L. HOPCRAFT.

HANDLE FOR LIFTING JACKS.

APPLICATION FILED JUNE 21, 1919.

1,324,898. Patented Dec. 16, 1919.

FIG. 1.

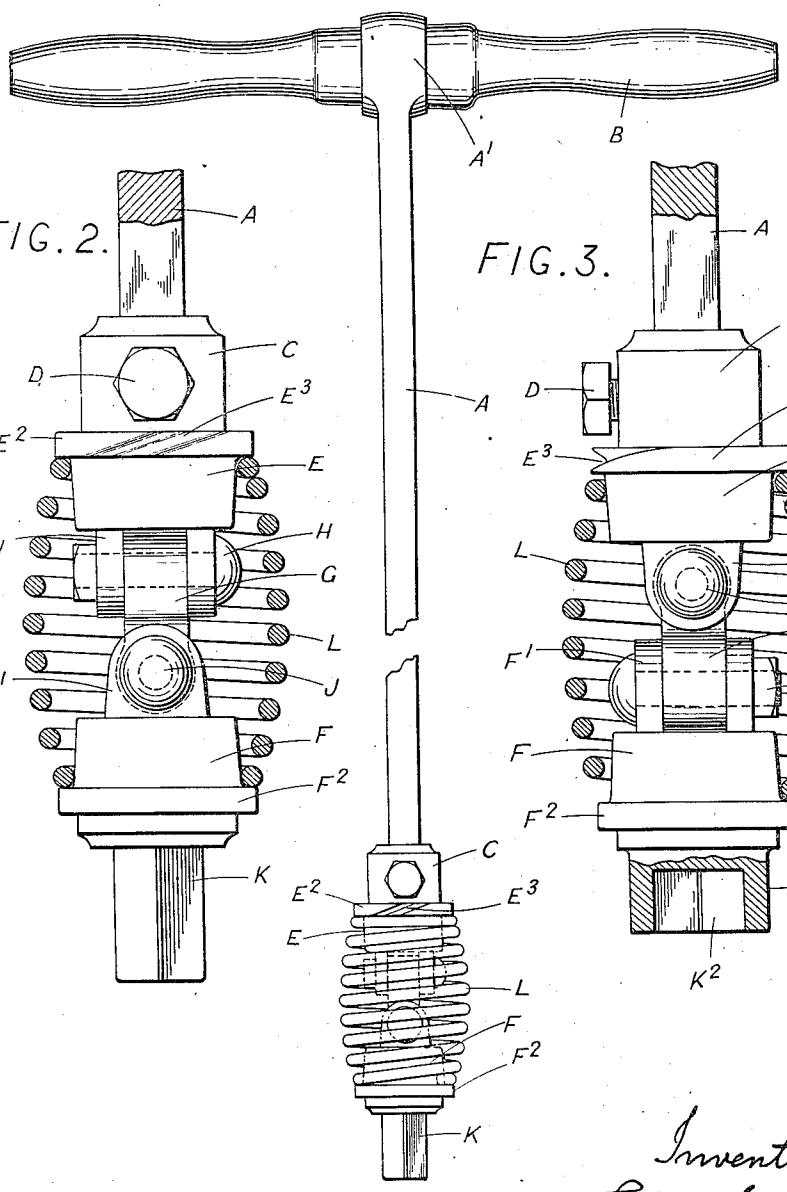


FIG. 2.

FIG. 3.

Inventor.
Lewis Hopcraft,
By Foster, Freeman, Watson & Coit,
Attorneys.

UNITED STATES PATENT OFFICE.

LEWIS HOPCRAFT, OF LONDON, ENGLAND.

HANDLE FOR LIFTING-JACKS.

1,324,898. Specification of Letters Patent. Patented Dec. 16, 1919.

Application filed June 21, 1919. Serial No. 305,886.

To all whom it may concern:

Be it known that I, LEWIS HOPCRAFT, a subject of the King of England, and resident of London, England, have invented certain new and useful Improvements in Handles for Lifting-Jacks, of which the following is a specification.

This invention relates to handles for lifting jacks more especially to handles for jacks employed with motor road vehicles and of the type in which the lifting member is actuated by the rotation of a toothed wheel worm or the like and has for its object to facilitate this operation.

In jacks of this type the rotation which effects the lifting is performed by means of a detachable handle having a stem or shaft of such a length as to permit of the jack being operated when it is positioned beneath a car but if this stem is straight and its connection with the jack is rigid as is usual it is not always easy to arrange the jack so that the stem will clear adjacent parts of the car and allow the handle to project and lie in a place which is convenient for its manipulation. The provision of a universal joint in the length of the stem near the end which engages with the jack has been suggested with a view to facilitating the operation of the jack but it is then difficult to engage the movable end of the stem with the jack when the latter is beneath a car and also practically impossible to place the jack in position under the car by means of the handle. These disadvantages are overcome by the present improvement.

According to this invention a coiled spring is disposed around a universal or other suitable joint which is mounted or formed at or toward that end of the stem of the operating handle which engages the rotatable member of the jack. The handle can then be bent or placed in the position most convenient for turning it and operating the jack while the spring gives such support for the end of the stem beyond the joint that this end can be readily engaged with the rotatable member of the jack and the position of the latter can be shifted by means of the handle.

The spring encircles the parts of the joint which are disposed between two members the end of one of which is formed as the end of the stem is usually formed, that is to say either as a socket or as a squared projection which is adapted to engage a corresponding part of the rotatable member of the jack. The member at the other side of the joint is mounted in some suitable manner on the end of the main part of the stem of the handle, as for instance by forming this member as a socket into which fits the squared end of the stem which is there retained by a set screw. The ends of the coiled spring engage the members on either side of the joint so that the tendency of the spring is to maintain these two parts in line and support is thus given to the end member when it is desired to engage it with the jack. At the same time the handle is free to be bent about the joint and rotated when so bent.

The accompanying drawings illustrate one construction of the invention which may be adopted when putting it into practice. In these drawings,

Figure 1 is an elevation of the complete improved operating handle for a lifting jack.

Fig. 2 is an elevation on an enlarged scale of the joint and of one form of member for connection with the rotatable part of the jack, the spring which encircles the joint being shown in section for the sake of clearness.

Fig. 3 is a similar view but taken at right angles to that shown in Fig. 2 and illustrating a socketed connection for the rotatable member of the jack, the spring and socketed end being shown in section.

Like letters indicate like parts throughout the drawings.

The stem A of the handle is provided at one end with the usual cross bar B which is preferably removable from the eye A'. The stem A is conveniently square in section throughout its length and the end is adapted to fit into a square hole or recess in a socket C where it can be fixed in a detachable manner by a set screw D. The socket C is formed integral with a member E which is connected to a second and similar member F by a double pivot joint. This joint comprises a piece G which is pivotally coupled by pins H and J disposed at right angles to each other and passing through lugs E' and F' formed respectively on the opposed faces of the members E and F. At its outer end the member F has formed on it either a squared projection K, as shown in Fig. 2 or a socket K' as shown in Fig. 3 in which is a square hole K^2. These parts are con-

structed to engage the rotatable member of the jack according to whether this is provided with a socket or a squared projection.

On the member E is formed a flange E^2 and a similar flange F^2 is provided on the member F. A coiled spring L is arranged around the joint with one end abutting against the flange E^2 and the other against the flange F^2. By forming an inclined groove E^3 in the flange E^2 the spring can be passed over the member E into position by threading the spring over the flange E^2 by a screwing motion. The action of the spring L is to tend to maintain the members E and F in line while allowing flexure about the joint. A further advantage of the spring is that its presence prevents the main part of the stem being placed at such an extreme angle to the part which engages with the jack as to render the joint liable to injury. Again the presence of the spring tends to keep the cross bar B up out of accidental contact with the ground if it is released from the hands while the stem is in engagement with the jack. These parts are not present when the stem is provided merely with the joint without the spring.

The details of construction may be modified to meet requirements.

What I claim as my invention and desire to secure by Letters Patent is:—

In an operating handle for a lifting jack, the combination of a stem having a flange at one end, a member adapted to engage with a rotatable portion of the jack and having a flange thereon, a double pivot joint connecting the two flanged members, and a coiled compression spring disposed around said joint and having its ends exerting a strong pressure against said flanges, whereby the joint is placed under tension and the stem and member are normally maintained in alinement, the diameters of the coils of the spring increasing from each end toward the center thereof, whereby the pivot joint clears the spring for all angles of the stem and member.

In testimony whereof I have signed my name to this specification.

LEWIS HOPCRAFT.