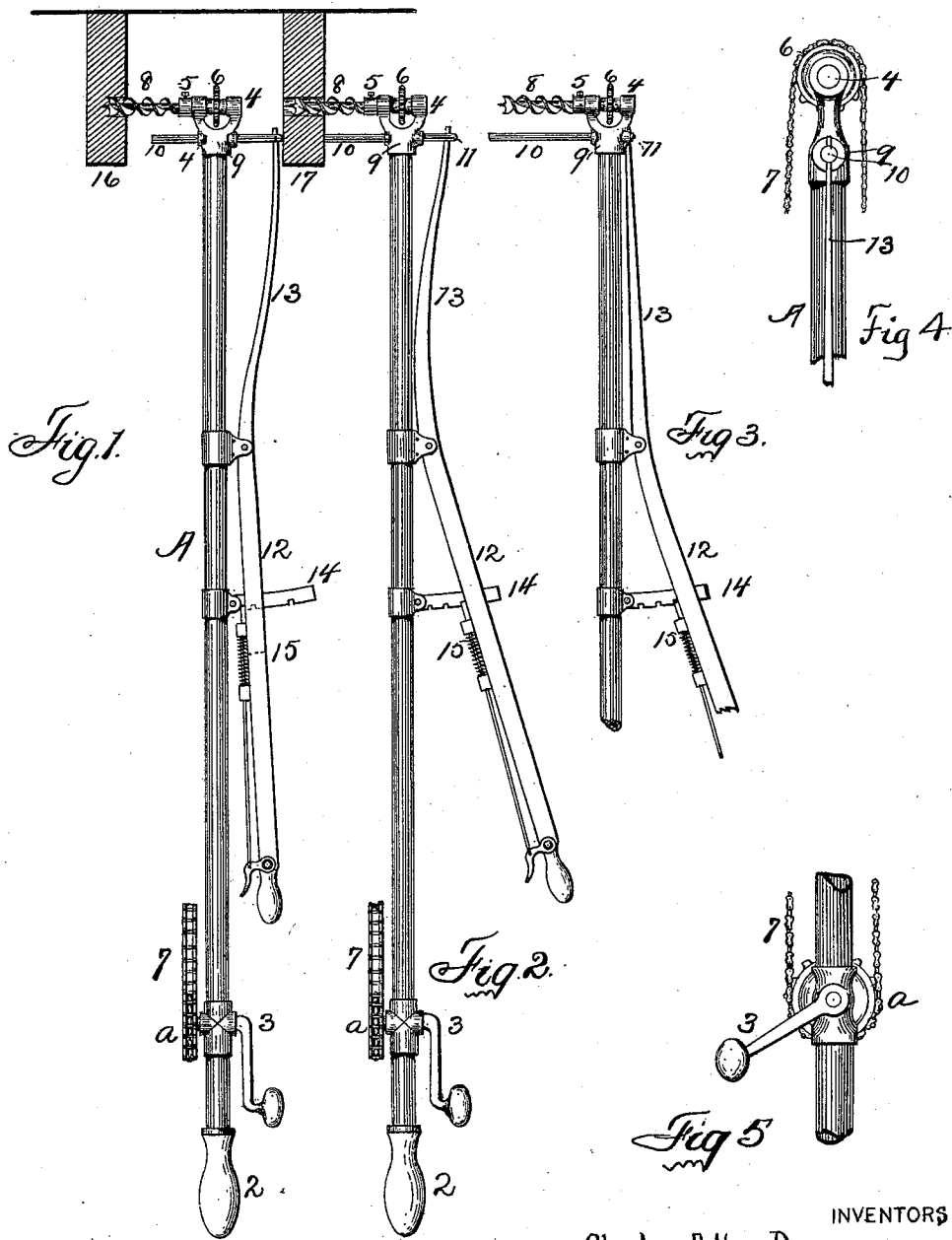


(No Model.)

C. E. VAN DUSEN & A. B. RÖVER.
BORING MACHINE.

No. 595,896.

Patented Dec. 21, 1897.



WITNESSES:
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UNITED STATES PATENT OFFICE.

CHARLES E. VAN DUSEN AND ADOLPH B. RÖVER, OF BINGHAMTON,
NEW YORK.

BORING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 595,896, dated December 21, 1897.

Application filed September 13, 1897. Serial No. 651,469. (No model.)

To all whom it may concern:

Be it known that we, CHARLES E. VAN DUSEN and ADOLPH B. RÖVER, of Binghamton, in the county of Broome, in the State of New York, have invented new and useful Improvements in Boring-Machines, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

Our invention relates to boring-machines, and particularly to those which are designed to be used in boring at an angle to the direction of the application of power.

Our object primarily is to provide a boring-machine to be used in boring lateral holes, comprising a body or handle, a head thereon, a shaft journaled therein and means to couple a bit or drill thereto, means to drive said bit, and a spring mechanism operating to set the point of the bit, to actuate a device for supporting the borer, and also to feed the bit or remove it.

This borer is adapted to many uses, of which only one is here described to illustrate the principle of its operation. It is constructed as follows, reference being had to the accompanying drawings, in which—

Figure 1 is a front elevation of the borer set in position to bore and supported for boring a hole through a floor-joist. Fig. 2 is a like view showing the hole bored and the borer in position for the withdrawal or retraction of the bit. Fig. 3 is a like view showing the bit withdrawn. Fig. 4 is a side elevation of the end farthest from the operator. Fig. 5 is a like view of the other end.

A is a suitable body provided with a suitable handle or hand-grip 2, a suitable journaled crank-shaft 3, and a sprocket or pulley thereon. A head 4 is secured to said body, and 5 is a bit-shaft suitably journaled therein, carrying a sprocket, pulley, or pinion 6, driven by a belt or chain 7, and 8 is a suitable bit or drill suitably mounted in or upon said shaft. At 9 is shown a suitable transverse guideway or aperture in which a suitable feed-bar 10 is mounted provided with a point 11, and is adapted to be freely reciprocated therein. A combined hand-lever 12 and spring 13 is suitably mounted upon said body, having the free end of said spring suitably connected to said

feed-bar 10. A suitable ratchet 14 is suitably mounted upon said body and suitably engaged by or connected to said hand-lever, and 15 is a suitable pawl mechanism to hold said lever at any point at which it is desired to set it.

In operation the point of the bit is placed at the place for the boring, as against a side of a joist 16. Then the hand-lever is operated to throw the point of the feed-bar against the other joint 17, and the swing of said lever is continued until a tension is produced upon the spring, as in Fig. 1. This sets the points of the bit and of the feed-bar into the timbers. Then applying power the bit is driven to bore a hole, and when it is finished by swinging said lever outward the point of the feed-bar is withdrawn and said bar forced through its seat until its end is brought against said joist 16, as in Fig. 2, and as this swing continues the bit is withdrawn from the hole bored, the parts then being in the position shown in Fig. 3. It will thus be seen that the feed-bar is actuated by the lever to set its own point and that of the bit, to support the machine, to feed the bit or aid in feeding it, and also retract or withdraw it, and that the machine is self-feeding.

The feed-bars can be varied in length, according to the place where the machine is to be used.

It will be seen that an operator can bore overhead joists or partition-timbers or in a corner or studding close to a floor or ceiling, and by boring such joists or studding successively can string electric wires or insert piping through them, the use of a ladder being unnecessary in such boring, which has heretofore been done by a ratchet mechanism operated from a ladder for overhead work. An operator can also use a bit for wood and a drill for boring metal.

Having described our invention, what we claim, and desire to secure by Letters Patent, is—

1. In a boring-machine, a body, a transverse bit-shaft, a bit thereon, and a reciprocating feed-bar parallel to said shaft, combined with a spring connected to said feed-bar, and means to produce a tension thereon to exert its force in one direction through said

feed-bar to feed said bit, and in the opposite direction to withdraw it.

2. In a boring-machine, a body, a bit projecting laterally therefrom, a bar parallel to it, a spring engaging with said bar, and means
5 to shift said spring to put tension on said bar one way to support said body, and bit, and in the opposite direction to retract said bit.

3. In a boring-machine, a body, a crank
10 and sprocket, a head, a transverse shaft and sprocket and a driving-chain, combined with

a bit upon said shaft, a sliding bar parallel to said shaft, and a lever connected to said bar to shift it in opposite directions.

In witness whereof we have hereunto set
15 our hands this 6th day of September, 1897.

CHARLES E. VAN DUSEN.
ADOLPH B. RÖVER.

In presence of—

C. W. SMITH,
HOWARD P. DENISON.