In the path of travel of the lower end of the pendent bar J is fixed a block R in such position that when the gate approaches the dead-center the lower end of the bar J will be intercepted by the inner end of the block and ride over the same in an inclined position, as shown in Fig. 3. Should the gate be given sufficient impetus to open or close it fully, as desired, the rod J will trail over the block R and drop off at its farther end without affecting the operation of the gate. Should, however, the gate lodge upon the dead-center, an additional pull upon the lever will raise the latch-bar, and the rod J will swing from the position shown in Fig. 3 to that shown in Fig. 4, it being made long enough to prevent its assuming an entirely vertical position. Upon releasing the operating-lever the weight of the inner ends of the operating-levers, the swinging strips, and the latch-bar will cause the rod J to swing upon its lower end from the position shown in Fig. 4 to a more inclined position, such as that shown in Fig. 3, carrying the gate with it in the direction in which it is desired to move it. The swinging strip H having now taken an inclined position, the movement of the gate to its destination will be caused by the weighted inner ends of the operating-lever or raising the outer ends of the same.

It will be evident that the pendent rod J might be attached to any other vertically-movable portion of the gate—as, for instance, the connecting-arm G or the swinging strips H. It will also be evident that where the ground is hard enough the block R may be dispensed with, the surface of the ground being suitably raised to intercept the lower end of the rod J.

In order to relieve the connecting-arm G from the lateral strain which would be put upon it in starting the gate, I provide a guide-plate I, which I attach to the lower bars or other fixed portion of the gate. The guide-plate I is provided with central slot *i*, having at its lower end a shoulder *i'*, and slightly

above this shoulder another shoulder i^2 upon the opposite side of the slot, the intermediate edge i^4 forming an inclined bearing, upon which the pin T rides when raising the latch.

5 The guide-plate is fixed upon the lower portion of the gate with its slot arranged vertically and in line with the connecting-arm and the pivot of the pendent bar. A pin or stud T, extending laterally from the lower extremity of the strip H, passes through the circular perforation in the connecting-arm G and also through the slot in the guide-plate I. In starting the gate it will be seen that the pin I will bear upon the guide-plate and thereby relieve the connecting-arm of any lateral strain, the slot in the guide-plate at the same time permitting the connecting-arm to be thrown up sufficiently to disengage the latch.

15 In order to prevent the pin T from rising to the top of the slot I before starting the gate, I provide the shoulder i' , which holds the pin at the bottom of the slot when the gate is being closed, and the shoulder i^2 , which permits the pin to rise a sufficient distance to disengage the latch when the gate is being opened. Should the gate lodge upon the dead-center, the upward prolongation of the slot will permit the pin T to rise, so that the pendent rod J may throw the gate over, as heretofore described.

When my improvements are used in gates made up of a series of bars, I prefer to make the plate I with terminal clips i^3 to receive the bars to which the plate is attached.

35 Presuming that the gate is closed and that it is desired to open it, the operation will be as follows: Upon pulling down the outer end of one of the operating-levers the strips H H, which are connected together at their lower end, are raised and tend to swing to their vertical position. The first movement of the strips H causes the latch to rise, after which the pin T comes in contact with the shoulder i^2 of plate I and imparts motion to the gate. Should the gate lodge on the dead-center, a further downward pull upon the operating-lever will, through connections described, raise the upper end of bar J and cause it to assume a more vertical position, the pin T passing up the slot i . Upon releasing the lever the bar J, which rests upon block R, will tip over, carrying the gate with it in the desired direction over the dead-center.

Without limiting myself to the precise construction and arrangement of parts shown and described, I claim—

1. In a sliding gate, the combination of a bar pivoted at one end, normally held vertical, and free to swing to either side upon its pivot with a block arranged to engage the free end of the bar when the gate is in its central position, substantially as described.

2. In a sliding gate, the combination, with the pendent bar pivotally connected at its upper end to the gate, of the block arranged in the path of the lower end of said bar, substantially as described.

3. In a sliding gate, the combination, with the swinging strip, of the pendent bar, connections between said strip and bar, and the block arranged in the path of the lower end of said bar, substantially as described.

4. In a sliding gate, the combination of the swinging strip, the connecting-arm, the latch-bar, the pendent bar, and the block arranged in the path of the lower end of said pendent bar, substantially as described.

5. The combination, with a gate and a bearing R near the center thereof, of a pivoted bar hung to normally make contact with the bearing, and means for reciprocating the pivoted end of the bar when its opposite end is on the bearing to shift the gate, substantially as set forth.

6. In a sliding gate, the combination, with the swinging strip, the pendent bar, and connections between said strip and bar, of a slotted guide-plate attached to the gate, and the block arranged in the path of the pendent bar, substantially as described.

7. The combination, with the swinging strip, the pendent bar, and connections between said strip and bar, of the guide-plate having the shoulders i' and i^2 on either side of the slot i , and the block R, substantially as described.

8. In a gate of the class described, the guide-plate having the slot i , shoulders i' i^2 , and the terminal clips i^3 , substantially as described.

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

WILLIAM RICHARD WHITE.

Witnesses:

JOHN F. WHITE,
WM. B. HORNER.