

W. Carns.  
 File Driver.  
 N<sup>o</sup> 103,710. Patented May 31, 1870.

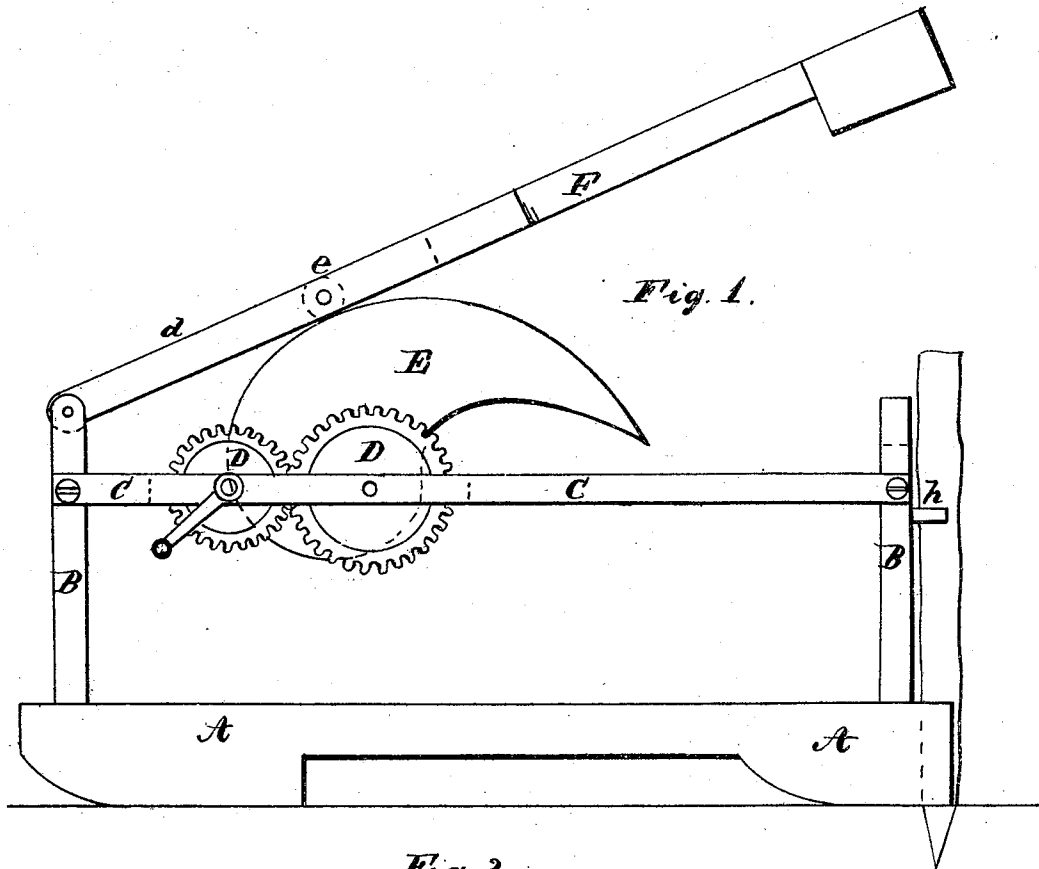


Fig. 1.

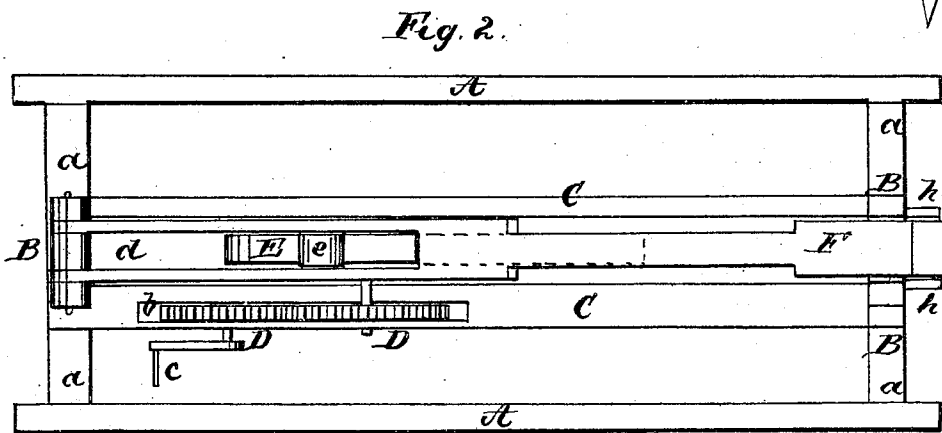


Fig. 2.

Witnesses.

H. C. Upperman

W. Purris

Inventor

William Carns  
 By his attorney,  
 C. B. Foles

# UNITED STATES PATENT OFFICE.

WILLIAM CARNS, OF NEW CUMBERLAND, OHIO.

## IMPROVEMENT IN PORTABLE FENCE-POST DRIVER.

Specification forming part of Letters Patent No. 103,716, dated May 31, 1870.

*To all whom it may concern :*

Be it known that I, WILLIAM CARNS, of New Cumberland, in the county of Tuscarawas and State of Ohio, have invented a Portable Fence-Post Driver; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the accompanying drawing, making a part of this specification, in which—

Figure 1 is a side elevation. Fig. 2 is a plan or top view.

Like letters in both figures of the drawing indicate like parts.

The object of my invention is to provide a light, portable machine for the setting of fence-posts by driving them in the ground, so as to dispense with the time and labor ordinarily required in the digging of the holes; and consists of a trip-hammer suitably arranged with a cam and gear-wheels, the whole being supported by proper frame-work, provided with ordinary sled-runners.

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

The base of the frame or machine is composed of runners A A, similar to those of a sled. B B are uprights attached to cross-pieces *aa* of the runners. C C are braces attached to the sides of the uprights, for holding them firmly in position and also for supporting the cam and gear-wheels. D D are the gear-wheels, which are arranged and pivoted in a slot, *b*, of the brace, the latter being made wide enough for the purpose, or they may be attached to the brace or braces in any other suitable manner. The smaller gear-wheel is provided with a crank-handle, *c*. E is the cam arranged between the braces, and attached rigidly to the axle or shaft of the larger gear-wheel, so that, by turning the crank-handle, the smaller gear-wheel, meshing with the larger, will thus cause the cam to operate the trip-hammer. F is the trip-hammer, the arm of which is securely pivoted to the top of the upright, and is so constructed as to leave an opening, *d*, in it, in which is pivoted a friction-roller, *e*, and also to permit of the point of the cam passing through the opening while operating the hammer, or when it is at rest, the cam having its bearing on the roller.

Operation: The post, being first slightly tapered at the end with an ax, is placed against the side of the upright, at the rear of the frame, and, to keep it in a perpendic-

ular position, I provide the upright with a suitable number of holes, with pins *h*, one to be inserted in a hole on each side of the post. The crank-handle is then turned, which causes the cam to elevate the hammer, (Fig. 1 showing the cam in the act of raising the hammer,) and after the point of the cam has reached the roller, and immediately upon its leaving it, the hammer is dropped with considerable force on the top of the post, thus driving it in the ground. The operation is then repeated until the post has been driven in to the proper depth, not more than three or four strokes of the hammer, occupying but a moment or so, being required to drive a post two or two and one-half feet, the usual depth, in the ground.

The machine is drawn from point to point by a horse, and, when used on the hill-side, I attach jack-runners to the runners on side of the frame, so as to raise the machine to a level, and thus enable it to be operated as well on the hill-side as on level ground.

One man can operate this machine, and accomplish with it in one day as much as the labor of fifteen or twenty men in the setting of fence-posts. This has been ascertained by actual demonstration.

I have a full-size machine of about eight feet long and three and one-half wide, and can easily raise by hand a hammer of three hundred pounds weight, being six times the amount required to drive a fence-post in ordinary soil, the machine in all not weighing over five hundred pounds—not half the draft of a horse required to draw it from post to post.

The face of the hammer is slightly inclined, so that it will strike the top of the post squarely, and thus avoid its being changed from a perpendicular position while entering the earth.

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

The trip-hammer, with its arm F, provided with friction-roller *e*, in combination with the cam E, constructed and supported by bracing C and standards B, having guide-pins *h*, substantially as and for the purpose set forth.

WM. CARNS.

Witnesses:

ROBERT CARNAHAN,  
THOMAS MILLS.