

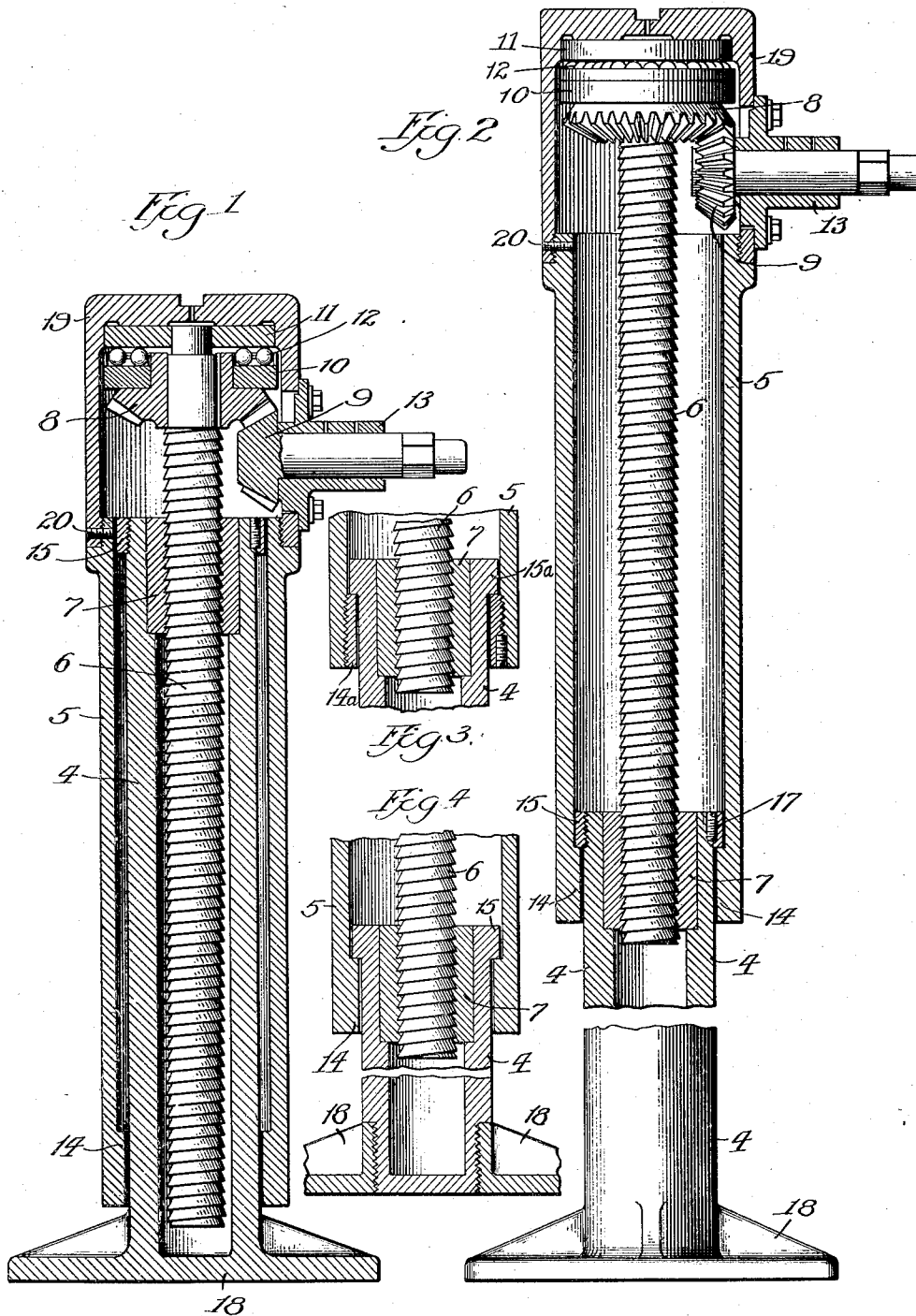
H. C. KLEIN, SR. & E. R. PENROSE.

LIFTING JACK.

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1,039,960.

Patented Oct. 1, 1912.



WITNESSES:

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UNITED STATES PATENT OFFICE.

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ILLINOIS, A CORPORATION OF ILLINOIS.

LIFTING-JACK.

1,039,960.

Specification of Letters Patent.

Patented Oct. 1, 1912.

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To all whom it may concern:

Be it known that we, HENRY C. KLEIN, Sr., and EDWARD R. PENROSE, citizens of the United States, residing at Logansport, in the county of Cass and State of Indiana, have invented certain new and useful Improvements in Lifting-Jacks, of which the following is a specification.

This invention relates to lifting jacks and especially to lifting jacks of the rising screw and shell type, and has for its objects the provision of an improved form of stop mechanism for preventing the screw and shell from disengagement with the supporting standard when they are raised to the normal limit of their movement and thereby to avoid injury to the jack and also to safeguard the user and the load lifted from injury owing to canting of the jack relatively to the load or collapse of the jack; to provide a jack of the character described wherein the strain both upon the shell or cap and upon the standard will be equalized, that is to say wherein such strain will be borne equally by all parts of the periphery of both members in equal proportions; to improve and simplify the construction of jacks of the character referred to, and to produce a jack which may be most economically produced and rapidly assembled, as well as one which will have such other advantages as will be hereinafter disclosed.

To accomplish these objects and to attain such additional benefits as will be apparent to those who are skilled in the art to which our invention relates, we have provided a construction which is exemplified in the accompanying drawings, wherein—

Figure 1 is a sectional view taken vertically through a lifting jack to which our improvements are applied, such jack being shown in its fully lowered position;

Figure 1 is a similar view taken when the jack is at its fully raised position, and

Figures 3 and 4 are sectional views of modified forms of construction.

Referring now more particularly to Figures 1 and 2 it will be noted that in carrying out our invention we provide a fixed standard or support 4, preferably made of cast steel, surrounding which is a lifting shell or cap 5 adapted to be moved by means of the raising and lowering screw 6 which has threaded engagement with the block or nut

7 carried in the standard 4, said screw 7 being provided with proper driving means, here shown as a bevel gear 8 actuated by a bevel gear 9 when power is applied thereto in the usual manner. To facilitate the operation of the jack under a load, a pair of bearing plates 10 and 11 with a ball retainer and balls 12 are provided at the upper end of the screw 6, and the members required for the actuation of the bevel gear 8 are carried in a plate 13 mounted upon the shell 5, in a manner which in all substantial respects is well known to those who are versed in the manufacture or use of lifting jacks.

To limit the upward movement of the shell 5 relatively to the standard 4 however, we provide the shell 5 with an annular flange 14 which preferably extends around the entire inner circumference of the shell 5, and provide the upper end of the standard 4 with a projecting collar or rim 15 to the end that when the projection 14 contacts with the collar 15, (see Figure 2) further upward movement of the shell 5 and stem 6 is prevented.

As illustrated in Figures 1 and 2, the projection 14 may be made integral with the shell 5, and the collar 15 screw threaded to the standard 4, by a screw working in a direction opposite to that of the screw 6, so that any tendency to loosen or unscrew will be avoided, though for further protection a pin as indicated at 17 may be provided.

In Figure 3 a modified form of construction in which the collar 14^a has screw threaded engagement with the shell 5, instead of being made integral therewith and the collar 15^a is made integral with the standard 4 instead of separable therefrom as illustrated. In this form of construction the collar 14^a is formed in complementary halves in order that it may be applied after the shell has been passed over the standard.

In Figure 4 we have illustrated a further modification wherein the projection 14 is made integral with the shell 5 as shown in Figure 1, and the collar 15 is made integral with the standard 4 as in Figure 3, and the foot 18 of the standard 4 is made removable therefrom to the end that the standard and shell may be assembled by passing the standard 4 through the shell 5, the outer cap 19 screw threaded to the shell 5 and prevented from rotation relative thereto by the set

screw 20 being removed, and the foot 18 thereafter attached to the standard 4.

The operation of the lifting jack of our improved construction herewith illustrated 5 will be obvious from a comparison of the position of the parts shown in Figures 1 and 2.

Having thus described our invention and illustrated its use what we claim as new and 10 desire to secure by Letters Patent is the following:

In a lifting jack, the combination of a post provided at its upper end with a stop 15 collar, a shell fitting over the post relatively movable with respect thereto and being in-

ternally threaded at the bottom, an externally threaded collar engaging the threaded portion of the shell and adapted to abut the collar on the post, a removable cap portion for closing the upper end of the shell and 20 means for moving the shell with respect to the post.

In testimony whereof we have hereunto signed our names in the presence of the two subscribed witnesses.

HENRY C. KLEIN, Sr.
EDWARD R. PENROSE.

Witnesses:

FRANK O. JOHNSON,
ORPHA CARTER.

[I. S.]
[I. S.]