

No. 721,518.

PATENTED FEB. 24, 1903.

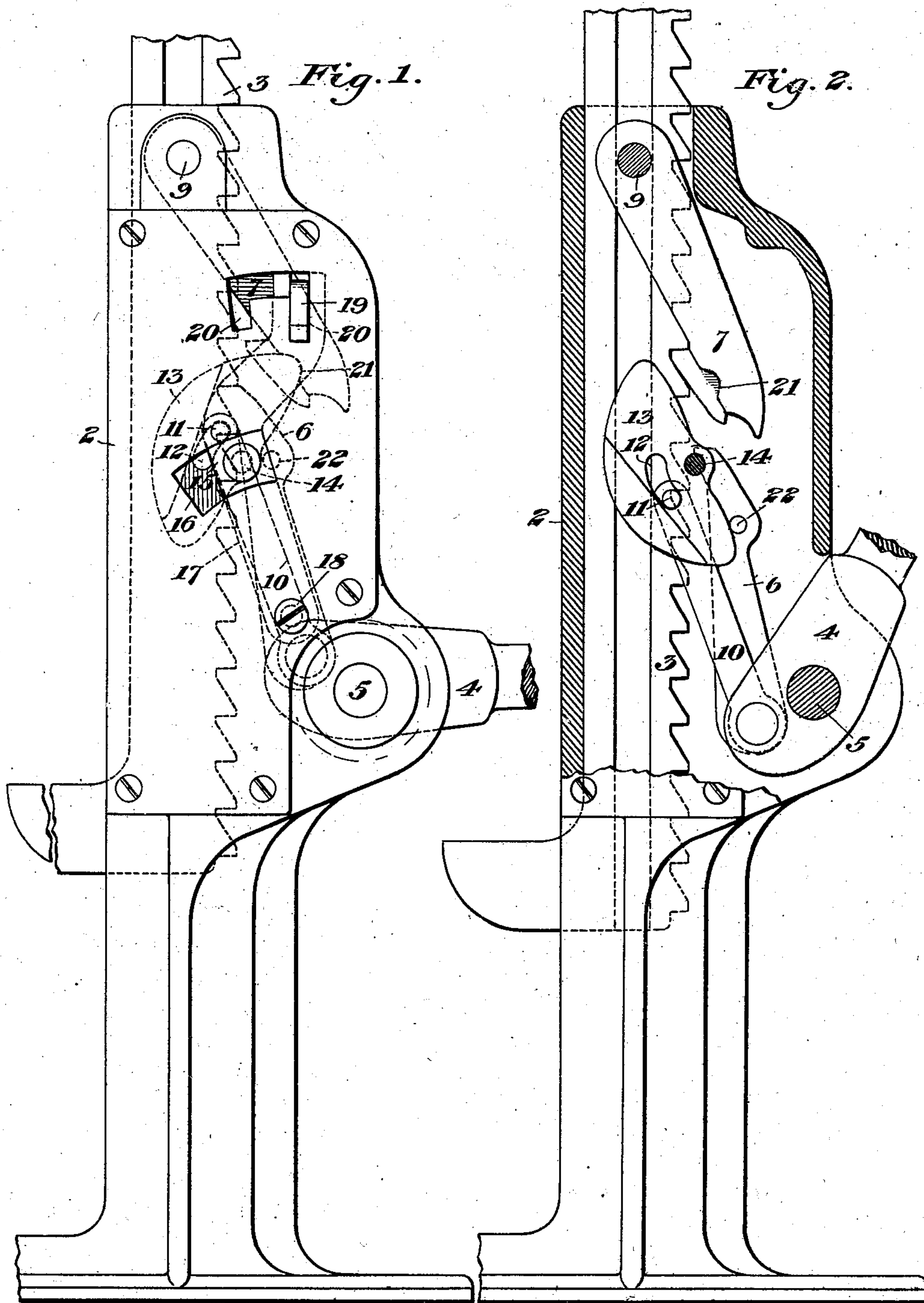
L. O. HENGGI & E. WOODINGS.

LIFTING JACK.

APPLICATION FILED APR. 2, 1902.

NO MODEL.

2 SHEETS—SHEET 1.



WITNESSES

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2 SHEETS—SHEET 2.

Fig. 3.

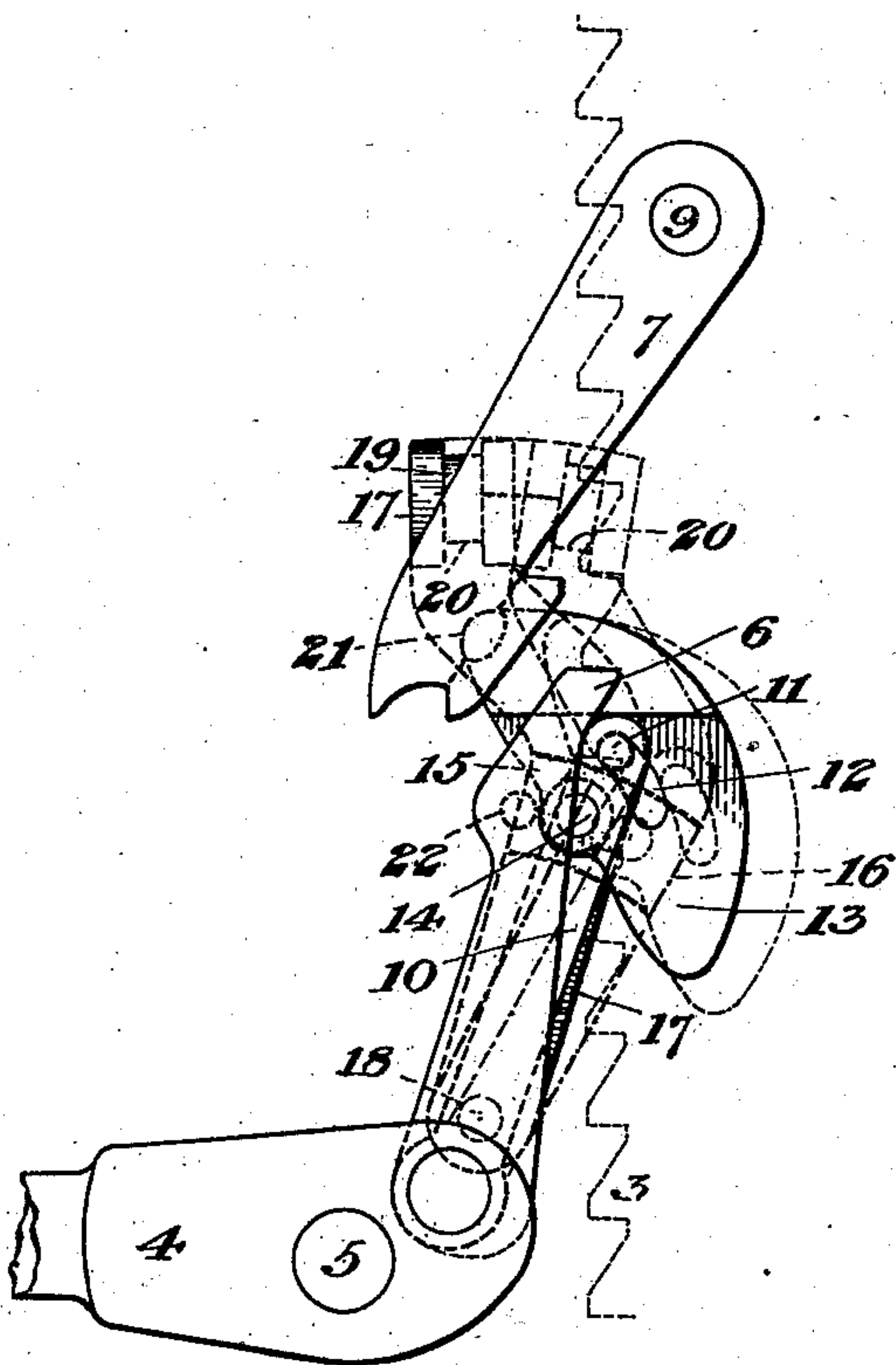
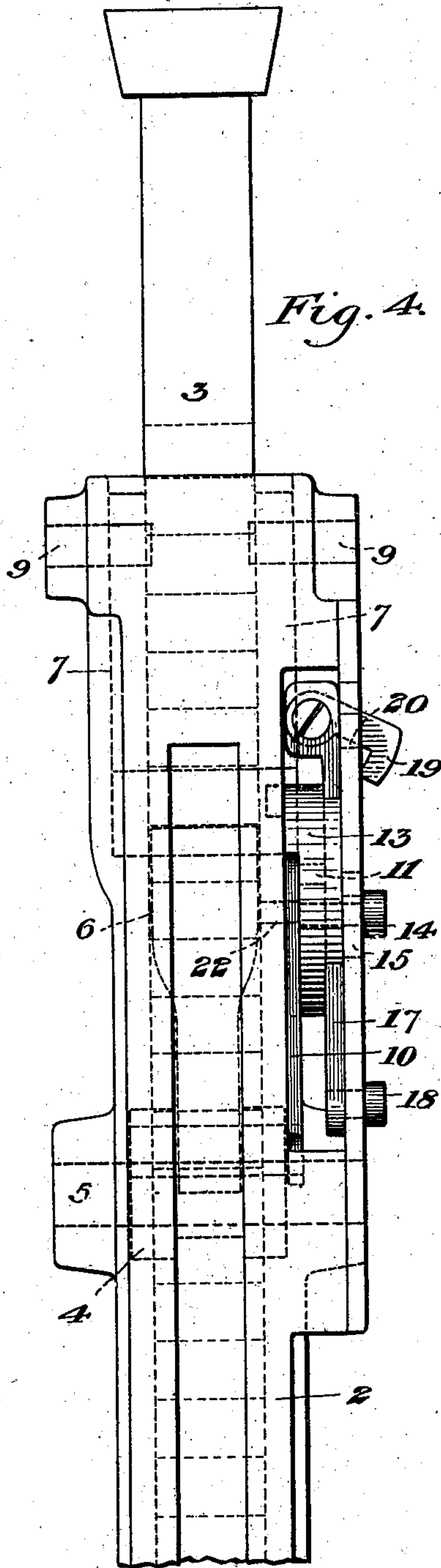


Fig. 4.



WITNESSES

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UNITED STATES PATENT OFFICE.

LEWIS O. HENGGI AND EMANUEL WOODINGS, OF OAKMONT,
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LIFTING-JACK.

SPECIFICATION forming part of Letters Patent No. 721,518, dated February 24, 1903.

Application filed April 2, 1902. Serial No. 101,107. (No model.)

To all whom it may concern:

Be it known that we, LEWIS O. HENGGI and EMANUEL WOODINGS, of Oakmont, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Lifting-Jack, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a side elevation, partly broken away, of our improved jack. Fig. 2 is a sectional side elevation of the same, showing the parts in adjusted position. Fig. 3 is a detail view on the opposite side to that of Fig. 1, showing the pawl system; and Fig. 4 is a front elevation of the jack, partly broken away.

Our invention relates to that class of jacks wherein the lifting-bar is moved step by step in either direction by means of a plurality of pawls; and its object is to provide a simple and compact jack in which the movement may be reversed by means of a swinging dog having an adjustable fulcrum.

In the drawings, 2 is a hollow standard or casing, and 3 a toothed lifting-bar movable vertically therein.

4 is the operating-lever, which is pivoted to the standard at 5 and provided with a pivoted lifting-pawl 6 at its inner end. The other pawl 7 is in the form of a U-shaped detent, pivoted to the casing at 9. A link 10 is also pivoted at the inner end of the operating-lever and is provided at its upper end with a pin 11, which projects within a curved slot 12 in a swinging dog 13. The pivot-pin 14 of the dog is carried within a bearing 15, which is adjustable within a slot 16 in the side of the casing. The bearing 15 is formed as a projection upon the side of a lever 17, which is pivoted within the frame at 18 and is provided at its upper end with a swinging latch 19, arranged to drop within locking-notches 20 of a slot in the side of the casing.

The weighted dog 13 is cut away on one side to allow space for the lever 17, and the upper end of this dog is shaped to engage a notch 21 in the upper detent. The lifting-pawl 6 is provided with a lateral pin or lug

22, which is engaged by the lower part of the dog during lowering.

When lowering the lifting-bar step by step, the parts are in the position shown in Fig. 2, and as the operating-lever is lowered to move the lifting-pawl up into the next tooth, the pin on the link 10 moves idly within the slot in the dog until the end of the slot 12 is reached. Further movement swings the dog, whose upper end pushes out the detent 7 as the lifting-pawl engages the tooth. The parts then assume the position of Fig. 1. As the lifting-bar is lowered the dog holds the detent out of action, while the pin moves back within the slot in the dog until the lifting-bar is lowered, so that the point of the next tooth is below the detent. On further lowering the pin engages the lower end of the slot and swings back the dog, allowing the detent to engage the tooth, and as the dog swings back its lower end strikes the pin on the lifting-pawl and swings this pawl out, the parts then assuming the position of Fig. 2.

In moving the lifting-bar upwardly the latch is lifted and the lever 17 is swung over and the latch then dropped into the other notch. The dog is thus held out of action, and the pawls act in their normal manner as in ordinary jacks, the detent sliding over the inclined tooth as the lower pawl forces the bar upwardly and then dropping into the next tooth, after which the pawl is moved down to reengage.

The advantages of the invention result from the use of the swinging dog with its movable fulcrum and link connections with the lever. By the addition of this part the jack is made reversible to move the lifting-bar either upwardly or downwardly.

Many changes may be made in the form and arrangement of the jack, the pawls, the dog, &c., without departing from our invention.

We claim—

1. A jack having a plurality of pawls engaging a toothed bar, a pivoted dog arranged to act upon at least one of the pawls during step-by-step lowering, said dog having an adjustable fulcrum and mechanism for hold-

ing the fulcrum in its adjusted positions; substantially as described.

2. A jack having a toothed bar, two pawls engaging the teeth of said bar, a swinging dog pivoted to the casing and arranged to engage the pawls during lowering, said dog having an adjustable fulcrum, and a link connection between the dog and the actuating-lever; substantially as described.

10 3. A jack having a toothed bar, two pawls engaging the teeth of said bar, a pivoted dog arranged to engage the pawls during lowering, said dog having an adjustable fulcrum, a latch device arranged to hold the fulcrum
15 in adjusted position, and a link connection between the dog and the lever; substantially as described.

4. A jack having two pawls engaging a toothed bar, a pivoted dog arranged to engage the pawls during step-by-step lowering, said dog having an adjustable fulcrum, and

a link pivoted to the operating-lever and having a loose slotted connection with the dog; substantially as described.

5. A jack having a toothed bar, an operating-lever having a lifting-pawl pivoted at its inner end, a detent-pawl pivoted to the casing, a swinging dog pivoted in the casing and arranged to engage the pawls during step-by-step lowering, an adjustable fulcrum for the dog, means for holding the fulcrum in its adjusted position, and a link pivoted to the lever and having loose slotted connection with the dog; substantially as described.

In testimony whereof we have hereunto set our hands.

LEWIS O. HENGGI.
EMANUEL WOODINGS.

Witnesses:

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L. M. REDMAN.