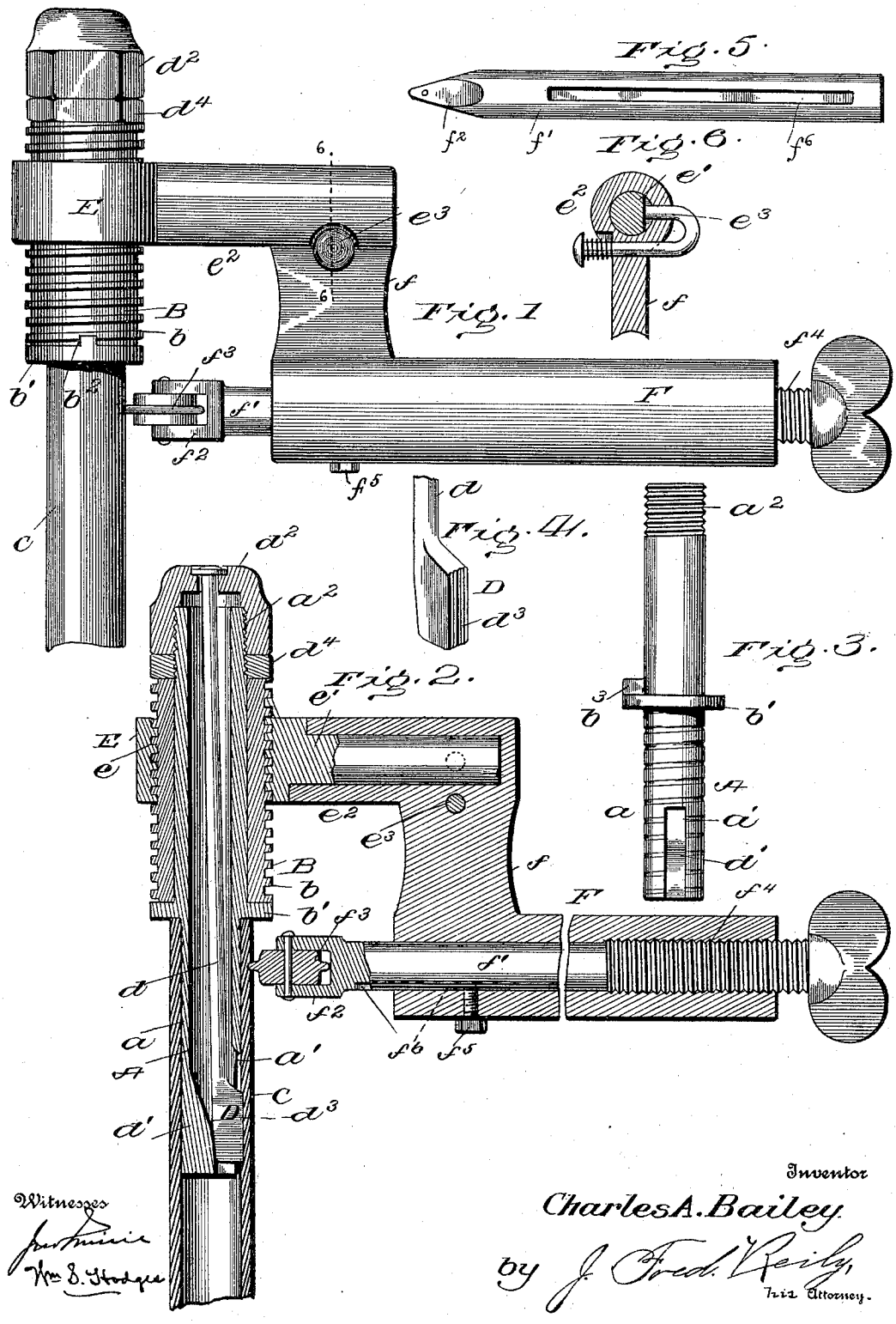
(No Model.)

C. A. BAILEY.

PIPE THREADING MACHINE.

No. 598,278. Patented Feb. 1, 1898.



Witnesses
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UNITED STATES PATENT OFFICE.

CHARLES A. BAILEY, OF CROMWELL, CONNECTICUT.

PIPE-THREADING MACHINE.

SPECIFICATION forming part of Letters Patent No. 598,278, dated February 1, 1898.

Application filed June 26, 1897. Serial No. 642,311. (No model.)

To all whom it may concern:

Be it known that I, CHARLES A. BAILEY, a citizen of the United States, residing at Cromwell, in the county of Middlesex and State of Connecticut, have invented certain new and useful Improvements in Pipe-Threading 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 contemplates certain new and useful improvements in machines for forming screw-threads; and it has for its object the production of a machine or device of this character which is specially adapted to form screw-threads on the ends of soft-metal pipes and the like. This object I accomplish by providing a mandrel or member adapted to fit within the pipe to be threaded, the same being held from turning therein by means of a suitable spreader, and upon said mandrel is keyed a threaded collar the threads of which correspond to the pitch of the threads it is desired to make in said pipe. A threaded sleeve or the like removably secured to a suitable handle engages the threads of said collar and is adapted to guide a swaging roller or cutter also mounted in said handle and adapted to engage the outer surface of the pipe to be threaded. Suitable means are provided for regulating the depth of the depression formed by said swaging roller or cutter. By screwing the threaded sleeve down upon its collar the swaging roller or cutter is made to pass around the exterior of the pipe, whereby the latter is provided with a thread similar in pitch to the threads of said collar.

The invention will be hereinafter fully set forth, and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a view in side elevation illustrating my invention. Fig. 2 is a longitudinal sectional view thereof. Fig. 3 is a detail view of the mandrel. Fig. 4 is a similar view of the spreader therefor; Fig. 5, a detail view of the holder for the swaging-roller. Fig. 6 is a detail sectional view on the line 6 6 of Fig. 1.

Referring to the drawings, A designates a hollow mandrel having a lower reduced portion a, provided with a slot or opening a', extending upward from its end. The upper end of said mandrel is screw-threaded at a^2. The upper enlarged portion of said mandrel is adapted to receive a hollow sleeve B, which is exteriorly screw-threaded at b and rests upon an annular flange b', formed on said mandrel. Said sleeve is provided with a cut-away portion or slot b^2, adapted to receive a lug or spline b^3, formed on said collar, whereby independent rotary movement of the parts is prevented. The mandrel A is prevented from turning in the pipe C by means of a spreader D, formed on one end of a rod d, extended through said mandrel and adapted to engage a cam or the like d', formed in the slotted end a'. On the upper end of rod d is swiveled a nut d^2, adapted to engage the thread a^2, whereby the extent of engagement of the corrugated surface d^3 of the spreader D with the inner surface of the pipe C may be regulated. The sleeve B is held in position by a nut d^4, also working on thread a^2 between said sleeve and said nut d^2.

E designates a collar having an internal screw-thread e engaging the threaded sleeve B, the same having a shank e', which is removably held to a handle e^2 by means of a spring-catch e^3. To said handle is connected a barrel or member F by means of a web or the like f, and in said barrel or member is located a rod f', having its outer end forked at f^2 and adapted to receive the trunnions of a swaging-roll f^3, said rod being longitudinally adjustable by means of a screw f^4, working in a threaded portion of said barrel or member and engaging the end of said rod. The latter is prevented from rotating by means of a pin f^5, working in a slot f^6 thereof.

In practice the mandrel is inserted into the end of the pipe to be operated upon and secured therein by means of the spreader D, the sleeve B having been first positioned and secured in place by means of its nut d^4. Upon then securing the handle e^2 to the collar E the swaging-roll f^3 is brought into engagement with the outer surface of the pipe. The handle is then moved in such manner as to cause the collar thereof to rotate on the sleeve B, whereupon said swaging-roll will swage a

thread in said pipe of a pitch corresponding to the pitch of the thread on said sleeve. It will be noted that the swaging-roll is provided with an annular rib or enlargement by means of which the thread is impressed rather than cut into the pipe. When desired, however, a roll having a sharp cutting edge or any other style of cutting-tool may be employed in lieu of the form just referred to. It has also been found to be advantageous to employ a mandrel having impressions corresponding to the thread to be formed when the pipe to be operated upon is very thin. This is to prevent the metal from breaking. It is obvious also that any number of interchangeable sleeves B may be employed, according to the pitch or number of threads desired to be formed, and sleeves having left-hand threads may be substituted for those having right, when desired.

The advantages of my invention are apparent from the foregoing, and it will be particularly noted that the device is exceedingly simple and not liable to readily get out of order or become deranged.

I claim as my invention—

1. The herein-described machine for forming screw-threads, comprising a mandrel, a threaded sleeve secured thereon, a threaded collar engaging said sleeve, and a swaging roll or cutter guided by said collar and adapted to engage the periphery of a pipe, substantially as set forth.

2. The herein-described machine for forming screw-threads, comprising a mandrel, means for securing the same to a pipe, a threaded sleeve removably secured on said mandrel, a threaded collar engaging said sleeve, and a swaging roll or cutter guided by said collar and adapted to engage the periphery of a pipe, substantially as set forth.

3. The herein-described machine for forming screw-threads; comprising a mandrel having an annular flange thereon, a threaded sleeve adapted to rest on said flange, means for preventing the rotation of said sleeve, a threaded collar engaging said sleeve, and a swaging roll or cutter guided by said collar and adapted to engage the periphery of a pipe, substantially as set forth.

4. The herein-described machine for forming screw-threads, comprising a hollow mandrel, a spreader working therein, a removable sleeve secured to said mandrel, a threaded collar working on said sleeve, and a swaging roll or cutter guided by said collar and adapted to engage the periphery of a pipe, substantially as set forth.

5. The herein-described machine for forming screw-threads, comprising a hollow mandrel having an upper threaded end, a nut working on said threaded end, a rod swiveled to said nut and projected through said mandrel, said rod having a spreader on its lower end, a removable sleeve secured to said mandrel, said sleeve having an exterior screw-thread, a threaded collar engaging said sleeve, and a swaging roll or cutter guided by said collar and adapted to engage the periphery of a pipe, substantially as set forth.

6. The herein-described machine for forming screw-threads, comprising a hollow mandrel having an upper threaded end and a lower slotted end, a cam located in said slotted end, a spreader projected through said mandrel, a nut working on said threaded end and adapted to move said spreader in engagement with said cam, a threaded sleeve removably secured to said mandrel, a threaded collar working thereon, and a swaging roll or cutter guided by said collar and adapted to engage the periphery of a pipe, substantially as set forth.

7. The herein-described machine for forming screw-threads, comprising a mandrel, a threaded sleeve secured thereon, a threaded collar engaging said sleeve, a handle removably secured to said collar, and an adjustable swaging roll or cutter carried by said handle and adapted to engage the periphery of a pipe, substantially as set forth.

8. The herein-described machine for forming screw-threads, comprising a mandrel, a threaded sleeve secured thereon, a threaded collar engaging said sleeve, a handle secured to said collar and carrying a barrel or cylinder, and a rod adjustable longitudinally in said barrel or cylinder and carrying a swaging roll or cutter adapted to engage the periphery of a pipe, substantially as set forth.

9. The herein-described machine for forming screw-threads, comprising a mandrel, a threaded sleeve secured on said mandrel, a threaded collar engaging said sleeve, a handle secured to said collar and carrying a barrel or cylinder, a rod carried by said barrel or cylinder and having a forked end, a swaging roll or cutter mounted in said end having an annular rib or flange, and means for adjusting said rod longitudinally, substantially as set forth.

10. The herein-described machine for forming screw-threads, comprising a mandrel, a threaded sleeve secured thereon, a threaded collar engaging said sleeve, a handle removably secured to said collar and carrying a barrel or cylinder having its outer end interiorly screw-threaded, a rod carried by said cylinder having a swaging roll or cutter mounted in one end thereof, a screw working in said threaded end of said barrel or cylinder and adapted to adjust said rod longitudinally, and means for preventing rotary movement of said rod, substantially as set forth.

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

CHAS. A. BAILEY.

Witnesses:

THOS. W. BEAUMONT,

ARTHUR BOARDMAN.