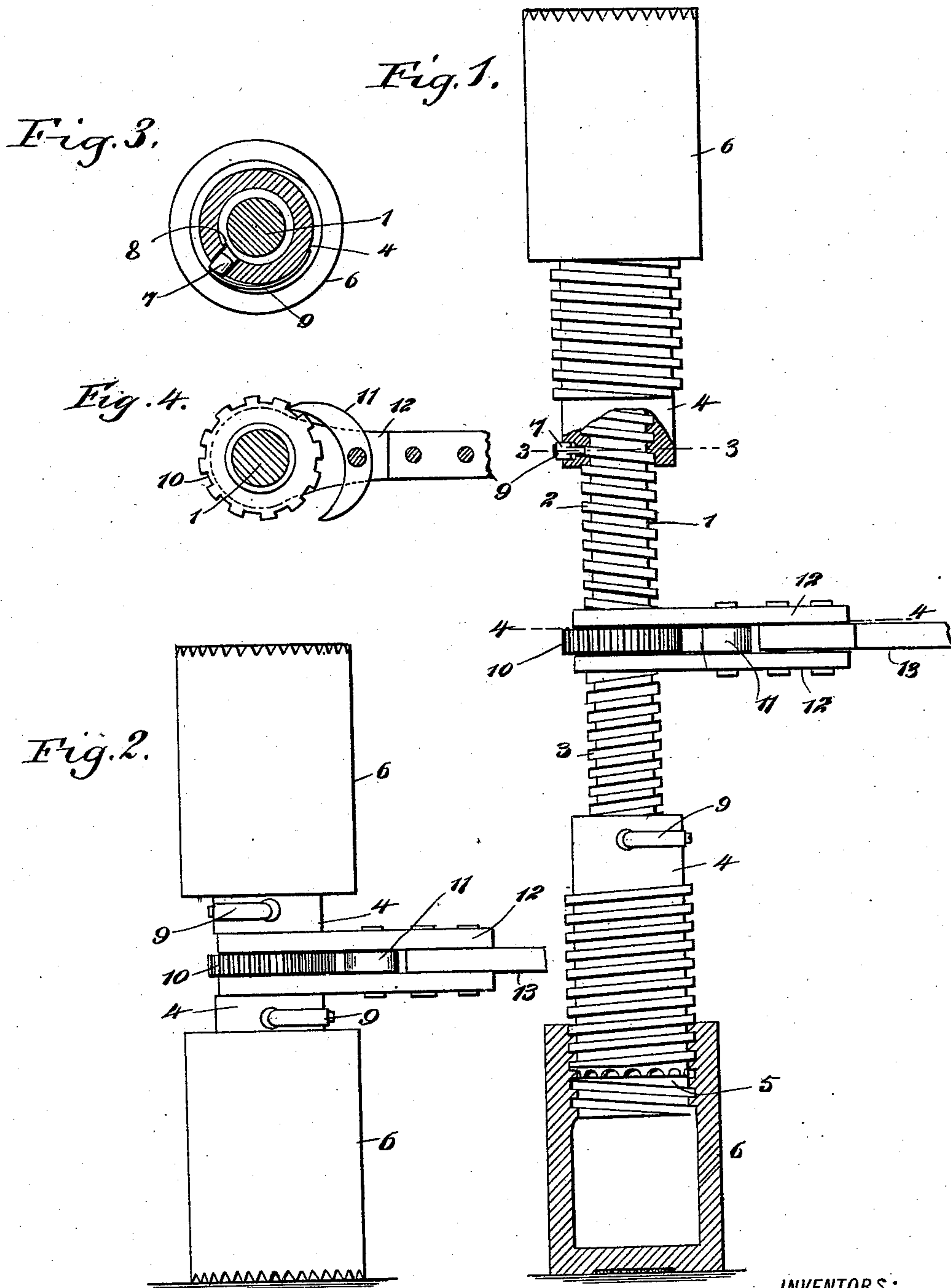


(No Model.)

W. W. GOODWIN & G. A. BROWN.
LIFTING JACK.

No. 581,154.

Patented Apr. 20, 1897.



WITNESSES :

L. N. Legendre
C. R. Ferguson

INVENTORS:

INVENTORS:
W. W. Goodwin
BY G. A. Brown
Munnell & Co.
ATTORNEYS.

UNITED STATES PATENT OFFICE.

WILLIAM W. GOODWIN AND GEORGE A. BROWN, OF CARTHAGE, MAINE.

LIFTING-JACK.

SPECIFICATION forming part of Letters Patent No. 581,154, dated April 20, 1897.

Application filed August 18, 1896. Serial No. 603,102. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM W. GOODWIN and GEORGE A. BROWN, of Carthage, in the county of Franklin and State of Maine, have
5 invented new and useful Improvements in Lifting-Jacks, of which the following is a full, clear, and exact description.

This invention relates to lifting-jacks of the screw type; and the object is to provide a
10 jack that may be operated in a small space and with comparatively little friction, and, further, to so construct the jack that it may be elongated in both directions from the center to a length equaling twice its length when
15 closed.

We will describe a lifting-jack embodying our invention and then point out the novel features in the appended claims.

Reference is to be had to the accompanying
20 drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a partial side elevation and partial section of a jack embodying our invention. Fig. 2 is an elevation thereof, showing
25 the jack as completely closed. Fig. 3 is a section on the line 3 3 of Fig. 1, and Fig. 4 is a section on the line 4 4 of Fig. 1.

The jack comprises a screw-rod 1, having
30 right and left hand screw-threads 2 3, starting from a central portion of the rod. Each screw-thread engages in an interiorly-threaded cap 4, and the ends of these caps 4 may be provided with teeth 5 to cause them to engage or
35 interlock with wood or other material with which the jack may be operated. For the purpose of providing a greater range of adjustment of the jack we employ auxiliary caps 6, screw-threaded on the interior, to engage
40 with the right and left hand screw-threads of the respective caps 4. The free ends of these extension-pieces 6 will be serrated or provided with teeth to engage with material and prevent their rotation.

45 In operation when the screw-rod 1 is rotated it is obvious that the caps 4 will be moved a greater or less distance from the center. When the screw-threads 2 and 3 shall have reached the limit of their movement, we provide a locking means whereby the parts 1 and
50

4 may be engaged so as to lock together and operate the screw-threads of the parts 4 and the screw-threads of the parts 6. As here shown, this locking means consists of lugs 7, movable transversely in an opening provided
55 near the inner ends of the parts 4 and adapted to engage against shoulders 8, formed in the threads 2 and 3 near the end. The lugs 7 will be pressed inward by means of a spring 9, fastened at one end to the part 4 and engaging with its free end against the lug. By
60 this construction it will be seen that after the screw-threads 2 and 3 shall have reached the limit of their movement, and by engaging the lug 7 with the shoulders 8, the parts 4 will be
65 caused to operate or rotate with the part 1 and by this means the extension-pieces 6 will be moved outward.

Any desired means may be employed for rotating the screw-shaft 1. We have here
70 shown the central portion of said screw-shaft as provided with a ratchet-wheel 10, the teeth of which are adapted to be engaged by either end of a double-ended dog 11, pivoted in a frame 12, mounted to swing on the screw-shaft 1, and to which is attached a suitable
75 hand-lever 13. By engaging one end of the dog 11 with the teeth the screw-shaft 1 may be rotated in one direction, and it may be rotated in the other direction by engaging the
80 opposite end of the dog with the ratchet-wheel.

As before stated, the jack may be used without the extension-pieces 6, but of course a greater range is provided by employing
85 said extension-pieces.

Having thus described our invention, we claim as new and desire to secure by Letters Patent—

1. A jack comprising an operated screw-shaft, a cap on the shaft and operated by the
90 threaded engagement of said parts, an extension-piece on the cap and in threaded engagement therewith, and an automatic locking device serving to lock the cap against movement, the locking of the screw-shaft and cap
95 serving to cause their rotation in unison to thus actuate the extension-piece, substantially as described.

2. In a lifting-jack, the combination of telescoping threaded cylinders and means for ro-
100

tating the inner or smaller one, the inner cylinder having a notch cut in its thread near its outer end, with a spring-held pin passing through the wall of the outer cylinder near
5 its inner end and engaging the said notch to rotate the two cylinders together; and a cylindrical cap for the outer cylinder threaded internally to screw over the same, substantially as described.

WILLIAM W. GOODWIN.
GEORGE A. BROWN.

Witnesses:

D. W. BERRY,
N. A. BERRY.