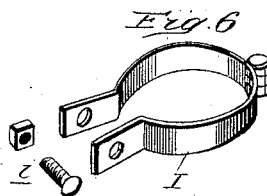
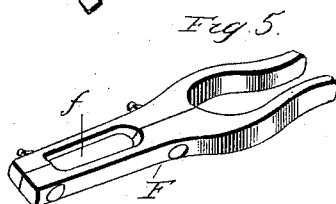
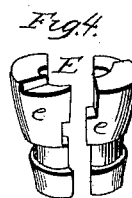
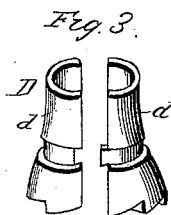
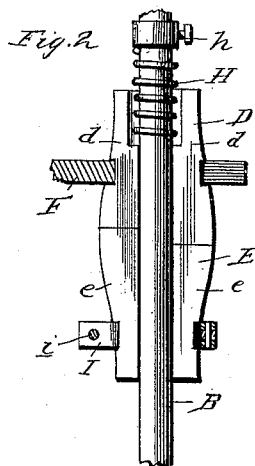
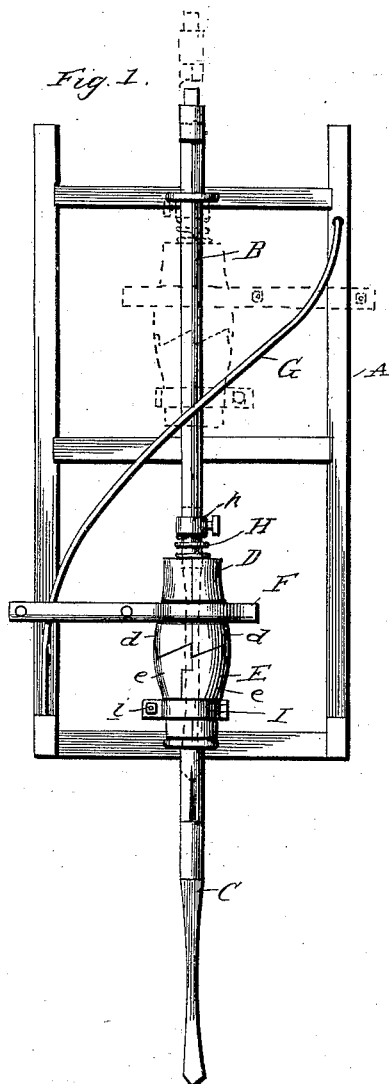


(No Model.)

S. R. PAYNE.
ATTACHMENT FOR DRILLING MACHINES.

No. 423,269.

Patented Mar. 11, 1890.



Witnesses
Wm. H. Hildner
Van Buren Hillyard.

Inventor
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By his Attorneys
R. S. Lacey

UNITED STATES PATENT OFFICE.

SAMUEL ROE PAYNE, OF ROME, TENNESSEE.

ATTACHMENT FOR DRILLING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 423,269, dated March 11, 1890.

Application filed June 7, 1889. Serial No. 313,487. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL ROE PAYNE, a citizen of the United States, residing at Rome, in the county of Smith and State of Tennessee, have invented certain new and useful Improvements in an Original Mechanical Appliance for Setting, Turning, and Mechanically Rotating Drill Bars or Ropes for Drilling-Machines; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to all drilling-machines which are designed to bore through strata of hard substances, such as rock and coal.

The object of the invention is a mechanism for automatically rotating the tool or the rod or rope to which the tool is attached simultaneously with the vertical movements of the said tool or rod or rope, which will be simple, efficient, and capable of being readily adjusted on the rod as the tool advances, and which can be quickly attached and detached from the rod or rope, as required.

The invention consists of the novel features, which will be hereinafter more fully described and claimed, and which are shown in the annexed drawings, in which—

Figure 1 is a front view of a drill embodying my invention, showing its operation by dotted lines. Fig. 2 is a detail vertical section, on an enlarged scale, of a portion of the drill-rod, showing the drill-rod-operating devices. Fig. 3 is a perspective view of the upper half of the clutch. Fig. 4 is a perspective view of the lower half. Fig. 5 is a perspective view of the operating-lever. Fig. 6 is a perspective view of the clamp for the halves of the lower part of the said clutch, and, as described, is to cover the application of said device to all bars, rods, ropes, or other machines used in boring perpendicularly, horizontally, or otherwise, or requiring rotary motion by mechanical adjustment.

The frame A is of ordinary construction, as is also the drill-rod B and the tool C, which

are operated by any well-known means and for which no claim is laid.

The devices for turning the rod B consist of the clutch D E, the operating-lever F, and the curved bar G. The clutch is composed of the upper half D and the lower half E, the latter being secured to the rod B and the former adapted to revolve thereon and have a slight vertical movement to permit the teeth on the opposing ends of the halves D and E to ride over one another when the rod B is rising and the lever F is being carried back to obtain a new hold prior to turning the rod B. The half D is yieldingly held down on the half E by the spring H, which is placed between it and the stop h on rod B. The upper end of the half D is recessed to receive the lower end of the spring H. Each half of the clutch D E is composed of two parts, which are fitted around the rod B and clamped together. The parts e e of the lower half E are held together and clamped to the rod B by the hinged clamp I, which is fitted in an annular groove in said half E, the ends of the clamp I being drawn together and held by the thumb-screw i. The parts d d of the upper half D are held together by the lever F, which is made in two parts and clamped around the parts d d. The slot f in the outer end of the lever F receives the curved bar G, which is fastened at its ends to the frame and extends obliquely across the said frame and curves substantially as shown. When the rod B is elevated, the lever F is moved back by bar G and the half-clutch D rides on the half-clutch E, and when the rod D descends the lever F is carried with it, and, riding on rod G, is moved from one side of the frame to the other, causing the rod B to turn as the halves D and E engage with one another.

From time to time it becomes necessary to move the clutch D E and the stop h upon the rod. This is easily accomplished by loosening clamp I and stop h and moving the clutch and stop to the required point and again retightening clamp I and stop h.

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

1. The combination, with the rod or rope B and the curved guide-bar G, of the clutch

D E, having each half made in parts which are fitted around the said rod or rope B, the half E being clamped to the said rod or rope, and the half D fitted thereon and adapted to turn relative to and with the half E, and the lever F, secured to the half D and slotted at its outer end to embrace the said rod G, substantially as described.

2. The combination, with the rope or rod B and the curved bar G, of the clutch D E, each half being composed of two parts, the clamp I, for securing the parts of the half E together and to the rod B, and the lever F, made in two parts and secured about the parts of the half D and the bar G, substantially as described.

3. The hereinbefore-described drilling-machine, comprising the frame, the curved bar G, the drill rod or rope, the clutch having its halves D and E made in two parts, the clamp I, for securing the parts of the half E together and to the rod or rope, the lever F, fastened about the parts of the half D and the rod G, the spring H, and the stop h, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

SAMUEL ROE PAYNE.

Witnesses:

WM. ARRINGTON,
THOMAS D. WOOTEN.