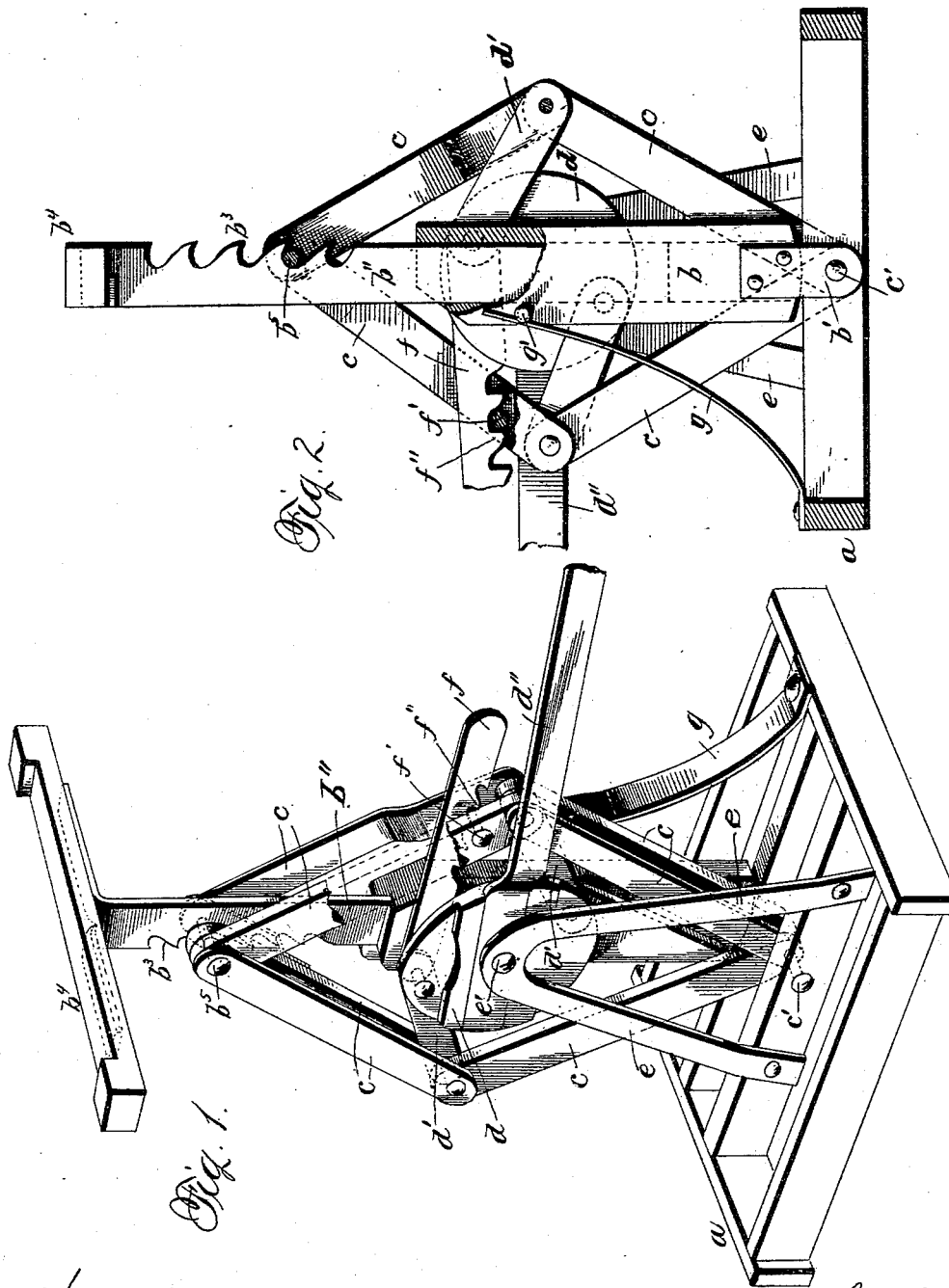


(No Model.)

D. F. SPANGLER & A. S. & G. W. GOOD.  
WAGON JACK.

No. 458,379.

Patented Aug. 25, 1891.



Witnesses  
C. J. Williamson.  
W. R. Davis

Indentors  
D. F. Sprangler, Admors  
and George W. Good  
By their Attys  
Alexander Davis

# UNITED STATES PATENT OFFICE.

DANIEL F. SPANGLER, ALBERT S. GOOD, AND GEORGE W. GOOD, OF  
RENOVO, PENNSYLVANIA.

## WAGON-JACK.

SPECIFICATION forming part of Letters Patent No. 458,379, dated August 25, 1891.

Application filed June 16, 1891. Serial No. 396,519. (No model.)

*To all whom it may concern:*

Be it known that we, DANIEL F. SPANGLER, ALBERT S. GOOD, and GEORGE W. GOOD, citizens of the United States, residing at Renovo, in the county of Clinton and State of Pennsylvania, have invented certain new and useful Improvements in Wagon - Jacks, of which the following is a specification, reference being had therein to the accompanying drawings, in which—

Figure 1 represents a perspective view of an improved jack, a portion of one of the right-hand toggles being broken away to better show the latching device; and Fig. 2 is an elevation from the opposite side of the jack, parts being broken away for the purpose of better illustration.

The invention consists in certain novel features of construction that will be fully hereinafter described, and particularly pointed out in the claims appended.

In the drawings, *a* designates a broad base, constructed of a frame of parallel wooden bars, and supported on this base, near its center, is a vertical lifting-standard, consisting of a hollow part or socket *b*, pivoted at its lower end by means of a pivotal bolt *c'* and a plate *b'* to one of the bars of the base, and a lifting-bar *b''*, which is a flat metal bar having its lower end fitting and working freely in the socket portion *b* of the standard. One edge of the lifting-bar *b''* is notched, as at *b<sup>3</sup>*, and the upper end of this bar has secured to it a comparatively-long horizontal bar *b<sup>4</sup>*, which latter is adapted to be placed under the axle of the vehicle to be raised.

To raise and lower the lifting-bar we prefer the means shown, which consist of the following devices: Journaled upon the upper end of a support *e*, secured to the base at one side of the standard, is a disk *d*, which is provided with a radial operating-lever *d''*, said disk being journaled on the support by means of a pin or bolt *e'*. Links *d' d'* pivotally connect this disk at points diametrically opposite each other to the joints or knuckles of two toggle-levers *c*, which latter converge at their lower ends and are pivoted upon the single bolt *c'* to the base alongside the standard. The upper portions or bars of the toggle-levers also converge and are pivoted to-

gether at their upper ends by a single horizontal bolt or pin *b<sup>5</sup>*, with which the notches *b<sup>3</sup>* in the movable part of the standard engage. The toggle-arms *c* are all, excepting one, constructed of two separated bars, between the ends of which the outer ends of the links *d'* are pivoted and between which the standard *b''* works. A flatspring *g*, secured to the base and bearing against a pin *g'* upon the socket *b*, serves to keep the notches *b<sup>3</sup>* normally in engagement with the pin *b<sup>5</sup>* at the upper end of the toggles. A latch-bar *f* is pivoted to the disk near its edge and extends out laterally between the upper bars of one of the toggles, this latch-bar being provided with a series of outwardly-inclined notches *f''* in its lower edge that engage a transverse horizontal bolt *f'* carried by the toggle-arm.

The operation of this jack is obvious. To raise the lifting-bar, it is simply necessary to depress the operating-lever, (which when the lifting-bar is down inclines upwardly,) which serves to partially rotate the disk, whereupon the links *d'* will draw the joints of the toggles inwardly toward each other and force their upper ends upwardly in a vertical line, carrying the lifting-bar with them, the standard sliding upwardly in its socket. As the disk revolves the latch-bar will be forced outwardly, the outwardly-inclined notches *f''* riding readily over the bolt *f'* until the lifting-bar is raised to the desired height, whereupon one of the notches will rest over the said bolt *f'* and prevent the parts resuming their normal positions. To lower the lifting-bar, it is simply necessary to disengage the latch-bar from the pin *f'*, whereupon the weight of the lifting-bar and connected toggles will cause the parts to resume their normal positions ready for another operation. If the lifting-bar be not heavy enough to restore the parts immediately, it may be assisted by raising the lever *d''*. To readily adjust the lifting-bar vertically to accommodate different-sized vehicles or other objects, it is simply disengaged from the upper pin *b<sup>5</sup>* by pressing it to one side, (the pivotal connection of its spring-actuated socket permitting this,) whereupon it is free to be raised and lowered independently of the toggles and other parts and be adjusted to suit the ob-

jects to be raised. The long cross-bar at the upper end of the lifting-bar is advantageous in that it may be placed lengthwise under either axle of a vehicle and lift the entire rear or front end of the same without tilting or capsizing the vehicle, as is evident. By means of the toggles great power is obtained just when the maximum power is required.

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

1. In a wagon-jack, the combination of a base, a socket pivoted thereto, a lifting-bar set in this socket and capable of vertical movement therein, a bolt engaging the lifting-bar, and means for raising and lowering this bolt and with it the lifting-bar, and a spring secured to the base and adapted to hold the said socket normally in engagement with the bolt, substantially as described.

2. The combination of a base, a socket pivoted thereon, a sliding lifting-bar having its lower end working in said socket and its upper end provided with a series of notches, a part engaging one of the notches in the lifting-bar, means for raising and lowering this part, and means for normally holding the notches in the lifting-bar in engagement with said part, substantially as described.

3. The combination of a base, a socket pivoted thereon, a sliding lifting-bar having its

lower end working in the said socket and its upper end notched, as at  $b^3$ , a bolt  $b^5$  engaging one of the said notches, and means for raising and lowering the said bolt, substantially as described.

4. The combination of a base, a support thereon, a disk journaled on the support, means for rotating the disk, toggles arranged on opposite sides of the disk and pivoted to the base and pivotally connected together at their upper ends, links connecting the disk to the toggles, and a lifting-bar connected to the toggles, substantially as described.

5. The combination of a base, a pair of toggles pivoted thereon at the lower ends and pivotally connected together at their upper ends, a rotatable part journaled between the toggles and connected to the same by links, an operating-lever connected to the rotatable part, a latch-bar connecting the rotatable part to one of the toggles, and a lifting-bar connected to the upper end of the toggles, substantially as described.

In testimony whereof we affix our signatures in presence of two witnesses.

DANIEL F. SPANGLER.

ALBERT S. GOOD.

GEORGE W. GOOD.

Witnesses:

LOUIS J. WEIS,

ROBERT D. SHELDON.