2 Sheets—Sheet 1.

C. DUECKER.

CARRIAGE-JACK.

No. 191,410. Patented May 29, 1877.

Fig 1

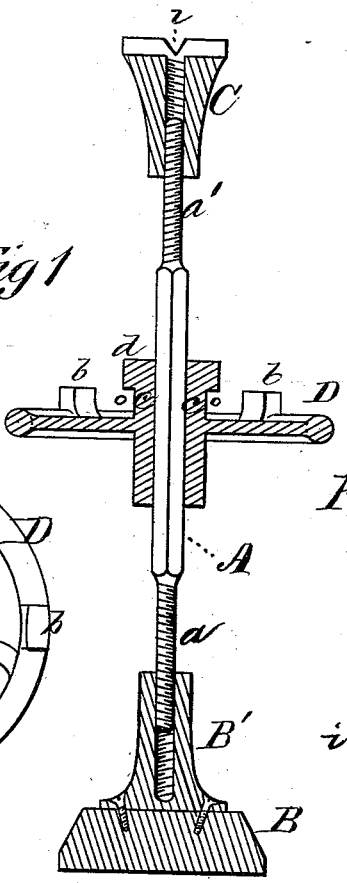


Fig 2

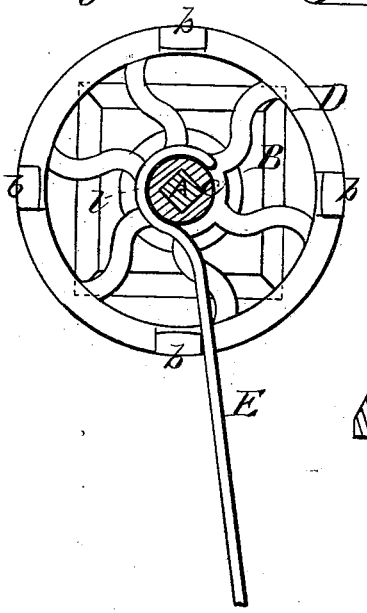
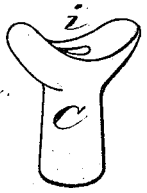


Fig 4



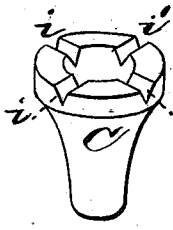


Fig 3.

WITNESSES

Villette Anderson.
F. J. Masi

INVENTOR

Conrad Duecker,
by E. W. Anderson,
ATTORNEY

2 Sheets—Sheet 2.

C. DUECKER.

CARRIAGE-JACK.

No. 191,410. Patented May 29, 1877.

Fig 5

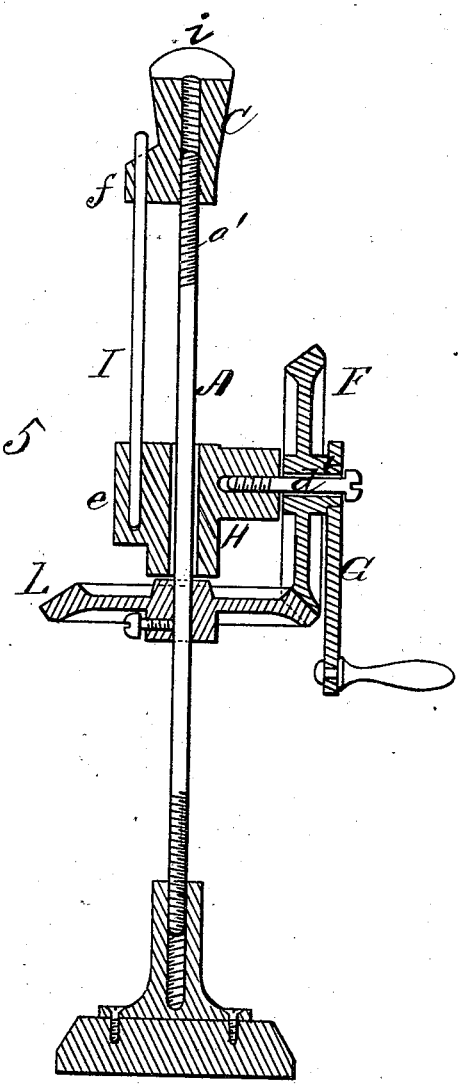
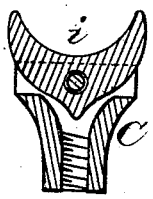


Fig 6



WITNESSES

Villeta Anderson.

F. J. Allasi

INVENTOR

Conrad Duecker,

by E. W. Anderson,

ATTORNEY.

UNITED STATES PATENT OFFICE.

CONRAD DUECKER, OF TAMAROA, ILLINOIS, ASSIGNOR TO CARROLL E. GRAY AND ALBERT B. BOWMAN.

IMPROVEMENT IN CARRIAGE-JACKS.

Specification forming part of Letters Patent No. **191,410**, dated May 29, 1877; application filed November 11, 1876.

To all whom it may concern:

Be it known that I, CONRAD DUECKER, of Tamaroa, in the county of Perry and State of Illinois, have invented a new and valuable Improvement in Railroad and Carriage Jacks; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a longitudinal section of my improved jack. Fig. 2 is a top view of the operating-wheel, with the main shaft in cross-section and the lever in position. Figs. 3, 4, and 6 are detail views, and Fig. 5 is a longitudinal vertical section of the jack, showing a gear-wheel motor applied.

This invention has relation to improvements in jacks for raising vehicles, houses, and other heavy bodies; and the nature of the invention consists in a main shaft, which is screw-threaded to the right at its upper end and to the left at its lower end, in combination with a correspondingly-threaded base and head for the reception, respectively, of the lower and upper ends of the said rod, and a mechanism for rotating the said shaft, whereby the latter will be extended from the base, and will extend the cap or head, thus accelerating the raising of the body, all as hereinafter shown and described.

In the annexed drawings, the letter A designates the main shaft of my improved lifting-jack, B the base, and C a preferably-removable cap or head. Shaft A will be oppositely screw-threaded at each end, the lower end being left screw-threaded and the upper right, or the reverse.

Base B will be provided with an upright metallic socket, B′, having a female screw-threaded bore, adapted to receive the left thread *a* on the lower end of the main shaft; but both the base and socket may be cast in one piece, if I so elect.

The cap or head C will also be screw-threaded, and will receive the right thread *a′* on the upper end of the said main shaft. It will be evident that if the implement be placed under a movable body, and rotation be given to the main shaft, the latter will be extended, and will extend the capping or head C, thus producing a double action, which will raise the body operated on with great speed, so long as both the base and cap are stationary—that is, non-rotating. Rotary motion will be imparted to the main shaft through the medium of a wheel, D, keyed or otherwise secured thereon. This wheel will have spaced upwardly-projecting spurs *b* on its upper edge, near its perimeter, and the hub will have a cylindrical extension, *c*, terminating at its upper edge in a flange, *d*, which will form, with the body of the wheel D, an annular groove, *o*, so that the wheel may be operated by hand, or, when an unusually heavy body is to be raised, by a hooked lever, E. This lever will engage, by means of its hook *l*, with extension *c* of the hub, the flange *d* serving to prevent its casual detachment therefrom, and will project considerably beyond the wheel. It will have its fulcrum on one of spurs *b*, and, when actuated, will rotate the shaft, with the result aforesaid, to some extent. It will then be shifted to the next spur *b*, and the intermittent rotation of the shaft continued until the object has been sufficiently raised. By reversing the direction of rotation of the main shaft the latter will be drawn down into its base, and screwed up into its cap or head simultaneously, thus lowering the object raised very expeditiously. In lieu of the hand-wheel D I may sometimes, where a steady, uninterrupted rotation of the main shaft is desirable, use the following:

A beveled gear-wheel, L, will be secured against rotation on the shaft A, as shown in the drawings, or by other suitable means, with which a gear-wheel, F, having a crank-arm, G, will engage. This latter wheel will have its bearings on a spindle, *d′*, projecting out at right angles from the body of a sleeve, H, loosely applied upon the main shaft aforesaid, above gear L. This sleeve will have a vertical offset, *e*, to which a rigid metallic rod, I, will be secured. This rod extends up through an offset, *f*, formed at the lower end of the cap or head C, so that, while the head and sleeve are held in a rigid relation to each

other, so as not to rotate independently, the head may be extended or retracted at pleasure. If the head be fixed by the object to be raised, against rotation, it will, through rod I, hold the sleeve in a like fixed position, and by actuating the gear-wheel F the main shaft will be extended from its base, and will raise its cap, or the reverse, according to the direction of rotation given to the said gear. Heads C will be of various descriptions, according to the nature of the work. For instance, in raising car-bodies and buildings upon which a flat bearing can be had, I shall use them constructed with a flat upper face; but, in raising axles and other shaftings, I shall remove the cap above described, and substitute one of those shown in Figs. 6 and 4, having a concave head, *i*.

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

The combination, with the shaft A, having oppositely-threaded ends *a a'*, the base B, and cap C, receiving respectively the lower and upper ends of the said shaft, of the wheel D, having a groove, *o*, annularly formed in its hub, and the spaced spurs *b* upon its perimeter, substantially as specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

CONRAD DUECKER.

Witnesses:
O. Z. PYLE,
T. P. BERRYHILL.