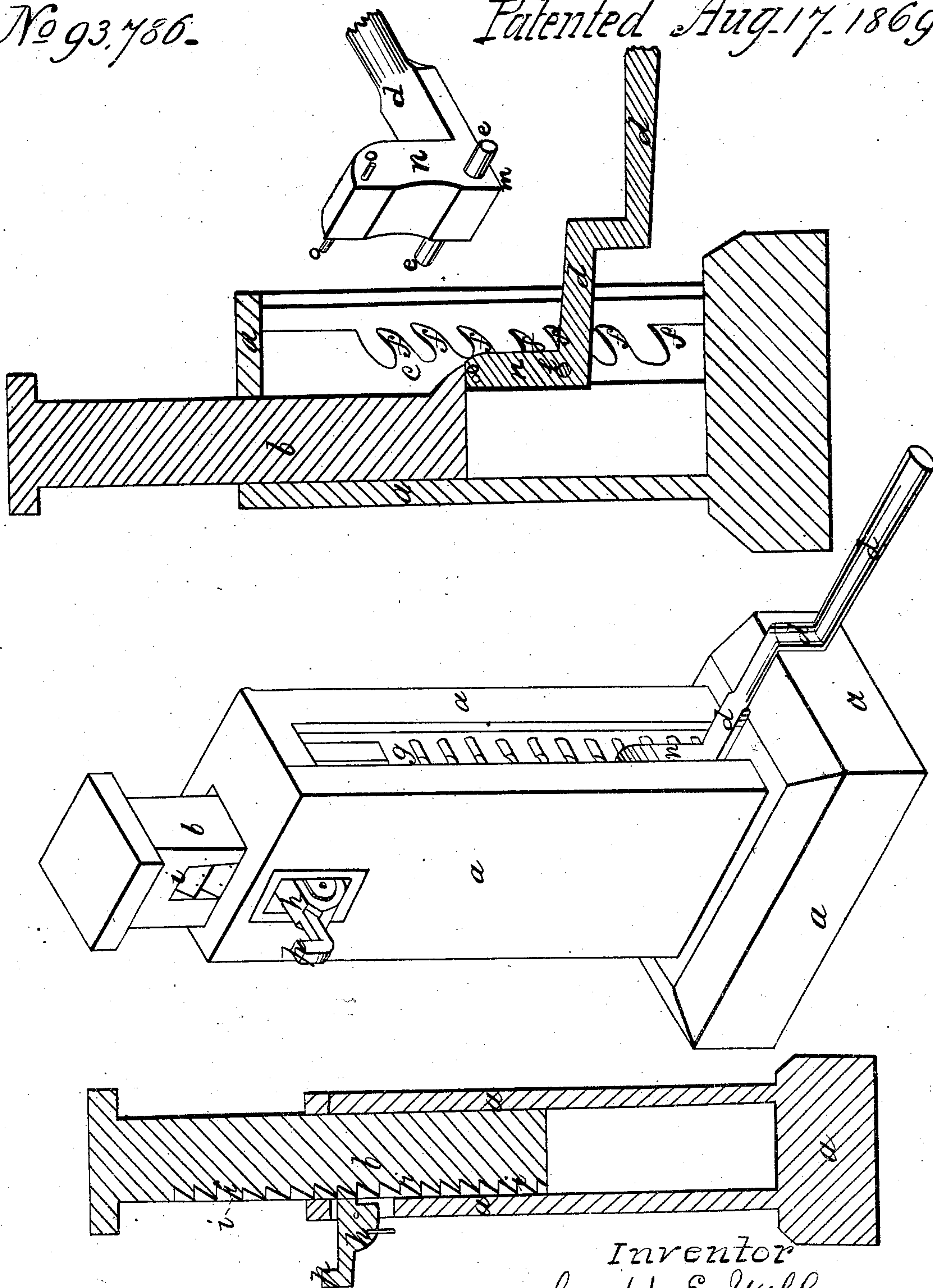


J. E. Woll.

Carriage-Jack.

No 93,786.

Patented Aug. 17. 1869.



Witnesses
Thos. B. Kern
R. W. Henshall.

Inventor
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United States Patent Office.

JOSEPH E. WOLL, OF ALLEGHENY CITY, PENNSYLVANIA.

Letters Patent No. 93,786, dated August 17, 1869.

IMPROVEMENT IN CARRIAGE-JACKS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern :

Be it known that I, JOSEPH E. WOLL, of Allegheny City, in the county of Allegheny, and State of Pennsylvania, have invented a new and useful Improvement in Wheel-Jacks; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawing, making a part of this specification, in which—

Figure 1 is a perspective view of my improved jack;

Figure 2 is a sectional view of the same, through the line *x-x*, fig. 1;

Figure 3 is a sectional view, through the line *y-y*, fig. 1; and

Figure 4 is a perspective view of the lever.

Like letters of reference indicate like parts in each.

The nature of my invention consists in the construction of a wheel-jack, having an upright shaft or standard, which works up and down in a guiding-box, closed on three sides, being held steady on the open side by the backs of two tooth-racks. The standard is worked up and down by a bent lever, which rests on trunnions or bearings upon the teeth of the racks, which are nailed to the sides of the box in front of the standard.

Also, a catch on one side of the covered box, which gears into notches in the side of the upright or standard, the functions and operations of which parts are hereinafter described.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and manner of operation.

In the drawing—

a represents the guiding-box, in which works the standard *b*, which is held in a perpendicular position by the toothed racks *c c*, which are fastened on the inside against the sides of the box *a*.

The standard *b* is raised by the lever *d*, which plays through an opening, *g*, and is supported by trunnions or bearings *e e*, which bearings rest upon the teeth *f* of the racks *c c*.

The catch *h*, at the side of the box *a*, gears into the ratchet-rack *i*, the construction of which allows an upward but not a downward motion, unless the catch be thrown out of gear, for the purpose of upholding the standards *b* when the support of the lever *d* is withdrawn.

The lever *d* has an elbow, *m*, to the sides of which trunnions or bearings *e* are attached, and a short arm, *n*, which works against and supports the standards *b*.

The operation of my improved wheel-jack is as follows:

The jack is placed under the object to be raised. When the lever is at rest, the handle stands in an almost vertical position, the bearings resting on the tooth in the racks *c c*, and the standards resting upon the short arm *n*.

The handle is then pressed down. This throws up the end of the short arm *n*, which, lying under the lower end of the standard *b*, raises it, until the pin *o*, which runs through and projects from each side of the end of the short arm *n*, to prevent its coming past the

racks *c c*, comes against the backs of the racks *c c*, when the arm *n* is held in a perpendicular position, as shown in figs. 1 and 2, the weight on the standard pressing it down and against the back of the racks *c c*, thus not permitting it to fall backward, and the pin *o* catching on the racks not permitting it to fall forward.

If it is desired to raise the object any higher, the lever is slipped off of the first tooth of the racks *c c*, and placed on the next one, the catch *h* at the side of the box *a* hooking into the notches of the ratchet-rack *i* on the standard *b* as soon as the lever *d* is withdrawn from under the standard, thus keeping it from dropping.

The handle is then bent down and the standard raised, as before described, the ratchet-rack *i* easily slipping past the bevelled or lower side of the catch in the ascent, but catching on the tooth the instant it begins to descend.

When it is desired to let down the object, I raise the standard *b* slightly, by means of the lever *d*, so as to relieve the catch *h* of the weight pressing upon it, throw back the tooth of the catch, by pressing down the handle *p*, so as to allow the rack *i* to slide past it; lower the standard, by raising the handle of the lever, until it assumes a perpendicular position; then, by allowing the tooth to engage the rack *i*, I transfer the pressure of the weight from the lever to the catch, take the lever from off that tooth, and place it on a lower one, and repeat the operation until the object is lowered.

In case of very heavy weights, I leave the short arm *n* in a perpendicular position, as shown in figs. 1 and 2, where it acts as a support to the standard *b*, relieving the catch *h* of part or all of the strain.

If it is desired to make the bevelled edge of the end of the short arm *n* work easily against the lower end of the standard *b*, a small friction-roller may be inserted in the end of the standard.

It is not necessary to have the lever *d* bent in the handle, as shown in the drawing, it being made so only for convenience.

The teeth of the racks, top and bottom plates of the standard, and the lever, are made of iron or other hard material, while the other parts I prefer to make of wood, on account of its lightness and cheapness.

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

The bent lever *d*, operating against the lower end of an upright, *b*, and having bearings which operate in toothed racks *c c*, in combination with a ratchet-rack, *i*, and catch *h*, arranged substantially as hereinbefore set forth.

In testimony whereof, I, the said JOSEPH E. WOLL, have hereunto set my hand.

JOS. E. WOLL.

Witnesses:

JOHN GLENN,
THOS. B. KERR.