

(No Model.)

C. W. BOWDEN.
SCREW CUTTING MACHINE.

No. 343,102.

Patented June 1, 1886.

Fig. 1 -

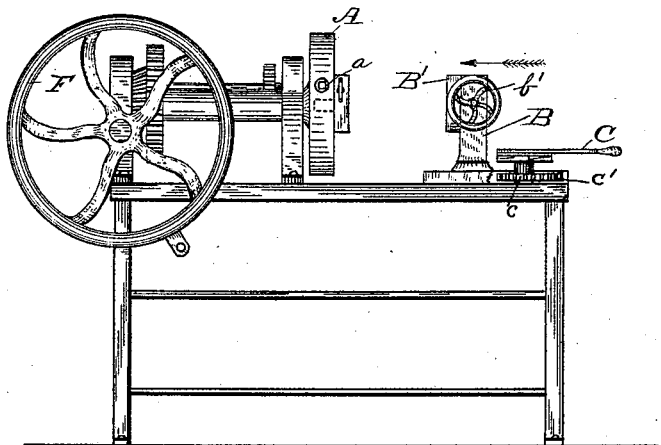
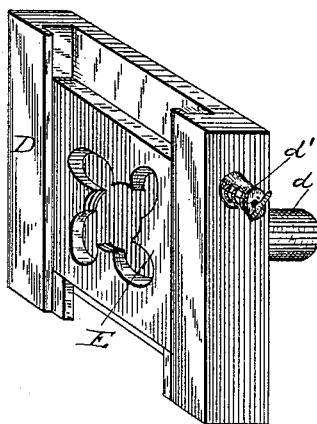


Fig. 2 -



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SCREW-CUTTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 343,102, dated June 1, 1886.

Application filed April 19, 1886. Serial No. 199,402. (No model.)

To all whom it may concern:

Be it known that I, CHARLES W. BOWDEN, a citizen of the United States, residing at Washington, in the District of Columbia, have
5 invented a certain new and useful Improvement in Screw-Cutting Machines; and I do hereby 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
10 it appertains to make and use the same.

My invention relates to an improvement in screw-cutting machinery, whereby, with no other holding device than the dies, a pipe or a bolt can be externally screw-threaded at both
15 ends at one operation, thus greatly facilitating and cheapening the manufacture of nipples and short bolts, and rendering useful material which has heretofore been comparatively valueless.

20 With screw-cutting machinery now commonly used it is impossible, owing to the construction of the mechanism for holding the article to be threaded, to at one operation cut screw-threads on both ends of a pipe or rod
25 which is less than about six inches in length. Therefore when a short nipple or a short bolt with screw-threads at both ends is wanted, it is necessary to first cut threads on one end of a long piece of pipe or rod, then cut the nip-
30 ple or bolt of the required length, screw the threaded end in a holder, secure the holder in the vise of the machine, and finally cut threads on the other end. This operation, aside from the time necessarily consumed in per-
35 forming it, is frequently beset with difficulties, for the nipple or bolt often becomes so firmly set in the holder as to require considerable labor to disengage it, and it is sometimes pressed so hard into the holder as to burst the
40 latter.

In all gas-fitters' establishments there is always a large accumulation of pieces of pipe too short to work in the screw-cutting machine, and these pieces have heretofore been useless
45 for any purposes save for scrap-iron. The same may be said of the accumulation of short pieces of rod-iron in machine-shops. Now by my invention the gas-fitter can utilize his short pieces of pipe in the manufacture of nipples,
50 an article which he must now buy at considerable cost from a manufacturer, and the ma-

chinist can convert his short pieces of rod-iron into bolts.

The invention consists in removably securing a screw-threading die to the face of the vise-
55 head of an ordinary screw-cutting machine in such position that it will be in axial line with the threading-die secured in the movable head of the machine.

In the accompanying drawings, Figure 1 is
60 an elevation, part broken away, of an ordinary screw-cutting machine with both dies in place. Fig. 2 is a perspective view of a die-box and die.

Referring to the drawings, A represents the
65 vise-head of the machine, provided inside with clamping-jaws, (not seen,) which are operated through a screw-rod, *a*, the outer end of which extends to the periphery of the vise-head, and is adapted to receive a wrench.
70

B is the longitudinally-movable head, to the front side of which is secured a box, B', for holding a screw-threading die. The cutter, which, however, has no relation to my invention, is located in this head, and is operated
75 by hand-wheel *b'*.

C represents a lever for operating a pinion, *c*, engaging with a cog-gear, *c'*, on the base of head B, whereby the head may be moved to the desired position.
80

D represents a die-box adapted to be secured in the vise. There is nothing peculiar in the construction of this box other than that it is provided on its rear side with a stem or holder, *d*, the usual spring-bolt for securing
85 the die in the box being shown at *d'*.

E is a screw-threading die.

It is to be understood that the essence of my invention lies in removably securing an externally-screw-threading die to the face of the
90 vise-head of a screw-cutting machine in an axial line with the fixed die on the movable head, and not simply in the specific means above described for the attachment of the die to the vise-head, for it will be readily apparent to
95 the mechanic that he can screw the box to the face of the vise-head in such position as to accurately center its contained die.

To make a short nipple, or to screw-thread both ends of a short bolt, box D is secured to
100 the face of vice-head A by inserting stem *d* into the head as shown in dotted lines in Fig.

1, and turning the jaws (not seen) down hard onto the stem, thus securing the box and its contained die firmly in place. A piece of pipe or rod-iron of the required length of the finished article is then secured in the dies by placing one end in the die attached to the vise-head, and then by means of lever C moving head B forward until the die in box B' is pressed hard against the other end of the pipe or rod. Then when the vise-head is revolved by wheel F and intermediate shafts and gearing the dies will take hold on the pipe or rod and commence cutting threads. At the start, should the revolving die obtain a firmer hold than the fixed die, the pipe or rod will revolve with it, and thus cause the fixed die to commence cutting. This operation will continue until the fixed die has the firmer hold, when the pipe or rod will be held stationary, and the revolving die will commence cutting, and so on until the ends of the article being operated on touch against the backs of the die-boxes, when the threading will cease. When the threads have been cut on both ends, the motion of the machine is reversed until one or both ends of the piece is or are unscrewed

from the die or dies. If one should not unscrew, we use the tongs, as usual.

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

1. In a screw-cutting machine, the combination, with a fixed screw-threading die on the longitudinally-movable head, of a screw-threading die secured to the face of the vise-head and adapted to revolve therewith, for the purpose clearly set forth. 35

2. The combination, with the longitudinally-movable head having a fixed screw-threading die, and the vise-head, of a die-box provided with a stem or holder adapted to be clamped and held by the jaws of the vise and to revolve with the vise-head, and a screw-threading die secured in said box, substantially as described, and for the purpose set forth. 45

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

CHARLES W. BOWDEN.

Witnesses:

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