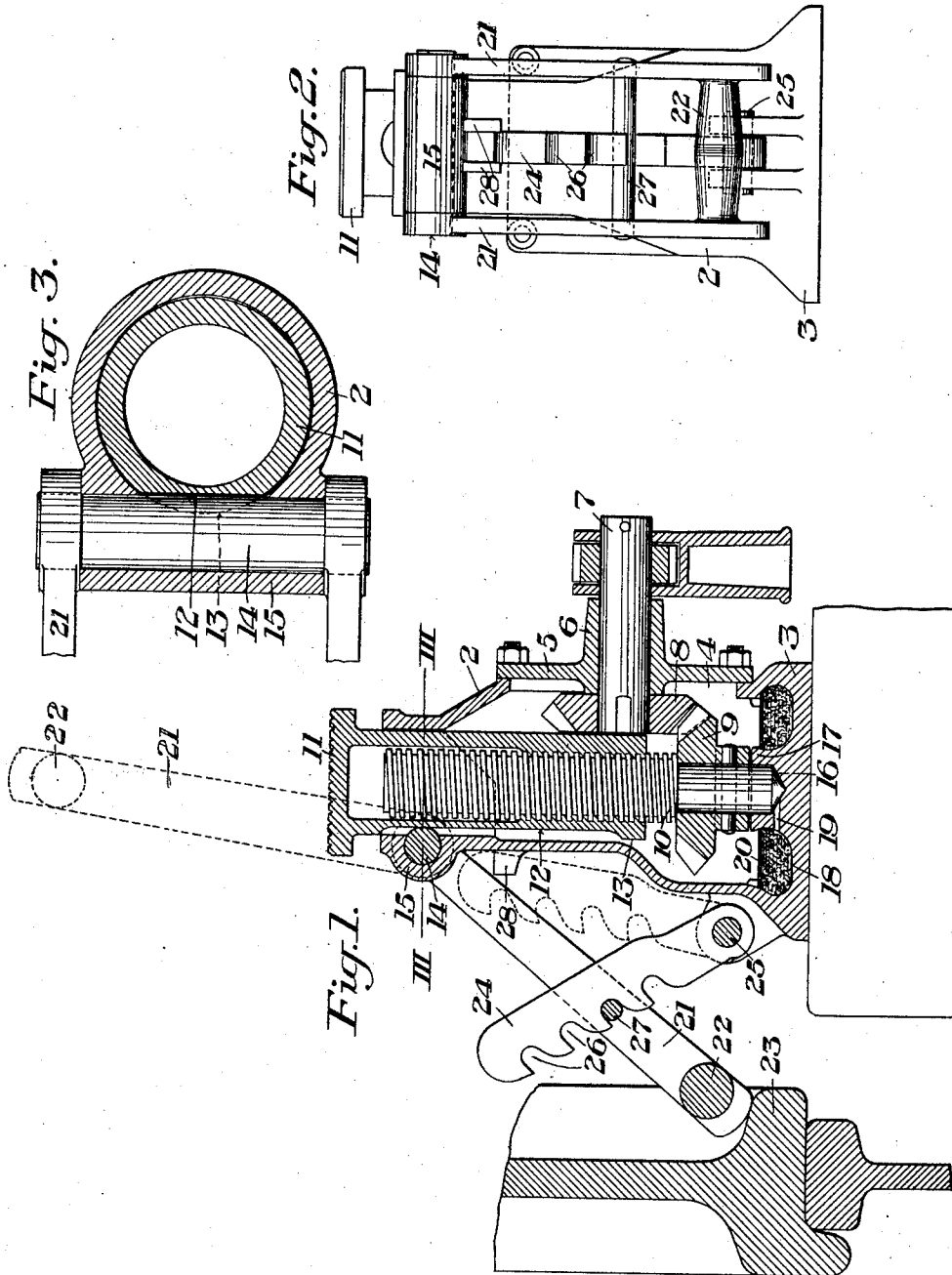


C. E. HYLANDER & G. F. FREED.
LIFTING JACK.

APPLICATION FILED OCT. 8, 1909.

997,133.

Patented July 4, 1911.



WITNESSES

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UNITED STATES PATENT OFFICE.

CHARLES E. HYLANDER AND GEORGE F. FREED, OF PITTSBURG, PENNSYLVANIA,
ASSIGNORS TO THE DUFF MANUFACTURING COMPANY, OF PITTSBURG, PENNSYLVANIA, A CORPORATION OF PENNSYLVANIA.

LIFTING-JACK.

997,133.

Specification of Letters Patent.

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Application filed October 8, 1909. Serial No. 521,763.

To all whom it may concern:

Be it known that we, CHARLES E. HYLANDER and GEORGE F. FREED, of Pittsburg, Allegheny county, Pennsylvania, have invented a new and useful Improvement in Lifting-Jacks, 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 vertical section of a lifting jack embodying our invention and illustrating its use; Fig. 2 is a front elevation of the same; and Fig. 3 is a section on the line III—III of Fig. 1.

Our invention has relation to the class of lifting jacks, and more particularly to car box jacks, and an object is to provide means for guiding and stopping the ram of the jack, which means may also be employed as the fulcrum pin for the jack handle.

A further object of our invention is to provide an oiling device located within the bottom portion of the jack and arranged to automatically lubricate the thrust bearing of the jack screw.

A still further object is to provide a jack of this character having a wheel holding-down device of novel character, which device may also serve as the handle of the jack.

Our invention is also designed to provide a jack having a frame which can be constructed in one piece and in such a manner that the interior parts can be assembled either within the frame, or can be assembled before insertion and then readily inserted therein.

Referring to the accompanying drawings, the numeral 2 designates the frame of the jack, which preferably consists of an integral casting having a solid base plate or foot 3. This frame is provided at one side with an opening 4, which is normally closed by a plate 5 removably bolted thereto, and which carries a bearing 6 for the operating shaft 7. The shaft 7 has a bevel pinion 8 at its inner end, which meshes with a bevel pinion 9 on the lower end of the screw 10. This screw has a usual threaded engagement with the lifting ram 11. The ram 11 is cut away or flattened at one side, as shown at 12, for a portion of its height, a stop shoulder 13 being provided at the lower end of the cut-away or flattened portion.

14 is a transverse pin, which is seated in

a bearing 15 of the jack frame, and which contacts with the cut-away or flattened side 12 of the ram, in the manner shown in Fig. 3. This contact prevents the ram from turning as the jack is operated, and also acts to guide the ram in its vertical movements.

The shaft 10 is seated in a stepped bearing 16 on the base plate 3 of the jack frame, said bearing being formed in the central projection 17. This projection 17 is surrounded by an oil cavity 18, which communicates by one or more passages 19 with the stepped or thrust bearing of the screw shaft.

20 is a removable cover plate for the oil receptacle.

21 is a wheel holding-down device, consisting of a bail-shaped member pivoted at its upper end on the pin 14. The two side portions of this bail member are connected at the lower end by a cross-bar 22, which is shaped to form a handle piece. The side portions of the bail member are adapted to contact with the flange 23 of a car wheel in the manner shown in Fig. 1.

24 is a tension or locking member, which is pivoted to the lower portion of the jack frame at 25, and which is provided with a series of notches 26, any one of which may be engaged with a transverse pin 27 of the bail-shaped holding member 21. When the jack is not in use, this member 24 is swung backwardly against the frame of the jack and into the keeper 28, and the wheel holding-down bail is swung upwardly into the position shown in dotted lines in Fig. 1 to serve as a handle for the jack.

The side opening in the frame is of sufficient diameter to permit of the insertion of the gear pinions 8 and 9, and the pinion 9 may be readily secured to the screw through said opening after the latter, together with the ram, has been inserted into the jack frame from the top. The parts may in this manner be readily assembled, are readily accessible at all times, and can be as readily removed.

It will be obvious that various changes may be made in the details of construction and arrangement of the several parts. Thus, changes may be made in the form of the jack frame and in the thrust or stepped bearing for the screw; the wheel holding-down device may be changed in detail, and

various other changes may be made within the scope of our invention as defined in the appended claims.

What we claim is:—

- 5 1. In a lifting jack, a jack frame, a lifting ram movable therein, and an endwise removable pin seated transversely in the frame and having a guiding and holding engagement with the lifting ram, substantially as described.
- 10 2. In a lifting jack, a frame, a lifting ram vertically movable in the frame, said ram having a flattened portion at one side, and a transverse guide member seated in the frame and adapted to contact with said flattened portion; substantially as described.
- 15 3. In a lifting jack, a jack frame, a lifting ram arranged to reciprocate in said frame, said ram having a flattened portion terminating in a stop at its lower end, and the frame having a transverse member arranged to contact with said flattened portion and stop; substantially as described.
- 20 4. In a lifting jack, a frame, a lifting ram arranged to reciprocate in said frame and having a flattened portion, the frame having a transverse member adapted to contact with said flattened portion, and a combined wheel holding-down device and handle con-

nected to said member; substantially as described. 30

5. In a lifting jack, a wheel holding down member pivotally connected to the jack frame, and a tension member also pivoted to the jack frame and having means for locking engagement with the holding down member, substantially as described. 35

6. In a lifting jack, a wheel holding-down member pivoted to the jack frame, and means for securing said member in different holding-down positions, said member being also adapted to be swung upwardly to serve as a handle for the jack; substantially as described. 40

7. In a lifting jack, a bail-shaped wheel holding-down member pivoted to the jack frame, and having a handle portion, and a pivoted locking member holding the holding-down member in different angular positions; substantially as described. 45 50

In testimony whereof, we have hereunto set our hands.

CHARLES E. HYLANDER.
GEORGE F. FREED.

Witnesses:

GEO. H. PARMELEE,
H. M. CORWIN.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."