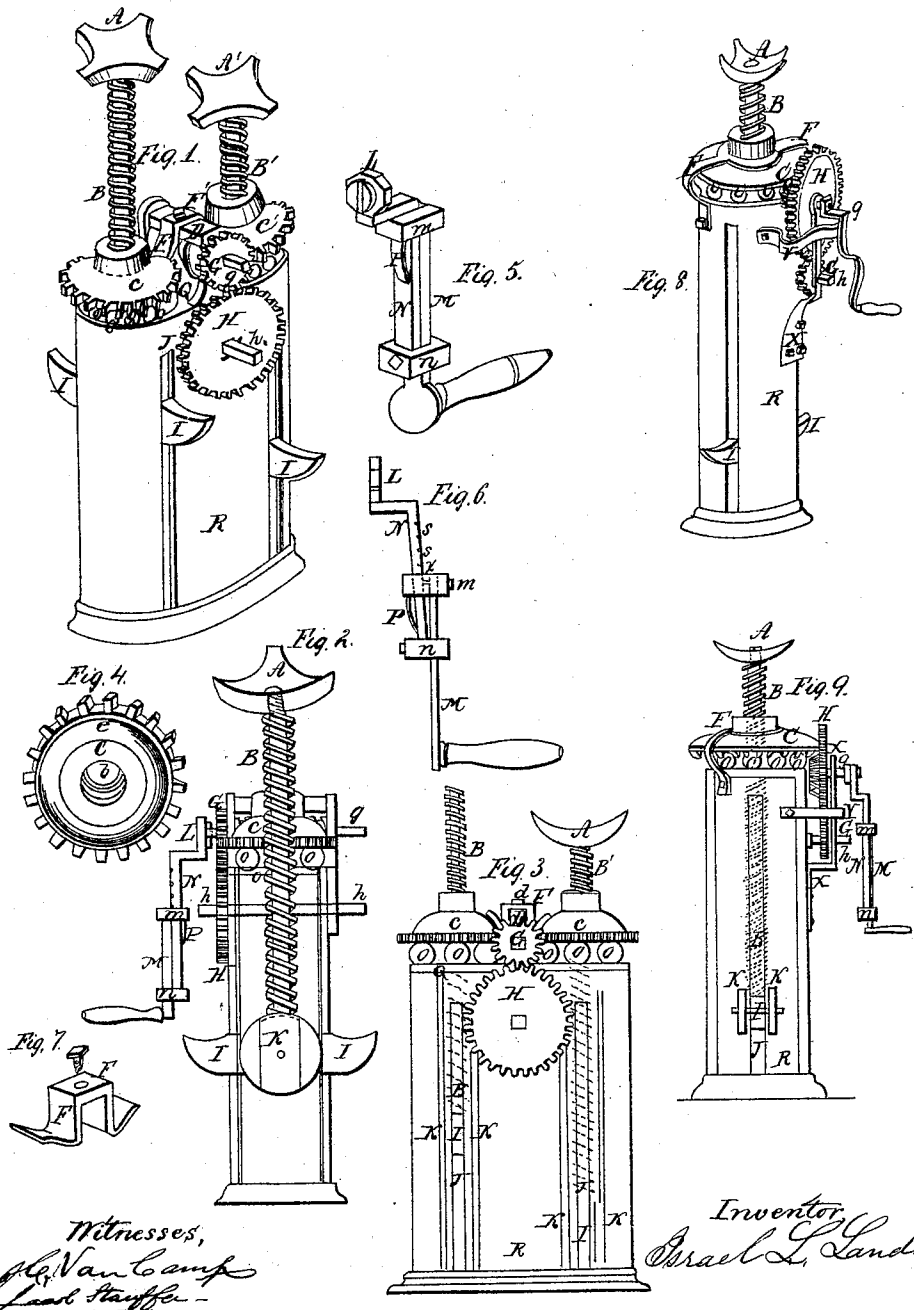


*I. L. Landis,
Lifting Jack.*

N^o 34,063.

Patented Jan. 7, 1862.



*Witnesses,
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UNITED STATES PATENT OFFICE.

ISRAEL L. LANDIS, OF MANHEIM, PENNSYLVANIA.

IMPROVEMENT IN LIFTING-JACKS.

Specification forming part of Letters Patent No. 34,063, dated January 7, 1862.

To all whom it may concern:

Be it known that I, ISRAEL L. LANDIS, of Manheim township, in the county of Lancaster and State of Pennsylvania, have invented a new and Improved Combination in a Lifting-Jack for Raising the Greatest Weights; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, in which—

Figure 1 is a perspective view of the double jack with all its parts in place. Fig. 2 is a vertical end section, and Fig. 3 a side section showing the screw-shafts B, double foot I, and friction-pulleys K to steady the screw and prevent lateral friction. Fig. 6 shows the adjustable crank-winch; Fig. 7, the cap F, affixed on the cross-piece D, to keep the cap or cogged gear C (with its corresponding screw-thread) in place or prevent its rising. Fig. 8 shows a modification for a single screw; Fig. 9, a section of the same.

The construction and operation of the jack are fully illustrated by the drawings.

For strength the box R is of cast-iron, having slots J on each side for the double foot or shoe I. The top Q of the box has a circular shallow groove around the opening for the screw shaft or shafts B B' for the reception of smooth round cast-iron bullets *o*, on which bullets the screw-cap *c* rests, having a corresponding groove *c* on its under side with a cogged circumference and central female screw *b*. (Shown by Fig. 4.)

The cogged caps *c* have an endless screw E, supported on the top of the box (in the double arrangement) between them. The shaft of this endless screw E extends on each side beyond the journals, (shown by *g*), adapted on one side either for the cogged wheel H or G, according as the power may require to be employed. The strength and steadiness of the caps *c* are greatly augmented by the neck of the same, as shown.

The shaft *h* also passes through the box between the screw-shafts, so that the crank-handle can be applied on either side, or two handles at the same time to either of the shafts *g* or *h* on either side.

The foot I on the base of the screw-shafts B B' projects equally on both sides of the

box, being provided with friction-rollers K within the box, as shown, to prevent lateral pressure against the sides of the slots J by counter action. When both threads of the screw-shafts B B' are alike, (either right or left,) one screw-head A will necessarily rise while the other sinks. Thus by alternately setting a prop on the lower head (of increased length) a continued action is had by a change of motion in turning the crank or handle, as though you employed two separate jacks. Should it be desirable to have both shafts to rise and sink in unison the one screw-thread must be cut to the right and the other to the left, or an extra screw may be at hand, which can readily be changed either for alternate action or in unison with the same gearing.

The adjustable handle, Figs. 5 and 6, is in two parts, each having a brace in which the other slides *m* on the handle portion M, which has a stout peg *t* in its upper end held in one of a series of holes *s* in the upper piece N with its sliding brace *n*. A spring P on *m* firmly locks both pieces, regulated as desired, and clearly shown. Thus by affixing the small cogged wheel G on the shaft *h*, and the larger wheel H on the shaft *g* and affixing the crank at full length on the shaft *h*, a fourfold power or leverage is obtained, and by the use of a crank on each side anybody, of whatever weight, may be raised within the bounds of possibility or demand.

The double foot I is often of the greatest utility. Being operative on either side of the machine makes this, in short, of the greatest utility where heavy logs, buildings, or machinery are to be raised. The single machine, Figs. 8 and 9, is substantially the same, except that it shows a bevel-gear E (in place of the endless screw E) attached to the rear of the cogged wheel H, held and supported, as shown by X Y, the crank on *g*, equally applicable to the shaft *h*. The cap-brace F is also necessarily changed. Otherwise the balls, screw-shaft, double foot, and slots, &c., are the same.

I am aware that screw-shafts with bevel-gearing, and a foot or shoe on one side of the screw-shaft with an outer movable cylinder or adjustable standard have been used. I am also aware that balls have been employed as well as friction-pulleys and screw-gearing, as also adjustable cranks or handles; nor do

I claim to be the inventor of the individual or separate parts of the described screw-jack.

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

1. The screw-cap C, with its central neck or elongation and surrounding cogs, in combination with the double-footed or clawed base I and friction-pulleys K on the base of the screw-shaft B, together with the case R, slotted on both sides, arranged and operated as described and shown in the drawings.

2. The adjustable winch or crank M N, when the same is provided with two sliding clasps *m n*, peg *t*, holes *s*, and spring P, in combination with its application to either axis *g h* of the cogged wheels G H, as shown and described, for the purpose specified.

ISRAEL L. LANDIS.

Witnesses:

J. C. VAN CAMP,
JACOB STAUFFER.