C. D. MOORE.

LOGGING JACK.

APPLICATION FILED JAN. 9, 1908.

902,987. **Patented Nov. 3, 1908.**

Fig. 3.

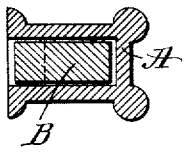


Fig. 1.

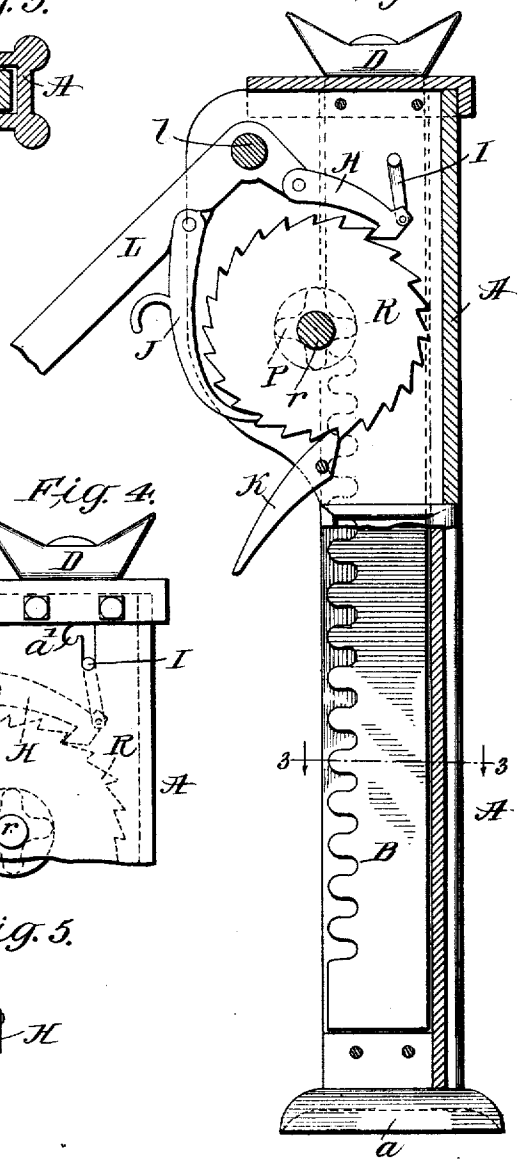


Fig. 2.

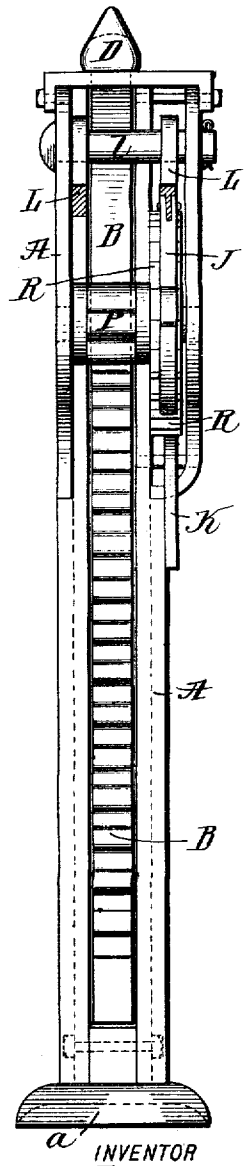


Fig. 4.

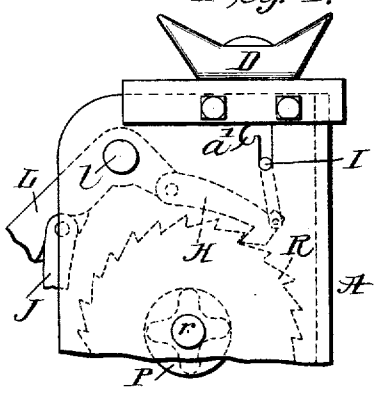
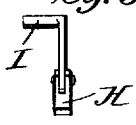


Fig. 5.



WITNESSES

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LOGGING-JACK.

No. 902,987. Specification of Letters Patent. Patented Nov. 3, 1908.

Application filed January 9, 1908. Serial No. 410,067.

To all whom it may concern:

Be it known that I, CHARLES DAVID MOORE, a citizen of the United States, residing at South Bend, in the county of Pacific, State of Washington, have invented an Improvement in Logging-Jacks, of which the following is a specification.

My invention is an improvement in that class or type of jacks in which a rack-bar is raised by means of a pivoted lever provided with a pawl adapted to engage a rotatable ratchet which is in turn connected with the rack-bar through the medium of a pinion.

The invention is embodied in the construction, arrangement, and combination of parts as hereinafter described, and illustrated in the accompanying drawing, in which

Figure 1 is an irregular vertical section of my improved jack. Fig. 2 is an edge view of the same, the lever being alone in section. Fig. 3 is a cross section on the line 3—3 of Fig. 1. Fig. 4 is a side elevation of the top portion of the jack. Fig. 5 is a detail view of a suspending device connected with one of the pawls that coacts with the ratchet.

A indicates a cast steel casing which is practically U-shape in cross section, as shown in Fig. 3. The head or upper portion of the casing is enlarged or extended laterally so that it is wider than the body or portion below the same. The casing is provided with a foot *a* which is provided with a tongue that is riveted or bolted in place. A rack-bar B is adapted to slide in the casing A and constructed with its upper end with spikes or teeth adapted to enter a log or other object that is to be lifted. A ratchet wheel R is mounted on a transverse shaft *r* together with a pinion P which engages the rack-bar B. A forked hand lever L is pivoted at *l* in the upper portion of the casing A, and two pawls H and J are pivoted thereto on opposite sides of the pivot. The pawl J is curved to adapt it to engage the ratchet wheel R, and acts as a push pawl. The pawl H is hook-shape and pivoted to a short arm of the lever L and serves as a pull pawl, it being for this purpose arranged on the upper side of the ratchet.

K indicates a locking dog pivoted in the casing and engaging the lower side of the ratchet.

It will be apparent that, if the lever L be raised, the pawl J will slide over the teeth but the hook-pawl H will be drawn to the left, Fig. 1, and thus rotate the ratchet; and, when the lever descends, or is pushed down, the ratchet H will similarly slide over the teeth, and the pawl J will act on the ratchet, so as to rotate it further in the same direction. Thus, by raising and lowering the free end of the lever, a practically continuous rotation of the ratchet is effected, with the result that the rack-bar B is progressively raised, or pushed up, out of the casing A. It is very often necessary to allow the load to descend gradually and this may be done by throwing the hook pawl H out of action, since the locking dog K and pawl J suffice for this operation. The pawl H may be raised and held out of action by means of a device I which is pivoted to the head of the pawl and adapted to engage a notch or shoulder *a'* formed in the side of the casing, as shown in Fig. 4. The device I is a right-angular bar, the lateral portion, as shown in Fig. 5, being cylindrical and projecting through a practically L-shape slot formed in the casing.

As shown by full and dotted lines Figs. 1 and 4, the pawl H is engaged with the ratchet; but the lateral projection or knob of the device I is accessible exteriorly of the casing, and by that means the pawl may be raised and the knob carried over to the left and into the notch *a'* indicated in Fig. 4. Thus the pawl will be suspended and removed from the ratchet. It is apparent that by pushing the knob or lateral projection back into the vertical portion of the slot, the pawl H will fall by its own gravity into reëngagement with the ratchet. When the pawl H is raised and suspended out of contact with the ratchet, as before described, the load may be lowered by use of the lever with the pawl J and locking dog K. It is apparent that to lower the rack-bar B without a load thereon, the same manipulation and operation are necessary. In order to lift the rack-bar with an intermittent movement, instead of a practically continuous one, it is apparent that the hook pawl H must be raised out of engagement with the ratchet as already described.

What I claim is:

The improved jack comprising a casing, a rack-bar which is slidable therein, a pinion engaging the rack-bar, and a ratchet wheel mounted fast on the same shaft with the pinion, a right-angular hand lever pivoted in the casing above the wheel, a push pawl pivoted to the lever on one side of the pivot

and engaging the ratchet; a hook pawl pivoted to the shorter arm of the lever and similarly engaging the upper side of the ratchet, and means for raising the hook pawl and suspending it out of action, the same consisting of a device that is pivoted to the head of the pawl and provided with a lateral projection at its free end, and a slot formed in the side of the casing and having a lateral notch to receive the lateral projection of the aforesaid device, as shown and described.

CHARLES DAVID MOORE.

Witnesses:

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