G. F. FREED.

SOCKET LEVER FOR LIFTING JACKS.

APPLICATION FILED FEB. 17, 1910.

1,017,399.

Patented Feb. 13, 1912.

2 SHEETS—SHEET 1.

Fig. 1.

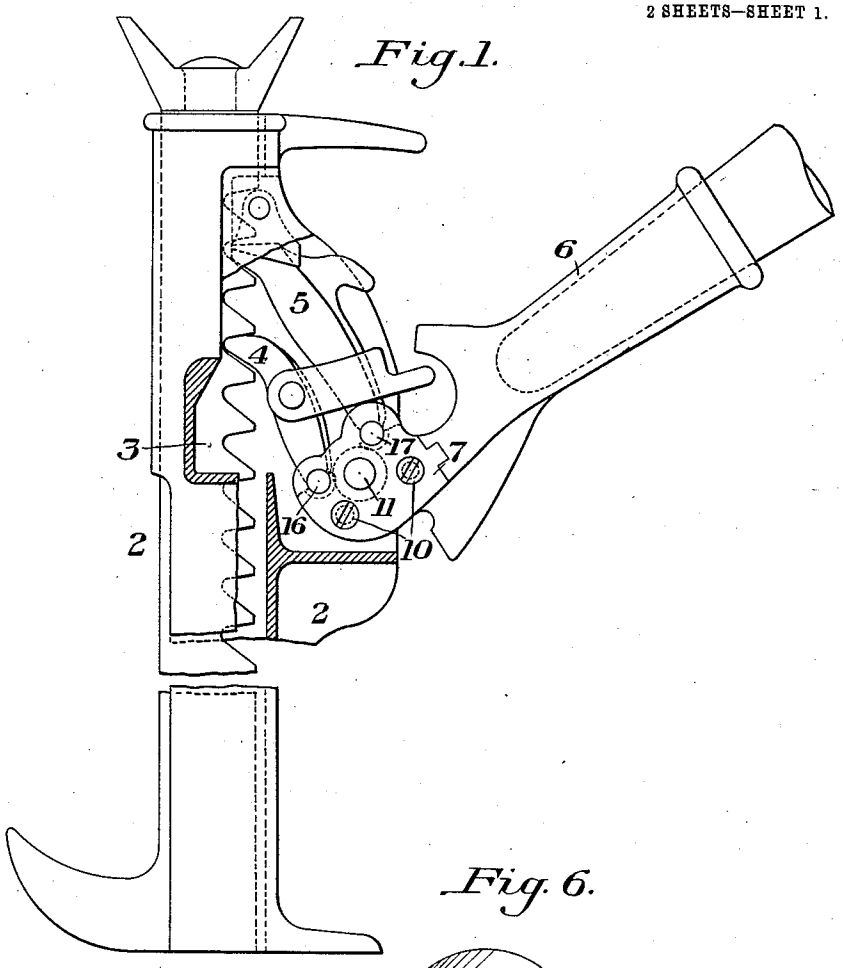
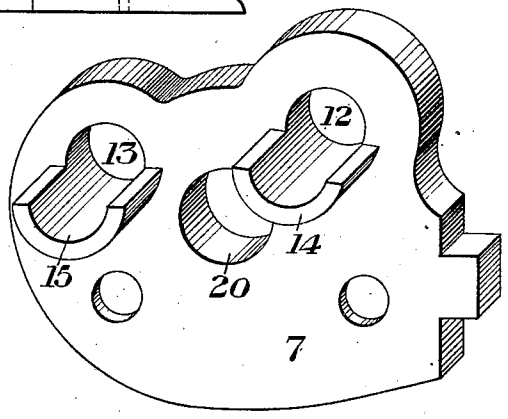


Fig. 6.



WITNESSES

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2 SHEETS—SHEET 2.

Fig. 2.

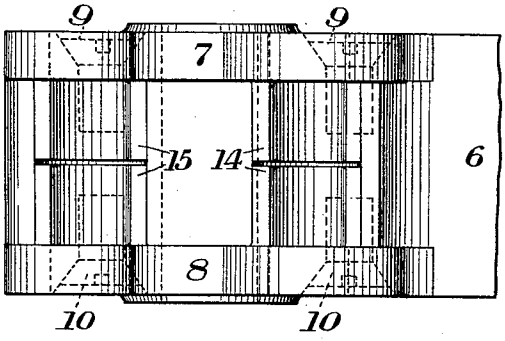


Fig. 4.

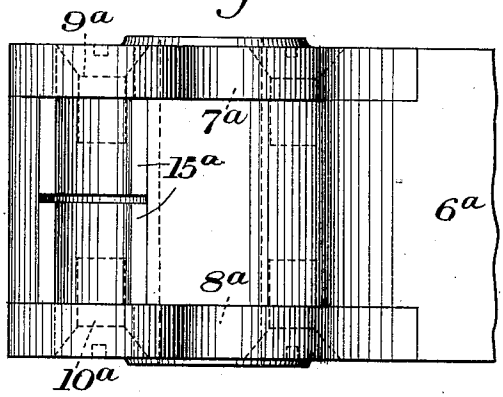


Fig. 3.

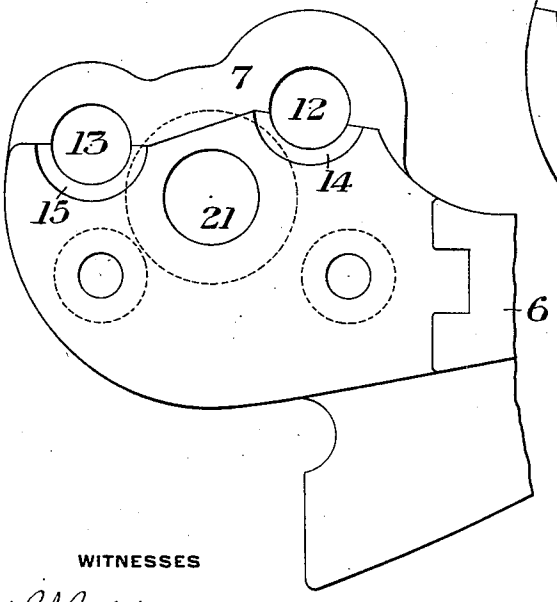
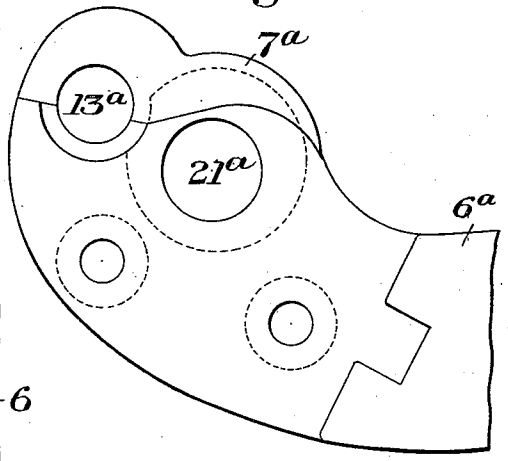


Fig 5.



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UNITED STATES PATENT OFFICE.

GEORGE F. FREED, OF PITTSBURGH, PENNSYLVANIA, ASSIGNOR TO THE DUFF MANUFACTURING COMPANY, OF PITTSBURGH, PENNSYLVANIA, A CORPORATION OF PENNSYLVANIA.

SOCKET-LEVER FOR LIFTING-JACKS.

1,017,399. Specification of Letters Patent. Patented Feb. 13, 1912.

Application filed February 17, 1910. Serial No. 544,346.

To all whom it may concern:

Be it known that I, GEORGE F. FREED, of Pittsburgh, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Socket-Lever for 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 side elevation partially in section of a lifting jack with one form of my improved socket lever attached thereto; Fig. 2 is a plan view of the connecting end of a socket lever for a double acting jack, with the removable side plates attached thereto; Fig. 3 is a side elevation of the same with one of the plates removed; Fig. 4 is a view similar to Fig. 2, illustrating the socket lever for a single acting jack; Fig. 5 is a side elevation thereof with one of the side plates removed; Fig. 6 is a perspective view of one of the socket plates shown in Figs. 2 and 3.

This invention relates to socket levers for lifting jacks and particularly to that type of jacks known as the Barrett jack, in which a socket lever is pivoted to the frame of the jack, and is provided with one or more pawls arranged to move a rack longitudinally in the frame.

The object of my invention is to provide a socket lever having removable side plates secured thereto, which are provided with an orifice to receive a pin on which the socket lever is journaled, and which are also provided with seats adapted to receive the heel ends of the rack operating pawls. Heretofore, this type of socket lever has been provided with removable side plates which were provided with orifices to receive the trunnion ends on the heel end of the pawl and the heels of the pawls were supported in recesses in the end of the socket lever, and when the side plates became worn they were replaced by new side plates to take the place of the worn plates. In this arrangement, when the new plate was inserted in place the weight on the pawls was entirely supported by the orifice in the plates and the trunnions on the ends of the pawls, as the pawl heel supporting portions on the lever would be worn considerably below the trunnion journals in the new plates. In my improved device, I have recessed the pivoted end of the socket lever, and have cast integrally with each of these removable plates semi-cylindrical projections which are seated in said recesses and are arranged to support the heel ends of the pawls. When the side plates become worn they may be replaced by new plates, which are provided with bearing surfaces for the entire heel ends of the pawls, instead of the trunnion support in the old type of plates, which was rapidly cut away and necessitated the renewal of the plates. These side plates may be made of any metal which is adapted for bearings and which will resist wear, such as chilled iron, hardened steel, or phosphor bronze. In the drawings, I have shown one half of each of these supporting members cast integrally with each of the side plates, but it will be readily understood by those familiar with the art, that each pawl supporting member might be formed of a single piece, the ends of which might pass through orifices in the side plates, or they might also be seated in the recesses in the end of the socket lever and which could be renewed without renewing the side plates.

The precise nature of my invention will be best understood by reference to the accompanying drawings, which will now be described, it being premised, however, that various changes may be made in the details of construction and general arrangement of the parts, without departing from the spirit and scope of my invention as defined in the appended claims.

In the drawings, the numeral 2 designates the body or frame of a jack. Mounted so as to reciprocate in the jack is a rack 3, which is provided with teeth adapted to be engaged by the lifting pawls 4 and 5.

6 is the socket lever which is provided at its lower end with the removable plates 7 and 8, which are secured thereto by means of screws or rivets 9 and 10, respectively.

11 is a fulcrum pin on which the socket lever is pivoted, and which extends through orifices in the sides of the frame of the jack, orifices 20 in the side plates 7 and 8 and an orifice 21 in the end of the socket lever.

Each of the side plates is provided with the orifices 12 and 13, and formed integrally with each of these side plates are the semi-cylindrical supporting projections 14 and 15, the inner faces thereof being in line with

the orifices 12 and 13, respectively, these projections lying in recesses in the end of the socket lever.

The heel end of each of the pawls 4 and 5 are provided with trunnions 16 and 17, respectively. The trunnions 16 extend through the orifices 13 in the plates 7 and 8, and the heel end of the body of the pawl 4 bears against the inner surfaces of the projections 15; and the trunnions 17 on the pawl 5 extend through orifices 12 in the plates 7 and 8 and the heel end of this pawl bears against the inner surfaces of the projections or bushings 14.

When the orifices 12 and 13 and the projections or bushings 14 and 15, become worn through use, the plates 7 and 8 can be removed and new plates inserted in their place, which will engage the trunnions 16 and 17 and supply an entire new bearing for the heels of the respective pawls. Heretofore in jacks of this type, the removable plates were merely provided with the orifices and the heel ends of the pawls were supported in recesses in the end of the socket lever. If the orifices in the side plates and the bearing for the heel ends of the pawls became worn, new side plates were inserted in their place. These side plates merely furnished new bearings for the trunnions 16 and 17, which quickly cut away. The orifices in the plates also soon become worn or cut as all the friction is between the trunnions and the orifices in the narrow plate.

In Figs. 4 and 5, I have shown the end of a socket lever for a single acting jack, which is adapted to support one pawl. In this figure, I have applied the same reference numerals with the letter *a* affixed.

The advantages of my invention result from the provision of removable side plates for the end of a lifting jack socket lever, and removable supports or bearings for the actuating pawls, which may be secured thereto or cast integrally therewith, or which may be supported on the socket lever in any manner.

I claim:

1. A socket lever for lifting jacks, having a removable heel bearing for the lifting pawl, said bearing extending beneath the body of the pawl and arranged to be engaged thereby; substantially as described.

2. A lifting jack having a pivoted socket lever, a toothed rack slidably mounted in the jack, removable plates secured to the sides of the socket lever, lifting pawls journaled in the removable plates and semi-cylindrical seats formed integrally with the side plates, and arranged to support the heel end of the pawls, substantially as described.

3. A socket lever for lifting jacks, having separate side plates provided with means whereby they may be secured to a lever, said plates carrying a pawl heel bearing for substantially the full width of the pawl; substantially as described.

4. A socket lever for lifting jacks, having separate side plates provided with means whereby they may be secured to a lever, each of said plates carrying a portion of a pawl heel bearing extending beneath the body of the pawl; substantially as described.

5. A socket lever for lifting jacks, having separate side plates provided with means whereby they may be secured to a lever, and a pawl heel bearing formed integrally with said plates and extending beneath the body of the pawl; substantially as described.

6. A socket lever for lifting jacks having separate side plates provided with means whereby they may be secured to a lever, said plates having orifices for receiving trunnions on the lifting pawl and semi-circular heel bearings on each of said plates below the body of the pawl arranged to receive the thrust on the pawl; substantially as described.

In testimony whereof, I have hereunto set my hand.

GEORGE F. FREED.

Witnesses:
JESSE B. HELLER,
H. M. CORWIN.