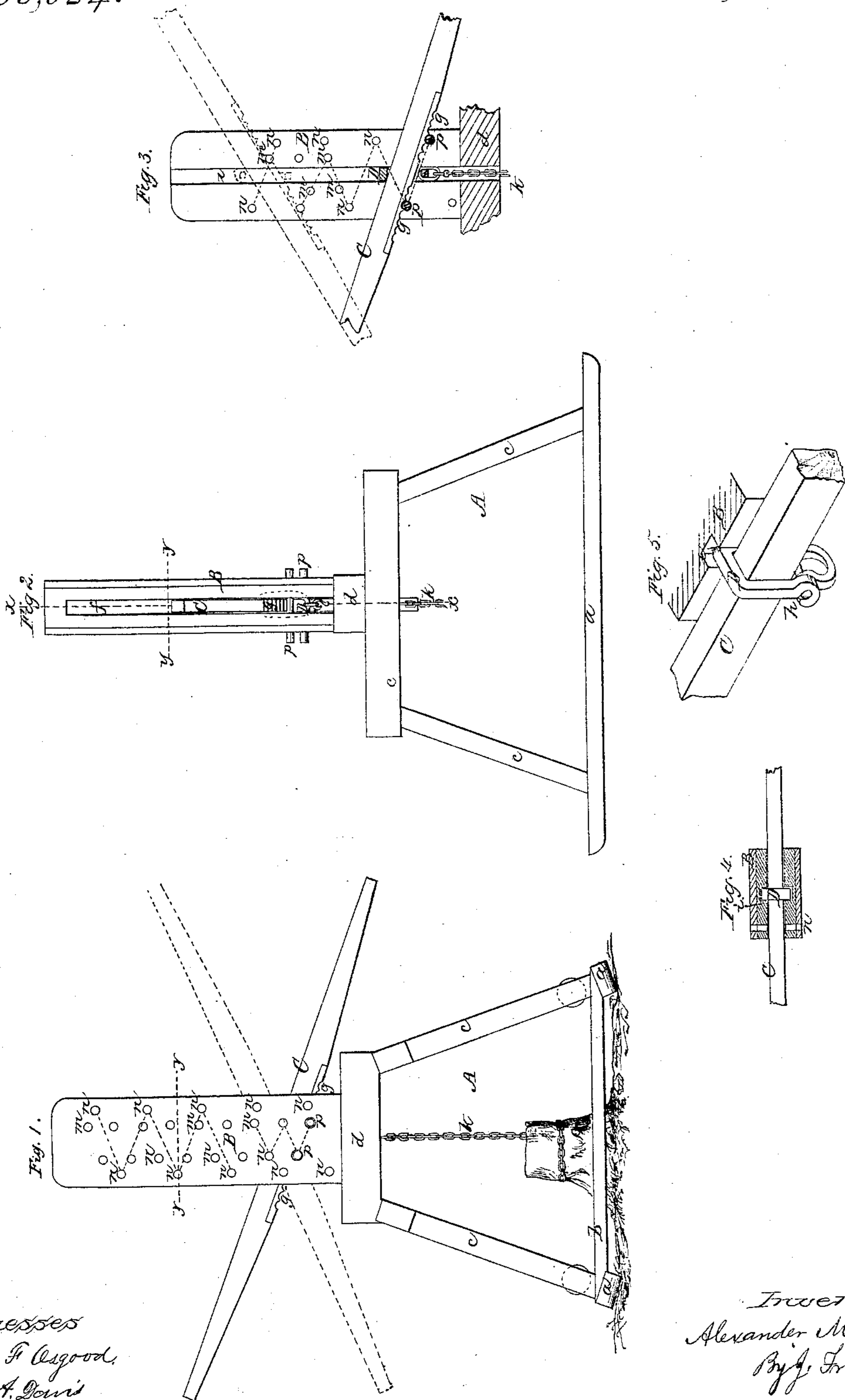


*A. Monroe,*  
*Stump Elevator.*

*N<sup>o</sup> 59,624.*

*Patented Nov. 13, 1866.*



*Witnesses*  
*R. F. Asgood,*  
*J. A. Davis*

*Inventor*  
*Alexander Monroe*  
*By J. Fraser & Co.*  
*Attys.*

# UNITED STATES PATENT OFFICE.

ALEXANDER MONROE, OF WATKINS, NEW YORK.

## IMPROVEMENT IN STUMP-EXTRACTORS.

Specification forming part of Letters Patent No. 59,624, dated November 13, 1866.

*To all whom it may concern:*

Be it known that I, ALEXANDER MONROE, of Watkins, in the county of Schuyler and State of New York, have invented a new and useful Improvement in Stump-Extractors; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, making part of this specification.

Figure 1 is an elevation of my improved machine; Fig. 2, a similar view, but at right angles to Fig. 1; Fig. 3, a vertical section in plane of line *x x*, Fig. 2; Fig. 4, a transverse section in plane of line *y y*, Fig. 2; Fig. 5, a perspective view of the lever, the clevis, and one of the slots in which the clevis works.

Like letters of reference indicate corresponding parts in all the figures.

My improvement belongs to that class of machines where the lever, with the draft-chain attached, is alternately raised on opposite sides and retained by pins inserted in a set of holes.

The invention consists, essentially, in retaining the clevis to which the draft-chain is attached in slots in the elevating-post, while the lever is allowed a free action through, and in providing the said post with a double set of holes for the insertion of the pins, so arranged that either a comparatively small or large leverage may be obtained, or an unequal one in relation to the power applied on the opposite sides of the machine, all as hereinafter set forth.

As represented in the drawings, a suitable frame, A, is provided, which is preferably composed of shoes *a a*, connected by end pieces, *b b*, inclined sides *c c*, connected by a center block, *d*, and an elevating-post, B, of suitable height for the purpose designed, resting upon the block *d*.

Instead of providing the post with one double set of holes to produce a uniform leverage, I provide it with two sets, *m m* and *n n*—the first, near the center, being to produce a short leverage to adapt the machine to a great resistance, and the latter, on the outside, a longer leverage to adapt it to a less resistance. These holes are arranged in the zigzag

form indicated by the connecting red lines in Fig. 1. In these holes fit pins *p p*.

Through the post is made a vertical slot, *f*, Fig. 2, in which fits a double-acting lever, C, of suitable length. This lever is provided with notches or corrugations *g g* on the under side, to correspond in position with the pins placed in either set of holes *m n*. It also passes freely through a clevis, D, formed of a piece of bent iron, connected at the bottom by a pin, *h*, and eye *w*. The sides of this clevis rest in grooves *i i*, formed transversely of the slot on the inside of the post. The usual draft-chain *k*, attaching to the stump, is connected with the clevis.

Thus arranged, it will be seen that the clevis will always be retained in the grooves, so as to draw vertically on the stump, but at the same time will have a free up-and-down action. It can never become displaced, nor throw the lever to one side, as would be the case were it not securely connected. Were it to be simply attached to the lever, and not guided in the post, the lever would work to one side or the other, especially if the strain were not exactly vertical, and consequently the leverage would be very unequal and the action irregular. At the same time the clevis is thus retained the lever is allowed a free action through, so that the proportionate leverage may be adjusted relatively to the opposite sides exactly as desired.

The employment of the double sets of holes *m n* allows me to employ either a comparatively large or small leverage, as the circumstances of the case may require. It is only necessary to shift the pins from one set of holes to the other to accomplish the required result.

It will also be noticed that I can employ, if desired, a short leverage on one side and a long one on the other by simply placing the pins in every alternate set of inner and outer holes *m n*, as indicated by red lines, Fig. 3. In this manner I adapt the lever to unequal powers on opposite sides.

If desired, horse-power may be applied instead of hand-power, in which case cords are attached to the ends of the lever, passing

downward around rollers, and having the horses connected at the opposite ends.

This machine is very effective in applying power and is easily operated.

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

The arrangement of the clevis D, constructed as described, moving vertically in the grooves *i i*, with the lever C, working

through it, said parts being used in combination with the double sets of holes *m n* and pins *p p*, the whole operating substantially as and for the purpose herein specified.

ALEXANDER MONROE.

Witnesses:

JOHN W. THOMPSON,  
GEO. H. JACKSON.