

(No Model.)

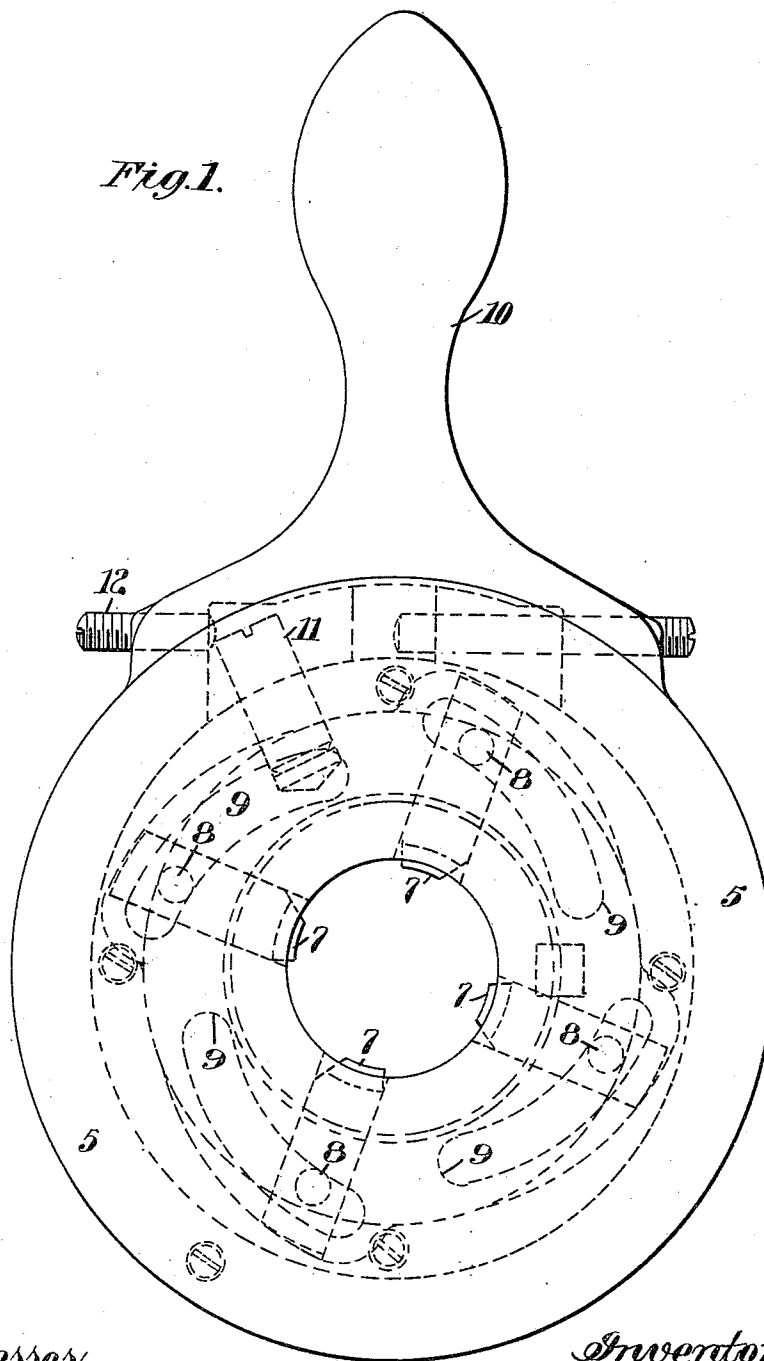
2 Sheets—Sheet 1.

C. L. LIBBY.
ATTACHMENT FOR TURRET LATHES.

No. 443,775.

Patented Dec. 30, 1890.

Fig. 1.



Witnesses
A. J. Tamm
W. J. Farmer

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J. H. Hubbard

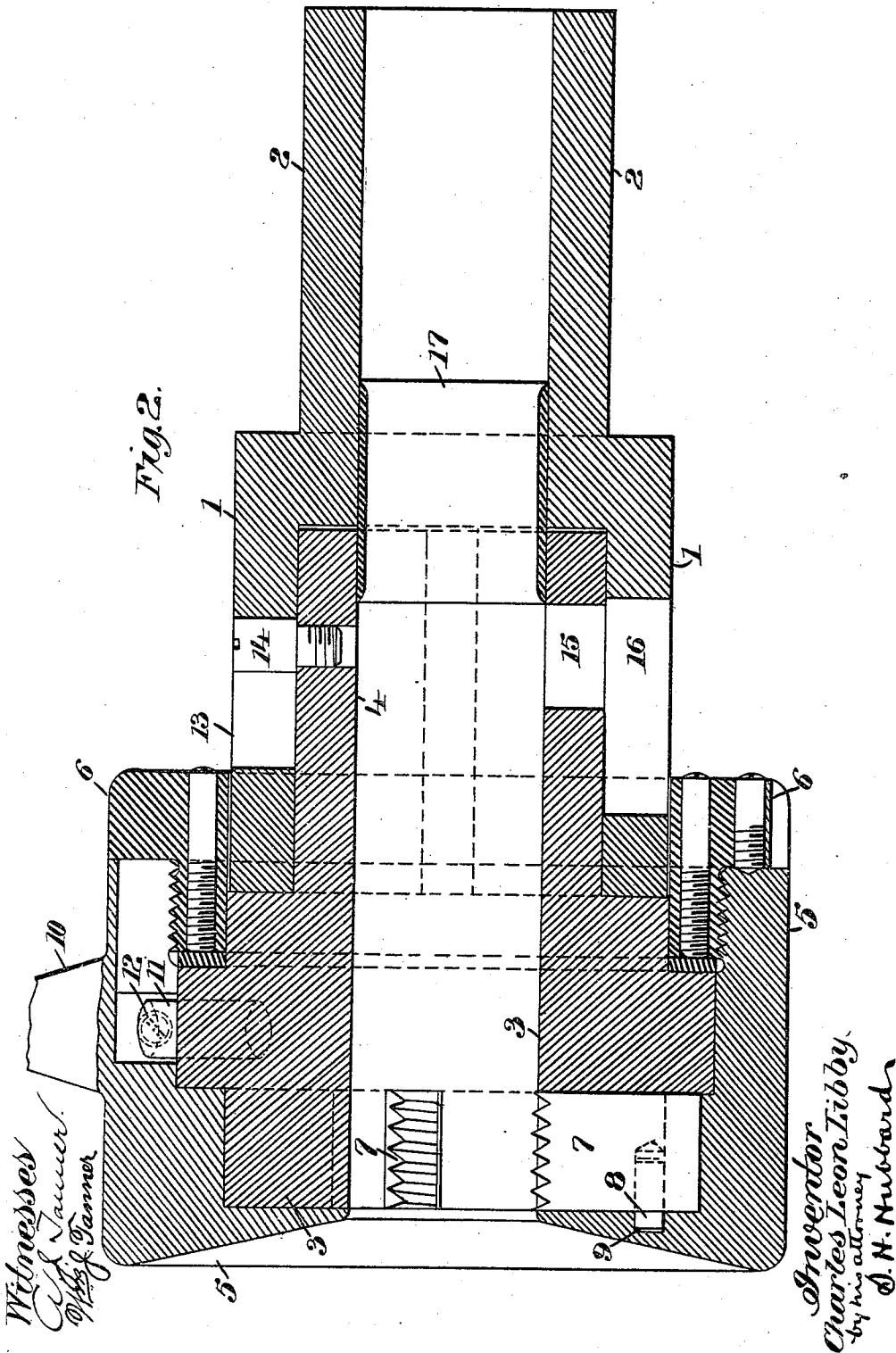
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UNITED STATES PATENT OFFICE.

CHARLES LEON. LIBBY, OF BRIDGEPORT, CONNECTICUT, ASSIGNOR TO
EDWARD P. BULLARD, OF SAME PLACE.

ATTACHMENT FOR TURRET-LATHES.

SPECIFICATION forming part of Letters Patent No. 443,775, dated December 30, 1890.

Application filed August 18, 1890. Serial No. 362,191. (No model.)

To all whom it may concern:

Be it known that I, CHARLES LEON. LIBBY, a citizen of the United States, residing at Bridgeport, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Turret-Lathes; 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 it appertains to make and use the same.

This invention relates to certain improvements in turret-head lathes, and has for its object to furnish a screw-threading attachment for use in connection with such machine which shall be simple in its construction and which shall obviate the necessity of moving the turret during the screw-threading operation; and with these ends in view my invention consists in the construction and combination of elements hereinafter to be fully and in detail explained, and then recited in the claims.

In order that those skilled in the art to which my invention appertains may fully understand its construction and method of operation, I will describe the same in detail, reference being had to the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is an end elevation of my device, and Fig. 2 a central longitudinal vertical section.

Like numerals denote the same parts in both the figures.

1 represents an arbor, preferably in the form of a hollow sleeve, whose rear end, as at 2, is reduced and is adapted to be inserted in the turret of an ordinary turret-lathe, and there secured in any suitable or usual manner.

3 is a head, cylindric in form as to its rear end, denoted by 4, which latter part fits and is adapted to slide longitudinally in the front end of the sleeve 1.

5 is a hollow casing, which fits over the head from the forward end of the latter, and is secured thereon by means of a ring 6 at the rear of the casing. The head, which is hollow, as seen in Fig. 2, carries therein a plurality of screw-threading dies 7, each of which is provided, as seen in Fig. 2, with an out-

wardly-projecting pin 8. In the inner surface of the outer end of the casing are formed a plurality of cam-grooves 9. (See dotted lines, Fig. 1.) Each groove accommodates one of the pins, and therefore it is, as will be readily understood from Fig. 1, that by turning the casing 5 about the head 3 by means of the handle 10 the said dies may be projected inward to their operative position or withdrawn into their seats in the head.

The cam-grooves just referred to are preferably of such shape as to lock the dies when the latter are in their inward positions. As this is common and usual, it does not seem to require any detailed explanation.

Immediately beneath the handle 10 the casing is recessed, as shown in sectional Fig. 2, and in dotted lines in Fig. 1. A stop 11, secured on the head, projects into this recess, and screws 12, projected inward through the casing into the recess, limit the axial movement which said casing may have about the head. By changing the adjustment of the screws the amount of movement of the dies in their seats may be controlled and varied. The forward end of the sleeve, as seen in Fig. 2, is slotted longitudinally, the slot being denoted by 13. In this slot a screw 14 upon the diminished rear end of the head has a bearing in such manner that the head and the parts carried thereby are connected to the sleeve so that they may move longitudinally relative to said sleeve for a limited distance—say for an inch or two inches. Immediately below the screw 14 the head is provided with an opening 15, through which chips may escape, and the forward end of the sleeve has an opening 16, which is large enough so that the whole opening 15 is in no manner obstructed without reference to the relative positions of the head and sleeve. From the rear end of the head there projects into the bore of the sleeve a thin sleeve 17, which travels with the head, and whose function is to prevent chips or other obstructions from entering the sliding joint between the sleeve and head.

In the operation of my machine, when it is desired to screw-thread the extremity of a piece of work which, as is usual in turret-lathes, is held and rotated in a suitable chuck,

the turret is first moved up so that the work to be operated upon is introduced into the head within the field of the threading-dies. At this time the head should be in the position relative to the sleeve 1 which is shown at Fig. 2. When the work enters between the dies, it would of course be necessary to permit the whole turret to move forward as the threading progressed, or to move said turret forward were it not for the sliding connection between the head and sleeve heretofore described. This, however, permits the head, which as compared with the whole turret is relatively light, to be drawn forward as the threading progresses without any movement of the turret. As soon as the threading is completed the operator withdraws the dies by means of the handle, as heretofore described.

20 In addition to the advantage arising from the independent movement of the head, the operator may, by observing the position of the screw 14 in the slot 13, determine the precise amount of threading which has been accomplished, and this may be done with great accuracy if the edge of the slot be graduated and a suitable mark or point made upon the screw.

I claim—

- 30 1. In a machine of the character described, the combination, with the turret or other suitable support, of a hollow arbor or sleeve having means of attachment to the turret, a head

arranged upon said arbor and movable longitudinally thereon, and suitable threading mechanism carried by said head. 35

2. In a machine of the character described, the combination, with the arbor having means of attachment to the turret, of the head having screw-threaded dies and carried by said arbor, and a slip-joint and stop arranged between said head and arbor, whereby the former may have a longitudinal movement upon the latter. 40

3. In a machine of the character described, the combination, with the arbor, of the head mounted thereon and having free movement along the same within certain limits, suitable dies carried by said head and radially movable therein, and a casing supported upon said head and having operative engagement with the dies. 45

4. In a machine of the character described, the combination, with a hollow arbor provided with the slot 13, of the head carrying the threading mechanism, and the screw 14, projecting within said slot and adapted to limit the movement of the head relative to said arbor. 55

In testimony whereof I affix my signature in presence of two witnesses. 60

CHARLES LEON. LIBBY.

Witnesses:

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WM. J. TANNER.