

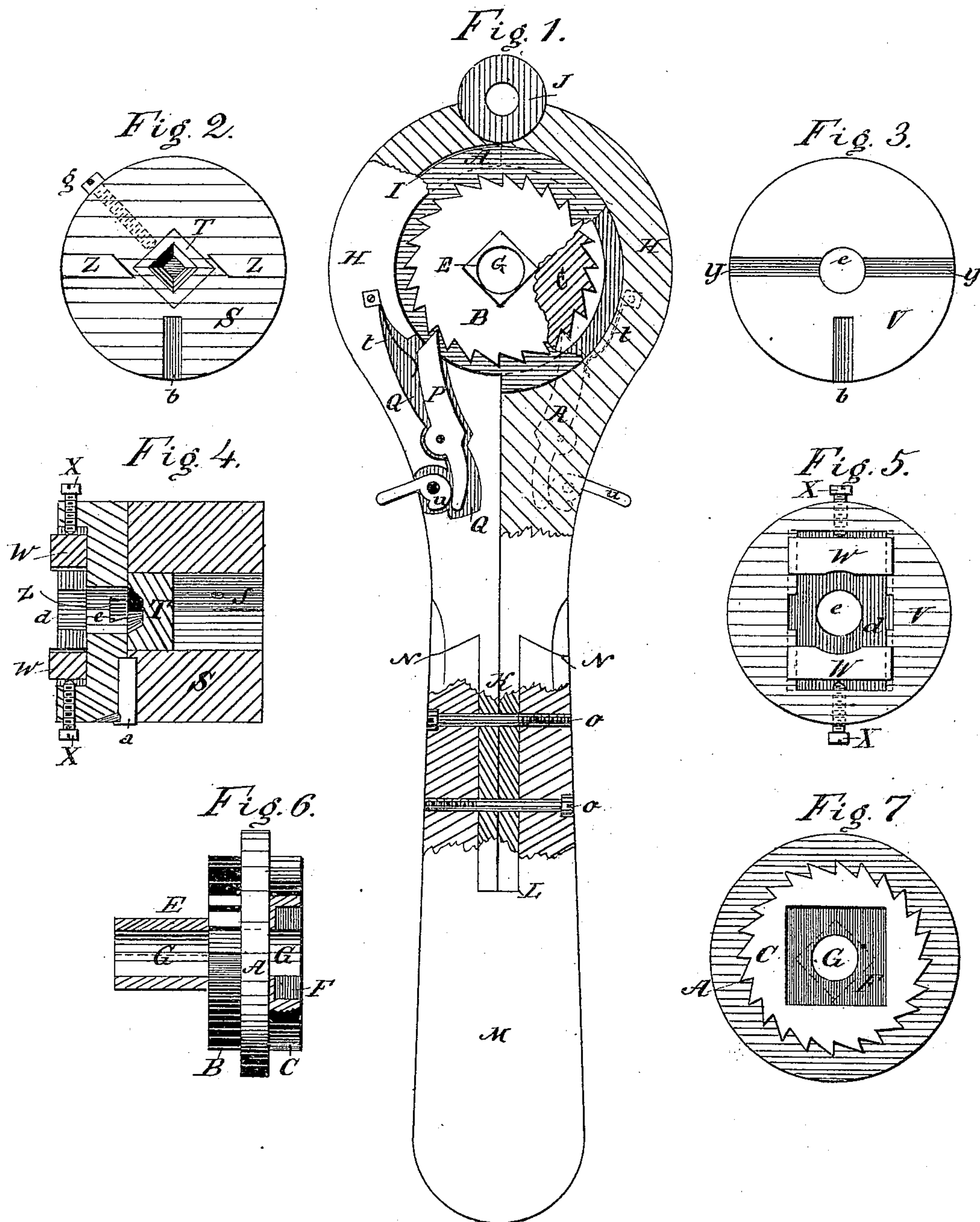
(No Model.)

2 Sheets—Sheet 1.

W. M. TURNER.
RATCHET DRILL.

No. 270,516.

Patented Jan. 9, 1883.



WITNESSES:

W. D. Beyer.
C. Burdick.

INVENTOR:

W. M. Turner

BY

Mum & Co

ATTORNEYS.

(No Model.)

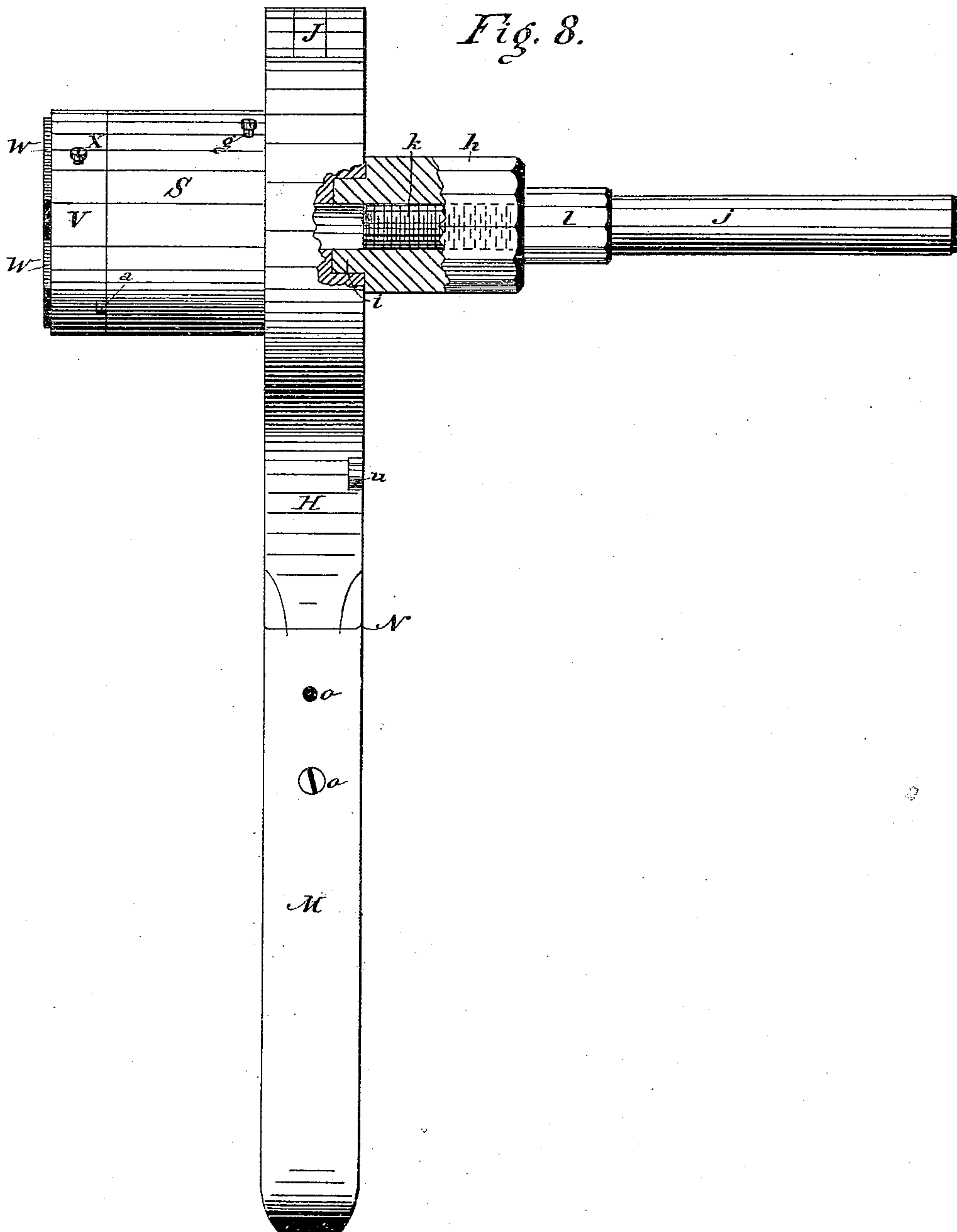
2 Sheets—Sheet 2.

W. M. TURNER.

RATCHET DRILL.

No. 270,516.

Patented Jan. 9, 1883.



WITNESSES:

Chas. Beyer
C. Sedgwick

INVENTOR:

W. M. Turner

BY

Miner & Co.

ATTORNEYS.

UNITED STATES PATENT OFFICE.

WILLIAM M. TURNER, OF PENSACOLA, FLORIDA.

RATCHET-DRILL.

SPECIFICATION forming part of Letters Patent No. 270,516, dated January 9, 1883.

Application filed April 29, 1882. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM M. TURNER, of Pensacola, in the county of Escambia and State of Florida, have invented a new and Improved Ratchet-Drill, of which the following is a full, clear, and exact description.

My invention consists of a screw-cutting attachment to a ratchet-drill; also, of a contrivance of the ratchet to work either right or left handed, for cutting right or left hand threads, and for drilling, boring, or turning screws in situations where the ordinary ratchet will not work; also, of a feed attachment for feeding the drill, and also of certain contrivances of the construction for the application of the several devices, as above stated, all as hereinafter described, reference being made to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a plan view of the ratchet-drill with some parts removed and some parts in section. Fig. 2 is a face view of the part of the socket-head for carrying the drill. Fig. 3 is a back view of the screw-cutting-die attachment. Fig. 4 is a longitudinal section of the drill-socket head and the screw-cutting device attached thereto. Fig. 5 is a face view of the screw-cutting-die attachment. Fig. 6 is partly a side view and partly a section of the ratchet-head. Fig. 7 is a face view of Fig. 6, and Fig. 8 is a side elevation of the tool with the screw-cutting device and the feeding device attached, a part of the latter being shown in section.

The ratchet-head consists of the disk A, with right-hand ratchet-hub B, left-hand ratchet-hub C, and square hub-extension E, projecting from ratchet-hub B, and provided with a tubular socket, G, said head having square socket F in the left-hand ratchet-hub C. The tubular bore G of the hub E extends entirely through the head A. This head is fitted in the eye of the two-part stock H, having an annular groove, I, for the disk A, and being jointed at J to open and close on the head, and also being fastened together by the confinement of the tongues K in the slot L of the one-part handle-section M of the stock, where the bevel-shoulders N and the fastening-bolts O afford substantial but at the same time read-

ily detachable connection of the two sections of the stock.

P is a lever-pawl in a recess, Q, of one side of the stock for working right-hand ratchet B, and having a spring, t, to engage it with the teeth of the ratchet, and a cam, u, to detach it from said teeth.

R is a pawl, similarly arranged on the other side of the stock, for working left-hand ratchet-hub C.

S is a socket-hub, having socket f for attachment to the ratchet-head by fitting on hub-extension E, to carry the socket T, of the usual inside depth and taper for the drill-shanks, which are held by the weight of the ratchet-wheel, and for the connection of the screw-cutting attachment consisting of the die-head V, dies W, and adjusting-screws X, and being connected to the face of the socket-hub S, Fig. 2, by its dovetail groove Y and the dovetail ribs Z of said socket-hub S, and it is fastened thereon by the key a, driven in the radial grooves b of the die-head and socket-head. The screw-dies are fitted in the die-socket d of the head V the same as in common die-stocks. The die-head has a hole, e, coincident with the hole G through the ratchet-head, to permit the screw-threaded rods to project through the tool when cutting long sections. The drill-shank socket T is fitted loosely in socket f and held by a set-screw, so that it can be readily dropped out when die-head V is to be attached, to allow the rods to be screw-threaded to extend into the ratchet-hub. Hub S is fastened on extension E by a set-screw, g. The feed attachment for feeding drills consists of the long nut h, having the square boss i to fit in the socket F of hub C, so as to be connected for the attachment of the drill center or spindle j, and said nut and spindle are screw-threaded at k, so that by the application of a wrench to the boss l of the center spindle, and thereby screwing it back from time to time the spindle will be screwed out of the nut and extended as the drill advances. Thus it will be seen that by making the drill-head with the right and left ratchets and with the extension E, also making the two-part section of the stock to receive the said head, also making the screw-cutting attachment, and also making the feed device, I provide a ratchet-tool capable of screw-

threading, also drilling or boring right and left, and it may also be used for tapping right or left, for the socket T may carry a tap as well as a drill, besides having an efficient feed device for drilling, boring, and also for starting the tap in tapping screw-threads.

When the tool is used for screw-cutting the center spindle and feed device *j k* will not be used.

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

15 1. The improved ratchet-head for ratchet-drills, consisting of disk A, right and left ratchets B C, and tubular hub-extension E, substantially as described.

2. The improved ratchet-head for ratchet-drills, consisting of disk A, right and left ratchets B C, and tubular hub-extension E of ratchet 20 B, with socket F in ratchet C, substantially as specified.

3. The improved stock for ratchet-drills, consisting of two-part section H, having joint J and tongues K, in combination with one-part 25 section M, having slot L, and the said parts being secured by bolts *o* and bevel-shoulders N, substantially as specified.

4. The combination of the ratchet-head A, B, C, and E, with ratchet-stock having two-part 30 section H, provided with groove I, and being

jointed at J, and fastened to one-part section M, substantially as specified.

5. The combination of ratchet-head, consisting of disk A and right and left ratchets B C, with a drill-stock having right-hand pawl P 35 and left-hand pawl R, substantially as specified.

6. The combination of socket-head S with the ratchet-head having hub-extension E, substantially as specified. 40

7. The combination of drill-shank socket T with socket-head S and the ratchet-head A B C, substantially as specified.

8. The combination, with a hub having socket F, of the nut *h*, having a square boss, *i*, fitting 45 said socket, and a spindle, *j*, end-threaded to work in said nut, as shown and described.

9. In a ratchet-drill, the center spindle, constructed with a feeding nut and screw and detachably connected to the ratchet-head by a 50 boss and socket, substantially as specified.

10. The combination of screw-cutting-die head V and dies W and socket-head S with the ratchet-head of a ratchet-drill, substantially as specified.

WILLIAM MASTEN TURNER.

Witnesses:

H. J. COBURGER,
M. A. VOORHIS.