(No Model.) 2 Sheets—Sheet 1.

G. R. STETSON.

MACHINE FOR ROLLING TWIST DRILLS.

No. 344,754. Patented June 29, 1886.

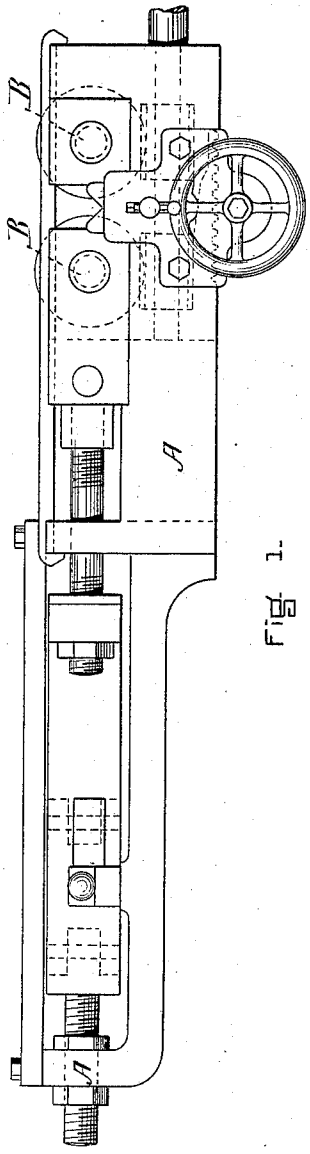


Fig. 1.

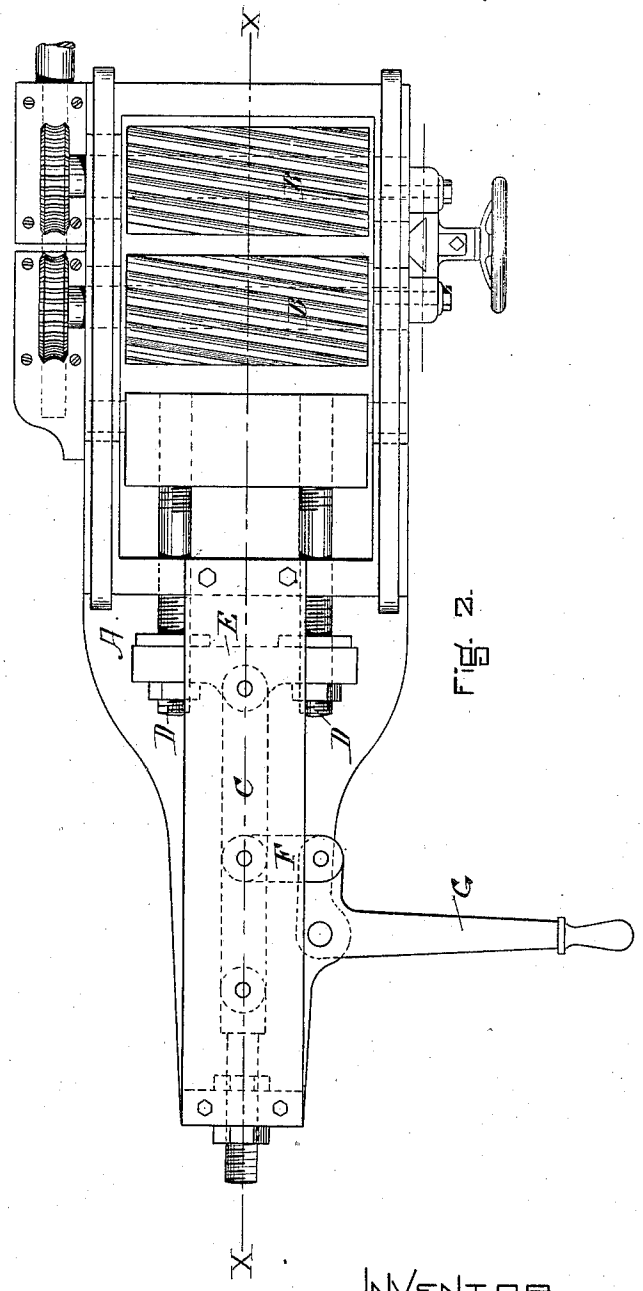


Fig. 2.

WITNESSES.

J. Henry Taylor.

James F. Bligh.

INVENTOR.

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by Alex. S. Browne

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(No Model.) 2 Sheets—Sheet 2.

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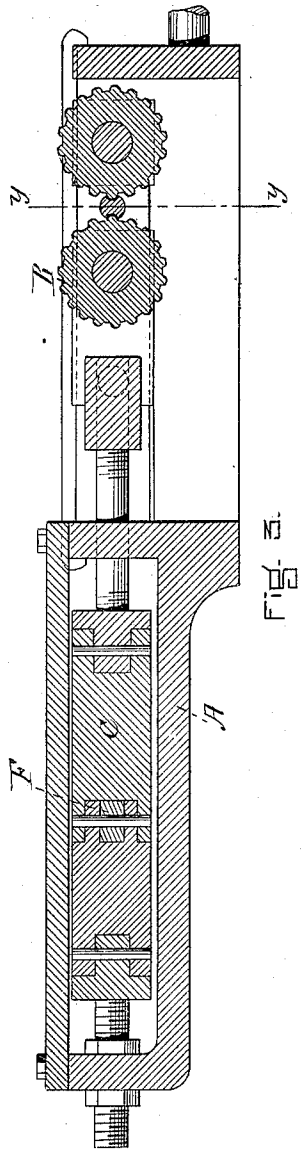


Fig. 3.

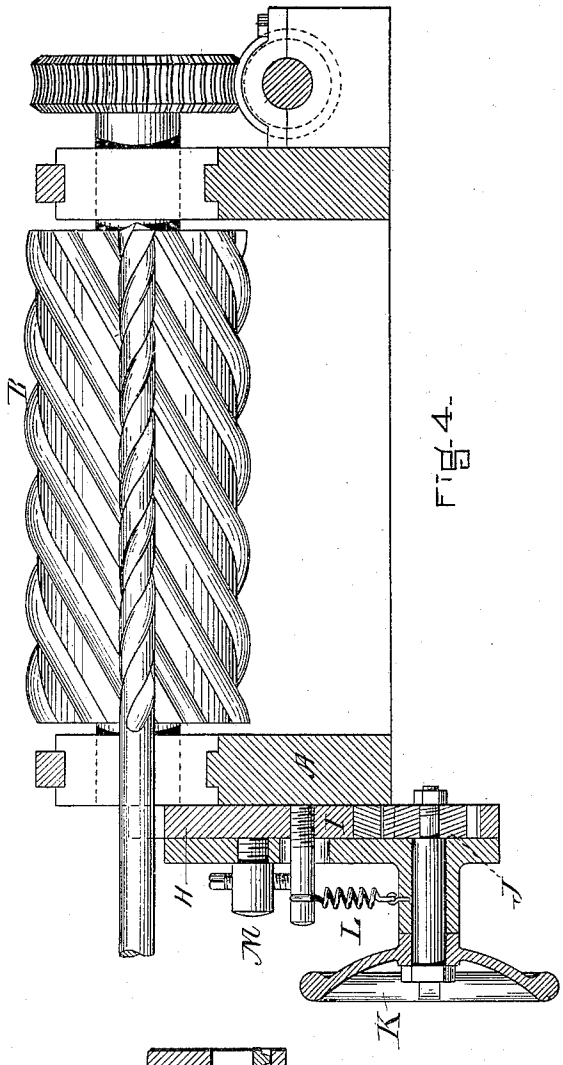


Fig. 4.

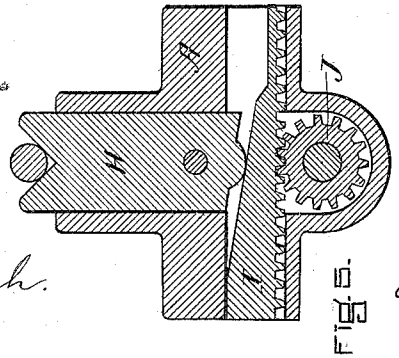


Fig. 5.

WITNESSES.

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UNITED STATES PATENT OFFICE.

GEORGE R. STETSON, OF NEW BEDFORD, MASSACHUSETTS, ASSIGNOR TO HIMSELF AND THE MORSE TWIST DRILL AND MACHINE COMPANY, OF SAME PLACE.

MACHINE FOR ROLLING TWIST-DRILLS.

SPECIFICATION forming part of Letters Patent No. 344,754, dated June 29, 1886.

Application filed May 19, 1886. Serial No. 202,619. (No model.)

To all whom it may concern:

Be it known that I, GEORGE R. STETSON, of New Bedford, in the county of Bristol and State of Massachusetts, a citizen of the United States, have invented certain new and useful Improvements in Machines for Rolling Twist-Drills, of which the following is a specification.

My present invention relates to twist-drill-rolling machines of the character shown in Letters Patent No. 302,600, granted to me July 29, 1884, and its object is to furnish improvements in the construction and mode of operation of such machinery. In the patent referred to, I described a drill-rolling machine, among the fundamental features of which were a pair of suitably-formed rolls, and mechanism for causing those rolls to come nearer together in the course of rolling the drill. The mechanism therein shown for producing this approach of the rolls consisted of a cam, the pitch of which predetermined the rate of approach of the rolls. I have since found that in performing certain sorts of work the positive and automatic motion of a cam for bringing the rolls together is undesirable, and I have accordingly improved the machine in this particular. I have also found it desirable to provide a rest or templet for the butt of the drill, whereby I may true up or straighten the same if it should be bent.

In the accompanying drawings, I have shown at Figure 1 a side elevation of a machine embodying my present improvements; in Fig. 2, a top plan view of the same; and at Fig. 3, a sectional view of Fig. 2 on its median line, X X. At Fig. 4 a transverse section of the same on the line Y Y of Fig. 3 is shown; and at Fig. 5 a detail view, on an enlarged scale, of a portion of the mechanism, as will be hereinafter described.

One feature of my present improvement consists in substituting for the cam, by which the approach of the rolls is produced automatically and in a predetermined manner, a device whereby the same object may be accomplished by the workman at such time and at such a degree as may be required. It often happens, especially when working upon a hot drill, that it is desirable to have a quick action of the devices whereby the rolls are brought together; and, furthermore, it is often necessary to be able to release the drill quickly from the action of the rolls in case its temperature should fall below the proper point for working.

In the accompanying drawings, A represents the bed of the machine, and B the rolls for rolling the drill. One of these rolls is mounted in movable bearings, as illustrated in my former patent, and to impart motion to these, in order to bring the rolls together, I provide, in connection with the movable bearings, a toggle, C, one part of which I connect with the bearing to be moved, and the other part with the frame of the machine or other convenient abutment. For the purpose of adjusting this connection, a screw and lock-nuts, as shown, will be found convenient; and, furthermore, for adjusting the travel of the movable bearings and the roll under the throw of the toggle, I find it convenient to employ a pair of screw-rods, D D, on which is fastened, by means of lock-nuts, the yoke or cross-piece E, to which the toggle is attached.

To operate the toggle quickly and powerfully, I provide a link, F, and hand-lever G. By means of this device the operative is enabled to bring the rolls quickly together and with great force, and also to separate them quickly whenever it is desirable.

As it sometimes happens that the butt of the blank which is being operated upon by the machine may be or may become bent or out of true, I have further improved my machine by providing an adjustable templet or guide, H, against which the butt of the drill may revolve in the process of the rolling, and so be trued up or kept straight. This templet I prefer to form and arrange as shown in Figs. 4 and 5, where it is represented as sliding vertically in ways formed upon the side of the machine, being raised by means of a rack-formed wedge, I, worked by a pinion, J, driven by the hand-wheel K. The motion of this wedge in one direction raises the templet to the desired height, and its retraction may con-

veniently be secured by means of a spring, L, connected with it, as shown at Fig. 4. The extent of upward motion of the templet may also be conveniently determined by an adjustable stop, M, shown in the same figure.

I claim—

1. In a drill-rolling machine provided with rolls B B of the character described, the combination, with one of the rolls having movable bearings, of mechanism, substantially as set forth, whereby the said roll may be brought up to or away from the drill at the will of the operator, all substantially as set forth, and for the purpose specified.

2. In a drill-rolling machine provided with rolls B B of the character described, the combination, with one of the rolls B, mounted in movable bearings, of a toggle, a link for operating the toggle, and a hand-lever for operating the link, substantially as set forth.

3. In a drill-rolling machine of the character described, the combination, with the rolls B B, of an adjustable templet, substantially as described, for truing or straightening the shank of the drill.

4. In a drill-rolling machine provided with rolls B B of the character described, the combination of the templet H, rack-formed wedge I, pinion J, wheel K, and spring L, connected with the templet for withdrawing it, all substantially as set forth, and for the purposes specified.

In testimony whereof I have hereunto subscribed my name this 14th day of May, A. D. 1886.

GEORGE R. STETSON.

Witnesses:
LEMUEL LE B. HOLMES,
ELIOT D. STETSON.