No. 723,155. PATENTED MAR. 17, 1903.

C. G. HOFFMANN.

COMBINED LIFTING JACK AND STUMP PULLER.

APPLICATION FILED MAY 9, 1901.

NO MODEL.

Fig. 1.

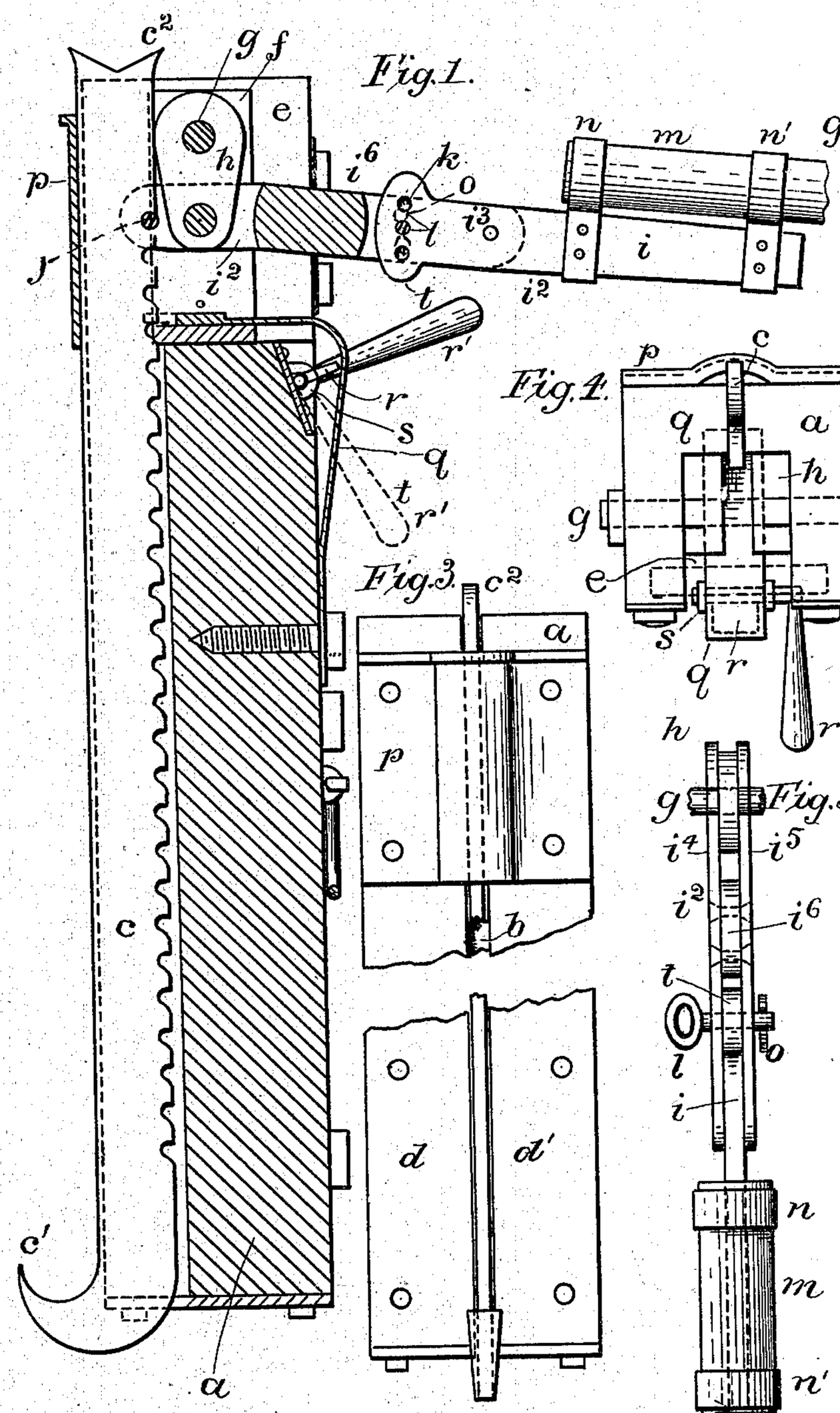

Fig. 2.

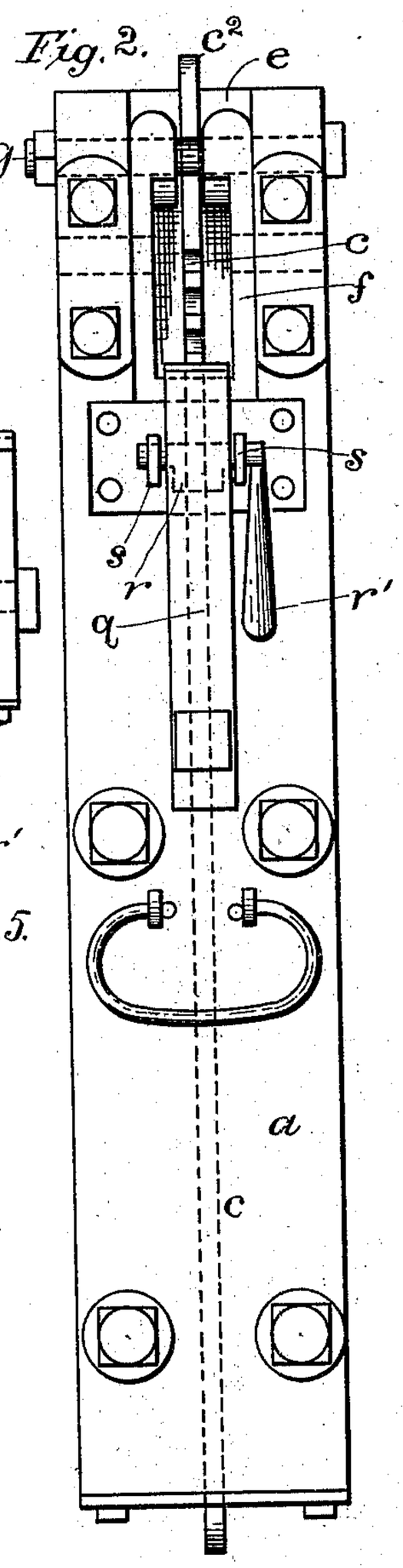

Fig. 3.

Fig. 4.

Fig. 5.

Witnesses:
E. M. Howatson
F. H. Ayers

Inventor;
Charles G. Hoffmann.
by F. J. Geisler
Atty.

UNITED STATES PATENT OFFICE.

CHARLES G. HOFFMANN, OF NEEDY, OREGON.

COMBINED LIFTING-JACK AND STUMP-PULLER.

SPECIFICATION forming part of Letters Patent No. 723,155, dated March 17, 1903.

Application filed May 9, 1901. Serial No. 59,530. (No model.)

To all whom it may concern:

Be it known that I, CHARLES G. HOFFMANN, a citizen of the United States, and a resident of Needy, Clackamas county, State of Oregon, have invented a new and useful Combined Lifting-Jack and Stump-Puller, of which the following is a specification, reference being had to the accompanying drawings as a part thereof.

My invention relates more particularly to stump-pullers operating on the lifting-jack principle, and has for its object to furnish an efficient and powerful device which is besides so constructed as to be conveniently operable under conditions which heretofore have imposed annoying obstacles. For example, in order to be effectively used, the operating-lever of such device needs to have sufficient length; but many times the end of the lever is brought so close to the ground that it allows only a very limited action or is so awkward to handle that no effective work can be done. These inconveniences are especially met with while clearing an uneven piece of land and also when required to set the jack in a hollow in order to operate on the root of a tree. To avoid such difficulties, my invention is of the construction illustrated in the drawings and hereinafter described.

In such drawings, Figure 1 is a vertical longitudinal section of my invention. Fig. 2 is a front elevation thereof, the operating-lever being removed. Fig. 3 is a partial elevation of the rear face. Fig. 4 is a plan of the top end of the jack with the operating-lever removed, and Fig. 5 is a plan of the operating-lever.

The letters designate the parts referred to.

The frame a is of substantial construction. It has a vertical slot b on its rear face to receive the rack-bar c, and the two face portions on either side of such slot are reinforced by plates $d\,d'$. In the upper part of the frame is a recess e, and in such recess is inserted a U-shaped plate f for the purpose of strengthening the portions of the frame on either side of such recess, and particularly for providing durable bearings for the bolt g, which extends crosswise through the head of the frame and said plate f. The link h is pivotally suspended from the bolt g, and on such link is fulcrumed the operating-lever i. In its general construction such operating-lever comprises two parts $i\,i^2$, pivotally connected by a pivot-pin i^3. The part i^2 is bifurcated and may be constructed of two outer plates $i^4\,i^5$ and an intermediate plate i^6, riveted together, as shown in Fig. 5. The pin j extends crosswise in the inner end of the bifurcated portion i^2 for engaging the rack-bar when lifting the same. The inner end of the portion i projects beyond the pivot-pin i^3 and has a flaring head t, provided with a series of perforations k, arranged relatively with respect to said pivot-pin, and a single registering perforation is provided in the bifurcated portion i^2 in which to insert the locking-pin l.

The object of the described construction is to allow the vertically-movable head or inner portion i of the lever to be relatively adjusted, so as to bring the pole-handle m, inserted in the sockets $n\,n'$, up or down within convenient working reach. To hold the locking-pin l in place, it is provided with a hole at its end in which to insert a split pin o. The rack-bar has a projecting portion c' and a pronged head c^2. It slides in the groove b and is held in place by a plate p. Either of the extremities of the rack-bar is brought into play, according to circumstances when operating upon an object. The spring dog or detent q is bolted to the frame in such manner that the nose of such detent normally enters one of the notches of the rack-bar and holds the latter against dropping. The cam r has axle-like extremities, which are seated in eyes s, and a lever-handle r' is provided for operating the cam, so as to lift the spring-detent q clear of the rack-bar to free the latter and allow it to drop. The rack-bar is operated in the usual way by the operating-lever i, which is pushed against the rack-bar, so as to bring the pin j in one of the notches. After the inner end of the operating-lever has so engaged the rack-bar, the latter may be lifted by depressing the free end of the operating-lever. The operating-lever being then lifted to bring the same in engagement with a lower notch, the operation is repeated, and to drop the rack-bar it is but necessary to lift the lever-handle r'. The adjustable feature of the operating-lever of my device renders the same

capable for effective use under all conditions which heretofore were the cause of considerable inconvenience, as above mentioned.

Having fully described my invention, now what I claim, and desire to secure by Letters Patent, is—

1. A combined lifting-jack and stump-puller consisting of a frame, *a*, having a vertical slot, *b*, and recess, *e*, reinforcing-plates, *d*, *d'*, the rack-bar, *c*, provided with hooked toe, *c'*, and pronged head, c^2, the retaining-plate, *p*, the bearing-plate, *f*, within the recess, *e*, the bolt, *g*, the link, *h*, pivotally suspended from the bolt, *g*; the operating-lever pivotally supported by its forked head, *i*, from the link, *h*, and provided with a pin, *j*, adapted to enter and engage with the notches of the rack-bar; said operating-lever comprising two pivotally-connected parts, *i*, i^2; and the part, i^2, being vertically adjustable; means for retaining the part, i^2, in its adjusted position; the sockets, *n*, *n'*, on the lever, i^2, adapted to receive a pole-handle; a spring-actuated detent for holding the rack-bar when raised, and means for releasing said detent from the rack-bar again, substantially as described.

2. A combined lifting-jack and stump-puller consisting of a frame, *a*, having a vertical slot, *b*, and recess, *e*, reinforcing-plates, *d*, *d'*, the rack-bar, *c*, provided with hooked toe, *c'*, and pronged head, c^2, the retaining-plate, *p*, the bearing-plate, *f*, within the recess, *e*, the bolt, *g*, the link, *h*, pivotally suspended from the bolt, *g*; the operating-lever pivotally supported by its forked head, *i*, from the link, *h*, and provided with a pin, *j*, adapted to enter and engage with the notches of the rack-bar; said operating-lever comprising two pivotally-connected parts, *i*, i^2, and the part, i^2, being vertically adjustable; means for retaining the part, i^2, in its adjusted position; the sockets, *n*, *n'*, on the lever, i^2, adapted to receive a pole-handle; the spring-detent, *q*, and the pivoted cam, *r*, having a handle, *r'*, substantially as described.

In testimony whereof I have hereunto affixed my signature, in the presence of two witnesses, this 11th day of April, 1901.

CHARLES G. HOFFMANN.

Witnesses:
T. J. GEISLER,
F. W. AYERS.