J. Beachler.

Stump Extractor.

No. 39,375. Patented Aug. 4, 1863.

Fig. 1.

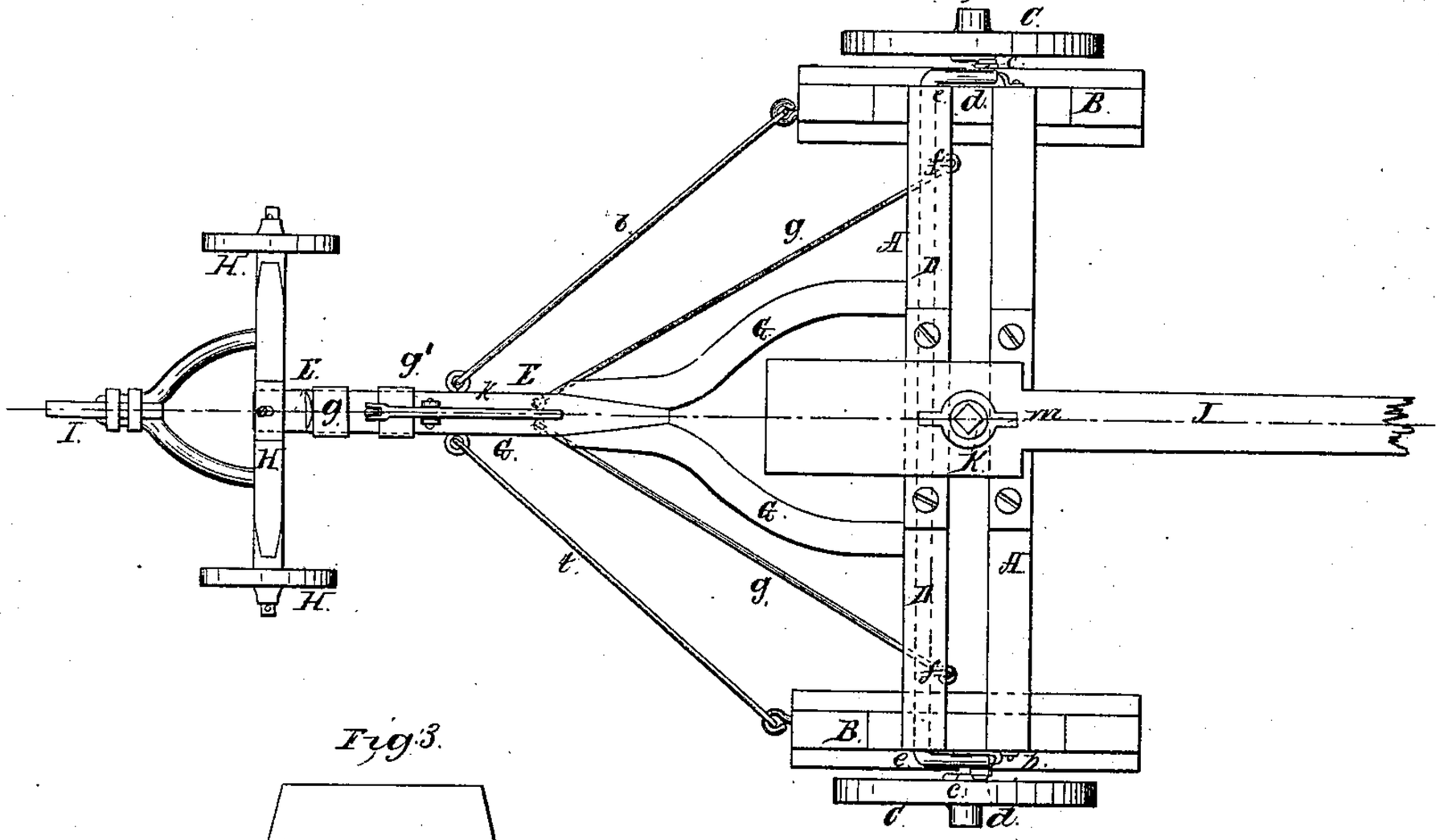


Fig. 3.

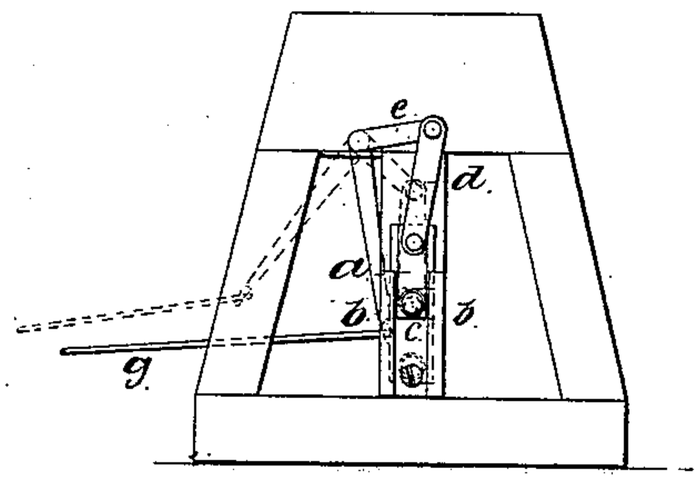
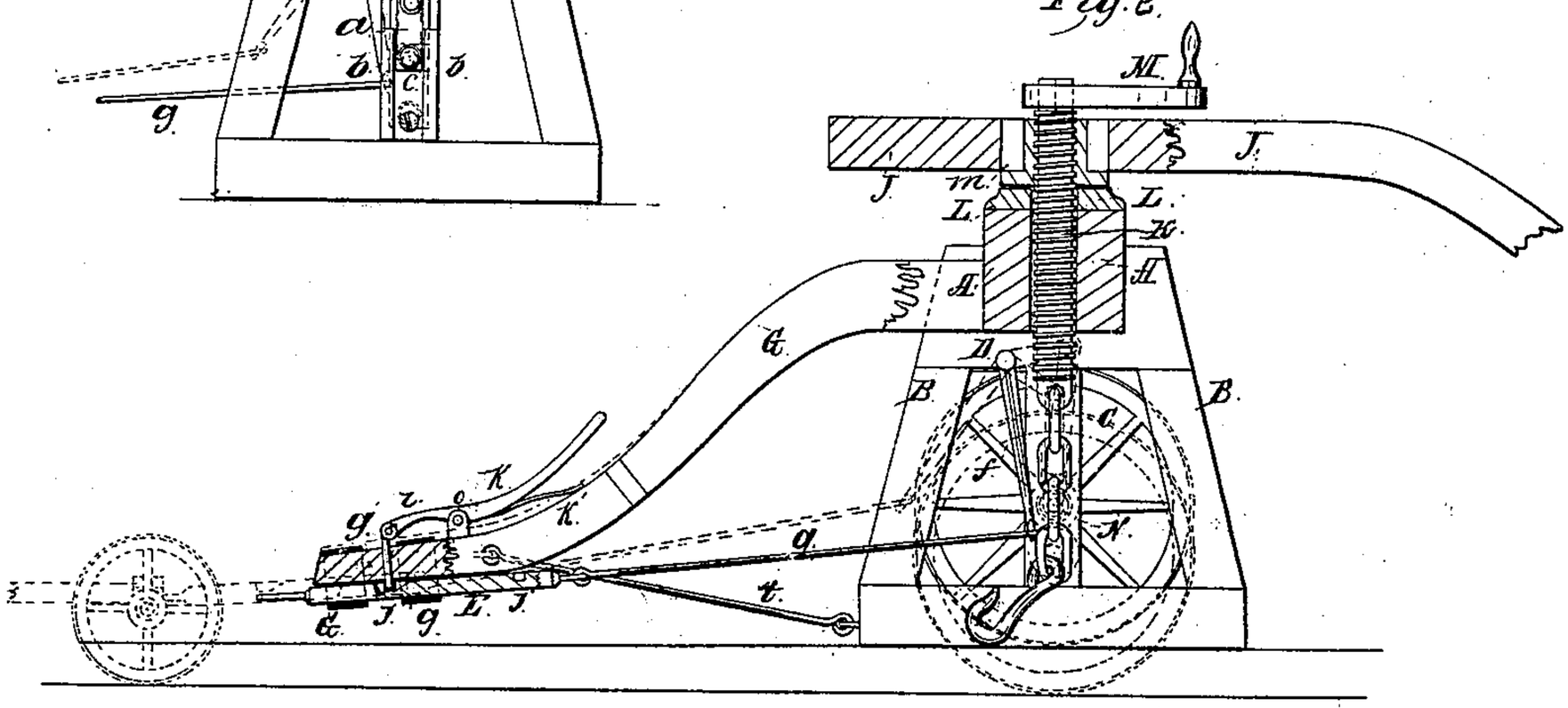


Fig. 2.



Witnesses:
J. W. Coombs
Wm. Thompson

Inventor:
J. Beachler
per Munn & Co.
Attorneys.

UNITED STATES PATENT OFFICE.

J. BEACHLER, OF ANDERSON, INDIANA.

IMPROVED STUMP-EXTRACTOR.

Specification forming part of Letters Patent No. **39,375**, dated August 4, 1863; antedated December 8, 1861.

To all whom it may concern:

Be it known that I, J. BEACHLER, of Anderson, Madison county, and State of Indiana, have invented a new and Improved Stump-Extractor; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a top view of the improved stump-extractor. Fig. 2 is a longitudinal section through Fig. 1, in the vertical plane indicated by the red line thereon. Fig. 3 shows a sliding block of one of the carriage-wheels, and the levers for operating it.

Similar letters of reference indicate corresponding parts in the three figures.

This invention relates to improvements in machines for pulling up stumps, roots, &c., for clearing land.

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

A A represent two horizontal transverse beams, and B B are the end or upright frames, which, together with the beams A A, form a trestle for supporting the machinery used in extracting stumps. The beams A A, as well as the frames B B, are made of very heavy timber for giving the desired strength, and the beams at the bottoms of frames B B are made wide, so that they will not be liable to sink into the ground during the operation of pulling up a stump.

C C represent two carriage-wheels having wide fellies. The axles *c c* of these wheels C C are secured to and project out horizontally from vertically-sliding blocks *a a*, which work in suitable guides, *b b*, secured to the middle uprights of the frames B B. One block *a* and guide *b* of one frame B are shown in Fig. 3 of the drawings, the wheel being removed from its axle *c*. To the sliding blocks *a a* short rods *d d* are pivoted, the upper ends of which rods are again pivoted to crank-arms *e e* on the ends of a rock-shaft, D, which passes transversely across the machine, either below the bars A A or above these bars. This rock-shaft D is in a horizontal position, and it has its end bearings in the two upright frames B B. The cranks *e e* project outside of each frame B. Two long arms, *f f*, are secured to and project down from the rock shaft D, inside of and near the frames B B, and to these arms *f f* long rods *g g* are attached, which proceed forward and are connected at their front ends to the rear end of a longitudinal sliding rod, E. Rod E is connected by means of straps *g' g'* to the straight portion of a curved tongue, G, which is secured rigidly to the front beam A, as shown in Figs. 1 and 2 of the drawings. The tongue G is curved downward from beam A, and the front or straight end of this beam is nearly in a horizontal plane with the lower beams of frames B B. The straps *g' g'* allow the rod E to receive an end-play its full length, and this rod E is pivoted at its front end to the axle H of guide-wheels H' H', when the machine is to be drawn about from place to place.

The draft-pole I, to which the team is attached, is connected to the axle-tree H, and when the machine is in a proper position for operation the king-bolt which connects the axle of the front wheels to the rod E is removed, and the team is hitched to the outer end of the sweep J.

Means are provided for fixing the rod E, either when it is pushed back to its fullest extent or when it is drawn out to its fullest extent. This is effected in the following manner: A pin, *i*, passes down through the tongue G, near its front end, and enters the holes *j j* in the rod E, when one or the other hole is brought under the pin *i*. This pin *i* is pivoted at its upper end to the lever *k*, and this lever *k* is acted upon by a spring, *k'*, which forces the pin *i* downward. *l l* are brace-rods for stiffening the tongue G. Now, from this description it will be seen that when the rod E is free to move and the horses hitched to the draft-pole I and started forward the rod E will be moved outward until the pin *i* is forced into the back hole *j*. This movement of rod E will draw the arms *f f* forward and depress the cranks *e e*, which operation will depress the blocks *a a* and mount the trestle on the wheels C C. The machine may now be moved about from place to place on the carriage-wheels. Then, when it is desired to throw the machine off of its wheels C C, the pin *i* is raised so as to free the rod E, and this rod E is pushed back by backing the horses. This operation will elevate the wheels C C and al-

low the trestle to rest on the ground in a position for operation.

The mechanism for extracting the stumps is mounted on the horizontal bars A A, and is constructed as follows: K represents a large screw-shaft, which passes perpendicularly through a collar, L, through which this screw-shaft is allowed to play loosely. The collar L is secured on top of the bars A A and in the middle of these bars. An eye is formed on the lower end of screw K and a square head on the upper end of this screw. To the eye on the lower end of screw K a chain, N, of a suitable length and strength, is attached, which chain is furnished with coupling-hooks for attaching it to the stump to be pulled up. The upper end of screw K is tapped through a nut, *m*, which is rigidly secured into the sweep or lever J, as shown in Figs. 1 and 2 of the drawings. Now, when the sweep J is turned round, the screw K will be forciby elevated. To depress the screw K again, a crank, M, is used, (shown in Fig. 2 of the drawings,) and the sweep J allowed to remain stationary while the screw is depressed. The sweep J should be of such a length as to allow the team to pass the end of tongue G without walking over it.

The machine is represented in Fig. 2 in a working position, and also in red lines in a position when mounted on wheels, ready for transportation.

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

The sliding blocks *a a*, to which the wheels C C are attached, and the rods *d d*, cranks *e e*, shaft D, and arms *f f*, in combination with the rods *g g*, draft-rod E, and holding-pin *i*, all arranged and operating as and for the purposes herein set forth.

J. BEACHLER.

Witnesses:
WM. F. PARIS,
R. A. BARTLETT.