

G. C. Taft,
Drilling Machine.

No. 113,815,

Patented Apr. 18. 1871.

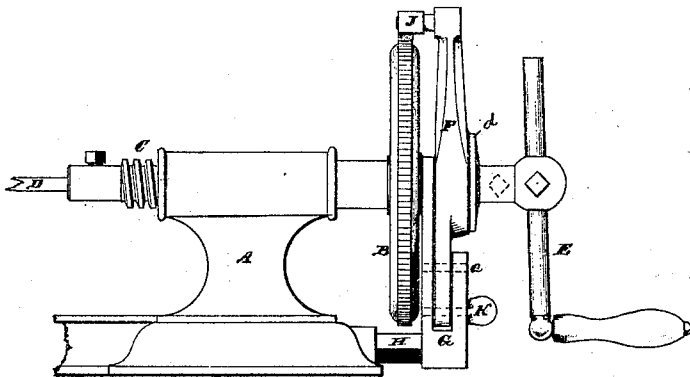


Fig. 1

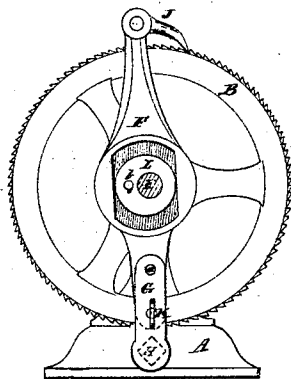


Fig. 2

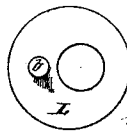


Fig. 3

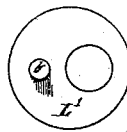


Fig. 4

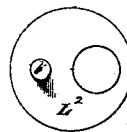


Fig. 5

Witnesses

A. E. Prince.

Geo. H. Miller

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United States Patent Office.

GEORGE C. TAFT, OF WORCESTER, MASSACHUSETTS.

Letters Patent No. 113,815, dated April 18, 1871.

IMPROVEMENT IN DRILLING-MACHINES.

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, GEORGE C. TAFT, of the city and county of Worcester and State of Massachusetts, have invented certain new and useful Improvements in Drills; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawing which forms a part of this specification, in which—

Figure 1 represents a side view of so much of a blacksmith's drill as is necessary to illustrate my invention.

Figure 2 represents an end view with the crank-head removed.

Figures 3, 4, and 5 represent the series of interchangeable cams.

The nature of my invention consists in certain special improvements in hand-drills, as hereafter fully described.

In the drawing—

The part marked A represents the frame of the drill, B the feed-wheel, C the feed-screw, D the drilling-tool, and E the crank, all of which parts are constructed and arranged in the ordinary manner, and therefore need not be more fully described.

The feed-lever F may also have its upper part constructed in the ordinary form where it is provided with the pawl J, but the lower end of the lever F is made shorter than it is in the ordinary drill, and is pivoted or fulcrumed in a bearing-piece G, which latter is rigidly secured to the end of the slide-bar H.

The bearing-piece G is extended upward at the inner side of the lever F, and the shaft or spindle I passes through its upper end.

A series of holes, *a*, is formed through the bearing-piece G and lever F, in which to arrange the fulcrum-pin K; and by inserting said pin in the different holes *a* a greater or lesser motion is imparted to the upper end of the feed-lever F, and, consequently, the amount of feed is thereby varied.

In the present instance but two holes, *a*, are represented, but a greater number may be used when desired.

The slide-bar H is formed square, as indicated, and, being fitted to a hole of similar form, it is held from turning or rolling, while the bar is at the same time allowed to slide freely back and forth longitudinally.

The lever F is operated by a circular cam, L, arranged upon the shaft I within the open center of the lever F.

A pin, *b*, in the side of the cam fits into an opening in the flange *d*, and thereby keeps the cam in its proper relative position.

The cam L can be exchanged for one of more or less eccentricity, a series of them being provided, as shown by figs. 3, 4, and 5.

The cams are to be changed when it is desirable to vary the feed more than can be done by moving the pin K; for instance, the cam L permits the pawl J to take two or three teeth of the ratchet, cam L¹ three or four teeth, cam L² four or six teeth. Thus it will be seen that by means of the movable pivot-pin K and the interchangeable cams L L¹ L² the feed can be regulated in a very perfect and satisfactory manner.

The openings in the cams are of such size that they fit closely on the shaft I, so that there is no looseness or rattling of the parts when the machine is in motion.

Having described my improved drill,

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

The combination, as herein described, of the shaft I, slide-bar H, bearing-piece G, adjustable fulcrum-pin K, the lever F and its operating-cam, for the purposes set forth.

GEO. C. TAFT.

Witnesses:

A. E. PEIRCE,
GEO. H. MILLER.