W. A. GREENLEAF.
Hoisting-Jack.

No. 196,117. Patented Oct. 16, 1877.

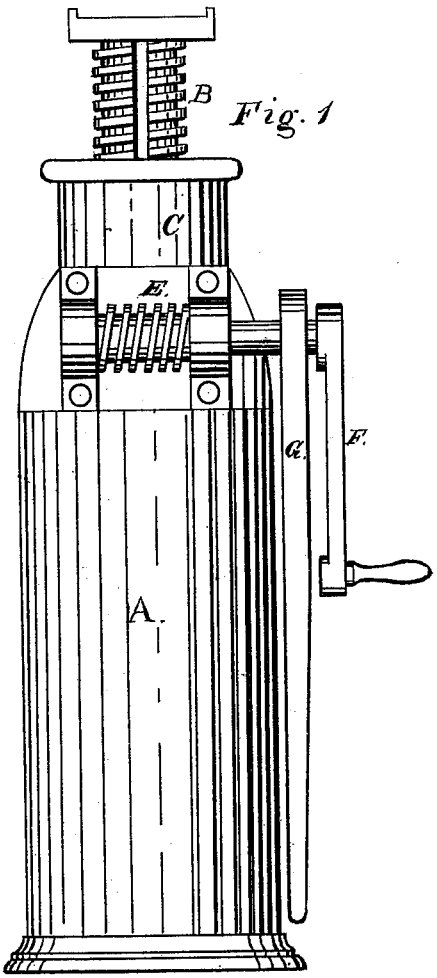

Fig. 1

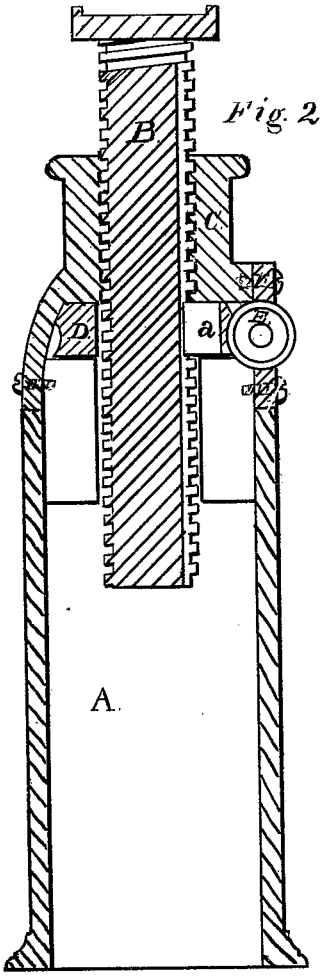

Fig. 2.

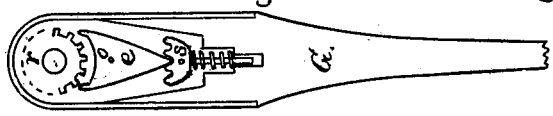

Fig. 4.

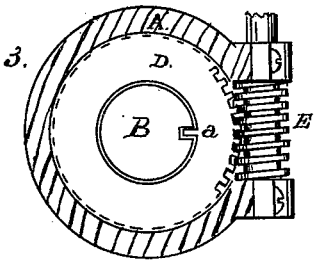

Fig. 3.

Witnesses
O. F. Mayhew.
Thomas J. Vater

Wm. A. Greenleaf
Inventor.

UNITED STATES PATENT OFFICE.

WILLIAM A. GREENLEAF, OF INDIANAPOLIS, INDIANA, ASSIGNOR OF ONE-HALF HIS RIGHT TO EWALD OVER, OF SAME PLACE.

IMPROVEMENT IN HOISTING-JACKS.

Specification forming part of Letters Patent No. **196,117**, dated October 16, 1877; application filed May 1, 1877.

To all whom it may concern:

Be it known that I, WILLIAM A. GREENLEAF, residing in Indianapolis, in the county of Marion and State of Indiana, have invented certain Improvements in Screw Hoisting-Jacks, of which the following is a specification:

This invention relates to the mode of operating the screw of screw hoisting-jacks, or for other similar purposes where great force is required; and it consists in the construction and arrangement of a driving-collar to the screw, that is furnished on its periphery with worm or tangent teeth, and which is operated by a worm-screw, in the usual manner. The screw has a longitudinal groove and the collar a feather fitting into it, by which the screw is turned.

The object is to compound the screw-power for raising great weight in an apparatus that is simple, compact, strong, and cheap in construction and efficient in operation.

The invention further consists in the construction and arrangement of a reversible and disconnectible ratchet-lever, that engages with a ratchet on the shaft of the worm-screw, by which the latter may be operated when the crank cannot be used.

In the accompanying drawing, Figure 1 is an elevation, and Fig. 2 a vertical section, of a screw-jack embodying my invention. Fig. 3 is a horizontal section through the worm-collar and screw. Fig. 4 is a view of the ratchet-lever, with the cap removed to show its construction and arrangement.

A is the jack-stock; B, the screw; C, the nut or female screw; D, the worm driving-collar, furnished with the feather *a;* E, the worm-screw; F, crank; G, ratchet-lever, the latter being shown in detail in Fig. 4.

It will be seen that the mode of operating the screw B by means of the worm-collar D and screw E is convenient and efficient, as well as affording a combination of the screw to exert wonderful force. The worm-collar D is kept in position by resting on the top of the lower section of the case or stock A.

In the ratchet-lever the double reversible pawl *e* is pivoted at *o*, and the outer end engages with the three-notched spring-holder *s*. When this pawl is set in either of the outer notches it will engage with the ratchet-wheel *r* on that side, so as to run the screw B up or down, as required. When the crank can be used, the ratchet-lever can be disengaged from the ratchet-wheel *r* by setting its outer end in the middle notch, when it will hang loosely on the shaft of screw E.

I do not make any claim, broadly, to operating the screw B by worm-gearing as a means of exerting great force, as this has been done in other similar devices, and is not new.

I claim as my invention—

1. In combination with the nut C and grooved screw B, the worm-collar D, furnished with the feather *a*, and operated by means of the worm-screw E, constructed and arranged and operating substantially as set forth.

2. In combination with the nut C, screw B, collar D, worm-screw E, the ratchet-lever G, constructed, arranged, and operating substantially as set forth.

WM. A. GREENLEAF.

Witnesses:

O. F. MAYHEW,

THOMAS J. VATER.