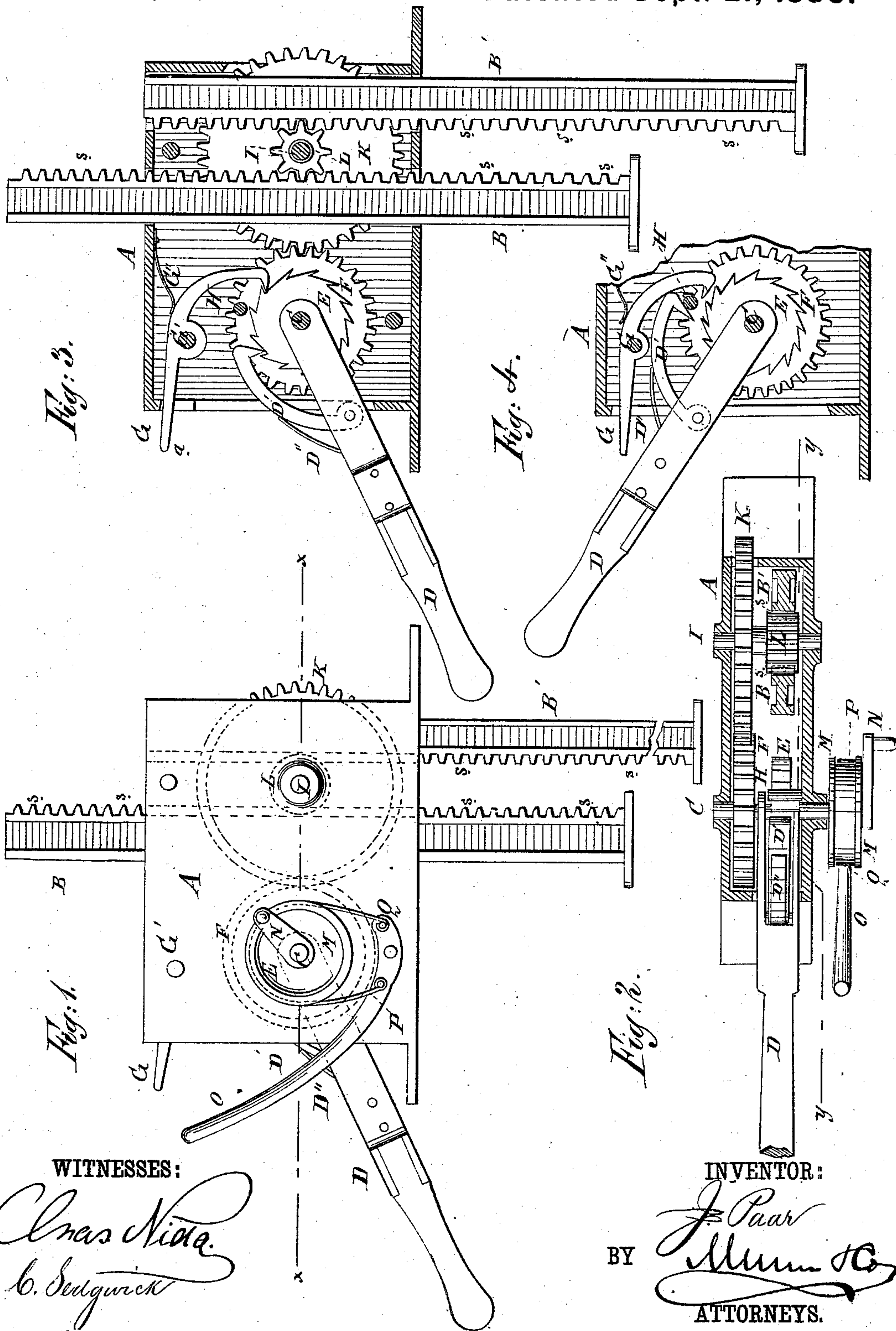


(Model.)

J. PAAR.
Lifting Jack.

No. 232,541.

Patented Sept. 21, 1880.



WITNESSES:

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UNITED STATES PATENT OFFICE.

JOHN PAAR, OF NEW YORK, N. Y.

LIFTING-JACK.

SPECIFICATION forming part of Letters Patent No. 232,541, dated September 21, 1880.
Application filed June 7, 1880. (Model.)

To all whom it may concern:

Be it known that I, JOHN PAAR, of the city, county, and State of New York, have invented a new and Improved Lifting-Jack, of which the following is a specification.

The object of this invention is to construct a jack that can be made to press both upward and downward at the same time, or to operate either upward or downward, as may be desired.

The invention consists of a combination composed of a ratchet-wheel turned by a spring-pawl upon a hand-lever, and held by a pawl pivoted to the standard, which standard-pawl is extended through the standard, so as to be operated by hand, if desired; of a pawl-disengaging pin and of two spur-wheels meshing into each other and communicating motion to a third spur-wheel, that moves the lifting or pressing bar or bars; and, further, of a device for elevating or depressing said lifting-bars after disengaging the pawls from the ratchet, and of a brake device for preventing the too rapid movement of said bar or bars.

Figure 1 represents a side elevation of the jack. Fig. 2 is a transverse section of the same on line *xx*, Fig. 1. Fig. 3 is a sectional side elevation of the same on line *yy*, Fig. 2. Fig. 4 is a sectional side elevation of a portion of the jack, showing the device for disengaging the pawls from the ratchet.

Similar letters of reference indicate corresponding parts.

In the drawings, A represents the standard, which is comparatively larger than the standards of ordinary jacks, for the purpose of accommodating the two lifting or pressing bars B B' and their actuating mechanism, which bars B B' are entered into said standard A after the ordinary manner in lifting-jacks.

On the shaft C, which is passed transversely through the said standard A, and within the said standard A, are fixed the hand-lever D, the ratchet E, and the cog-wheel F. The said lever D extends outward from the said standard A, to be taken hold of by the operator. On said lever D is pivoted a hooked pawl, D', and just in the rear of said pawl D', and on said lever D, is fixed a spring, D'', whose free end bears on said pawl D' and holds it in place engaged with the teeth of the ratchet E. Above the ratchet E is a second hooked

pawl, G, pivoted on a transverse shaft, G', and held engaged with the teeth of the ratchet E by means of a spring, G'', which is secured to the top of the standard A. This hooked pawl G has a handle, *a*, which extends outward from the standard A, above the lever D, for the convenience of the operator.

H represents the pawl-disengaging pin, passing transversely across from one side of the standard A nearly to the other side, and just above the ratchet E and between the pawls D' G, so that when the lever D is elevated to its extreme height the forked end of the pawl D' will engage against said pin H, and be thereby directed against the lower and concave face of the pawl G, and thereby itself become disengaged from the ratchet E, and also disengage the pawl G therefrom, as shown in Fig. 4.

Keyed on the transverse shaft I, within the standard A, are the large cog-wheel K, which gears into the cog-wheel F, and the small cog-wheel L, which engages with the teeth *ss* of the lifting or pressing bars B B' on either side of it, the bar B representing the lifting-bar and the bar B' representing the pressing-bar in this device.

On the shaft C, and outside of the standard A, is fixed a band-wheel or pulley, M, and a crank, N, while below said shaft C and wheel M a lever, O, is pivoted, to which lever O are secured both ends of a band, P, which passes around said wheel M, and, in combination with the lever O, forms a brake, Q, by means of which, at any time, the too rapid reaction of the cog-wheels F K L may be prevented when the pawls D' G are disengaged from the ratchet E.

In operating this device the lever D is moved upward to advance the pawl D' over the periphery of the ratchet E, and is then pressed down to turn said ratchet E, and thereby the cog-wheels F K L, with the effect of raising the bar B and depressing the bar B' when both of said bars B B' are used, this up-and-down motion of the lever D being continued until the desired lifting or pressing is effected.

For the nicer adjustment of the pressure of the bars B B' to relieve their pressure slightly, which it is often desirable to do, the operator can press down on the handle of the pawl G, and thereby disengage it from the ratchet E,

and then by elevating the lever D the ratchet and wheels E F K L are permitted to react slightly, and thus effect the desired object.

In order to entirely relieve the pressure of the jack, the lever D is moved upward to the position shown in Fig. 4, with the effect of disengaging both pawls D' G from the ratchet E, while, in order to prevent too rapid a reaction of the cog-wheels F K L and the bars B B', the brake Q is applied to the wheel M.

The two bars B B' are rarely used at the same time; but one or the other of them is removed from the standard A and the other used, according as the object is to apply downward or upward pressure.

This device is applicable not only to all the purposes to which lifting-jacks are commonly applied; but can be readily and efficiently applied to pressing cotton, hay, rags, and other articles for baling, the downward-pressing bar B' being especially designed and adapted for such purposes.

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

1. A compound lifting-jack constructed substantially as herein shown and described, consisting of standard A, lever D, provided with spring-pawl D', spring-pawl G, provided with

extended arm *a*, ratchet-wheel E, cog-wheels F K L, and lifting or pressing bars B B', as set forth.

2. In a lifting-jack, the combination, with the pawl-actuated ratchet E, of the cog-wheels F K L, substantially as herein shown and described, whereby said jack may be used for upward or downward pressure, as set forth.

3. In a lifting-jack, the combination, with the pawls D' G, the latter provided with extended arm *a*, of the disengaging-pin H, substantially as and for the purpose described.

4. In a lifting-jack, the combination, with the ratchet E, cog-wheel F, and their shaft C, of the band-wheel M and brake Q, substantially as and for the purpose described.

5. In a lifting-jack, as a means for applying downward pressure, the bar B', substantially as herein shown and described.

6. In a lifting-jack, as a means for adjusting the upward or downward pressure, the spring-pawl G, provided with an outward-extending handle, *a*, substantially as herein shown and described.

JOHN PAAR.

Witnesses:

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C. SEDGWICK.