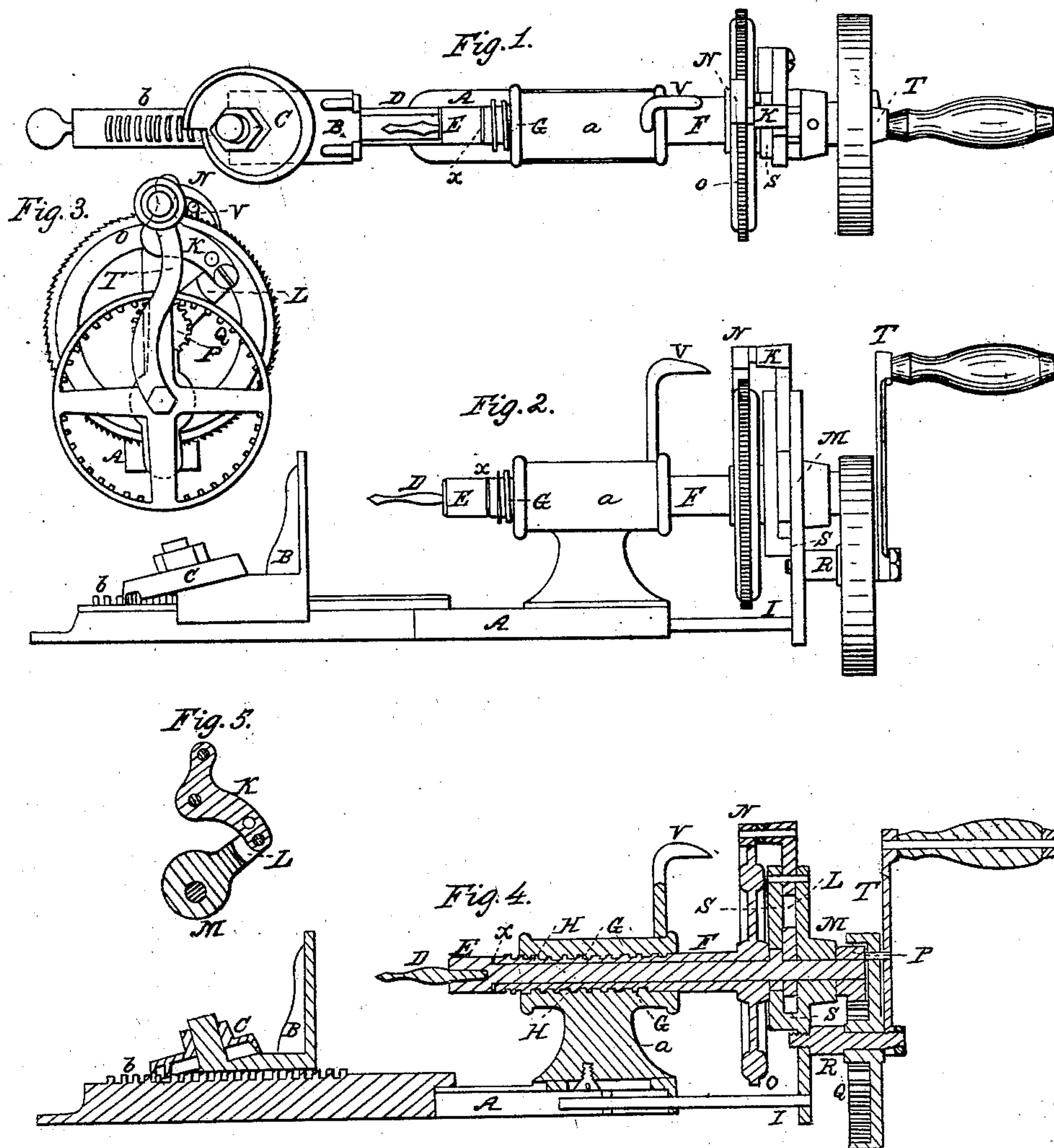


G. C. TAFT.  
Hand Drill.

No. 27,320.

Patented Feb. 28, 1860.



Witnesses:  
R. H. Eddy  
Arthur Hall.

Inventor:  
Geo. C. Taft.

# UNITED STATES PATENT OFFICE.

GEORGE C. TAFT, OF WORCESTER, MASSACHUSETTS.

## DRILL.

Specification of Letters Patent No. 27,320, dated February 28, 1860.

*To all whom it may concern:*

Be it known that I, GEORGE C. TAFT, of Worcester, in the county of Worcester and State of Massachusetts, have invented an  
5 Improved Hand Drill or Drilling Machine; and I do hereby declare that the same is fully described and represented in the following specification and the accompanying drawings, of which—

10 Figure 1, is a top view; Fig. 2, a side elevation; Fig. 3, an end view; Fig. 4, a vertical and longitudinal section of it.

The nature of my invention or improvement consists in an arrangement and appli-  
15 cation of a support piece to the slide rod, the drill shaft and the pawl operating mechanism of such shaft, whereby by the employment of the said support piece, I am enabled to support not only the vibrating lever  
20 of the pawl but other parts of the drilling apparatus, and particularly to employ a driving shaft and certain gears for the purpose of increasing the speed of the drill shaft.

25 In the drawings above referred to, A denotes the drill frame, it being constructed with a stationary standard or puppet *a*, and a toothed rack *b*, arranged upon it as shown in the drawings. A bearing post or carriage  
30 B, is so adapted to the frame A, as to be capable of sliding longitudinally thereon, and over the rack *b*, such carriage being provided with a scroll wheel C, arranged to work in the rack, such scroll wheel, standard  
35 and rack being constructed essentially like similar parts described in Letters Patent of the United States of America, numbered 16,900, and granted to me on the 24th day of March A. D. 1857, the purpose of such scroll  
40 wheel and rack being duly described in the specification of the said patent.

D, is the drill it being fixed in one end of a shaft E, which extends through a tubular shaft F, that passes through the standard *a*,  
45 and is provided with a male screw G, adapted to a female screw H, formed in the said standard and arranged in the same as shown in Fig. 4. By revolving the shaft F, the said screws will impart to it a movement  
50 lengthwise, which will force it against a shoulder *x*, on the drill shaft and create a

corresponding longitudinal movement of the latter. Near the outer end of the said drill shaft such shaft extends through a support  
piece S, which is formed as shown in the 55 drawings and extends upward from a slide rod I, so applied to the frame A, as to be capable of sliding longitudinally thereon. The said support S, is bifurcated and sustains a rocker lever K, forming part of what  
60 may be termed as the pawl operating mechanism which consists of such lever, a pitman L, and an eccentric M, see Fig. 5, which is a section of such and the drill shaft. This eccentric is fixed on the drill shaft and within  
65 the fork of the support piece S, and plays in the pitman L, which embraces it, is arranged in the fork of the support piece and at its upper end is jointed to the lower arm of the rocker lever K. The upper arm of  
70 the said lever K is made to carry a pawl N, which works in a ratchet O, fixed to the tubular shaft F, hereinbefore mentioned. Furthermore, upon the outer end of the drill  
shaft is a pinion P, which engages with an 75 internal gear wheel Q, that turns freely on an arbor R, projecting from the support piece as shown in the drawings. This gear wheel may be driven by a strap or belt applied to its periphery or it may have a crank T,  
80 affixed to it to enable it to be rotated by manual power and when put in revolution it will rotate the drill shaft with an increased speed. During the rotations of the drill shaft, the pawl mechanism will  
85 be put in action in such manner as to turn the ratchet gear and the tubular shaft and thus cause the drill shaft to be moved forward regularly and gradually in order that the drill may be fed into an article dur-  
90 ing the process of drilling the same.

V, is a stationary cammed post, its office being to raise the pawl M, out of action upon the ratchet *o*, just before such ratchet may reach the puppet *a*. 95

My invention differs very materially from anything set forth or described in Letters Patent of the United States numbered 5,116, and also from anything described in the patent hereinbefore mentioned as granted to me. 100

What I claim is—

1. The arrangement and application of



the support piece S, the slide rod I, the drill shaft and the pawl operating mechanism as specified, whereby by the said support piece not only the vibrating lever K, of the pawl, 5 but other mechanism and particularly an arbor B, and an internal gear Q, can be sustained and employed to advantage as explained.

2. I also claim the arrangement and ap-

plication of the cammed post V, or its equivalent, with respect to the puppet  $\alpha$ , the ratchet  $\phi$ , and pawl N, as described.

In testimony whereof I have hereunto set my signature.

GEO. C. TAFT.

Witnesses:

WM. H. TAFT,

E. J. WORCESTER.