

(No Model.)

W. L. CLOUSE.
STOP MOTION MECHANISM.

No. 447,557.

Patented Mar. 3, 1891.

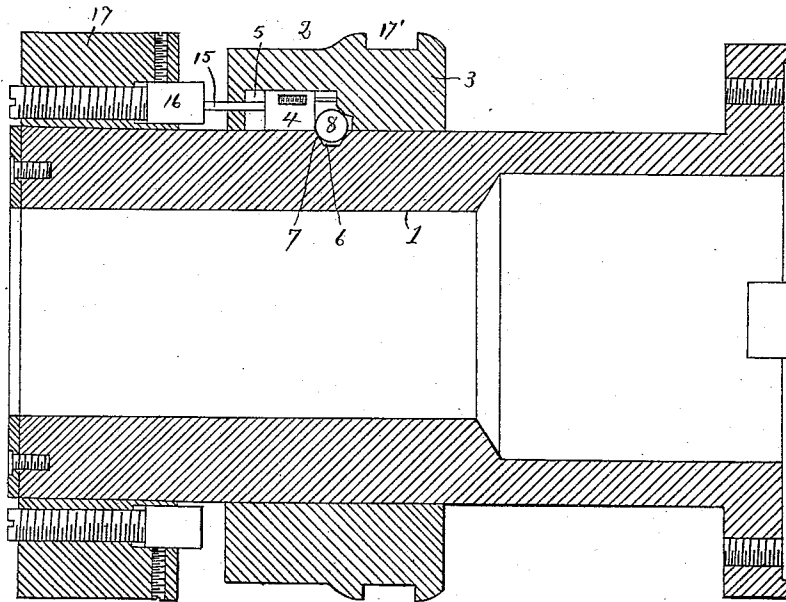


Fig. 1

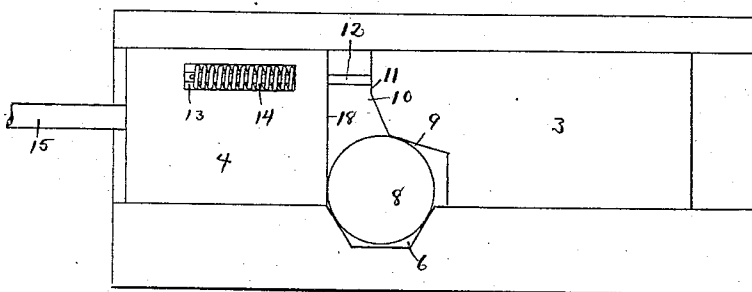


Fig. 2

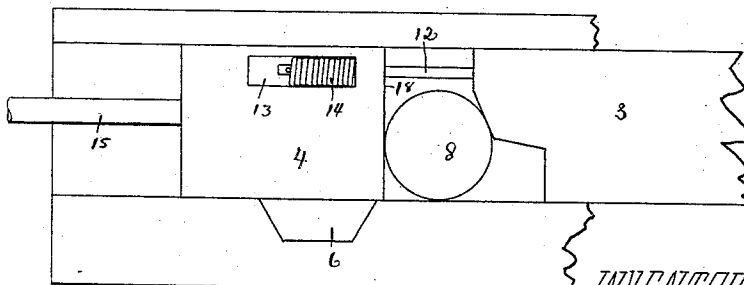


Fig. 3

WITNESSES

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WILLIAM L. CLOUSE, OF TIFFIN, OHIO, ASSIGNOR OF ONE-HALF TO
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STOP-MOTION MECHANISM.

SPECIFICATION forming part of Letters Patent No. 447,557, dated March 3, 1891.

Application filed July 14, 1890. Serial No. 358,666. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM L. CLOUSE, of Tiffin, in the county of Seneca and State of Ohio, have invented certain new and useful
5 Improvements in a Stop-Motion Mechanism; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use
10 the same, reference being had to the accompanying drawings, and to the numerals of reference marked thereon, which form part of this specification.

This invention relates to a stop-motion or
15 locking mechanism adapted, among other uses, to be employed upon open-die screw-threading heads, and has for its object to provide a more simple locking mechanism for the above purpose than has heretofore been constructed.

20 A further object is to provide a stop-motion mechanism which will lock the dies rigidly in place against back-pressure when being used.

A still further object is to provide a stop-motion mechanism in which the locked member
25 will be under perfect control of the locking member.

A final object is to provide a stop-motion mechanism in which all lost motion will be taken up and the greatest power obtained at
30 the point of locking.

With these objects in view the invention consists in the novel construction and combination of parts of a stop-motion mechanism, as will be hereinafter fully described and
35 claimed.

In the accompanying drawings, forming part of this specification, and in which like numerals of reference indicate corresponding parts, I have illustrated my invention as applied to an open-die screw-threading head, although the same may be applied to other devices without in the least departing from the spirit thereof.
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In the drawings, Figure 1 is a vertical longitudinal sectional view of an open-die-threading head, showing my invention applied thereto. Fig. 2 is a side elevation of the device detached from the head, showing the parts in their closed position; and Fig. 3 is a
45 similar view showing the parts closed.

Referring to the drawings, 1 designates the barrel of the die-head, upon which is mounted the shipper-collar 2, consisting of two parts—the collar 3 proper and a collar 4, fitted within a circumferential groove 5, formed in the under surface of the collar 3. The barrel 1, on
55 which the collars 3 and 4 slide, is provided with a recess or recesses 6, having inclined walls 7, and in this recess rests a locking device consisting of a cylinder or ball 8, which
60 is of a size somewhat larger than the recess, so that when resting therein a line drawn through its diameter will be above the plane of the surface of the barrel, as will be clearly seen by reference to Fig. 2. One of the end
65 walls bounding the groove 5 is provided with inclined surfaces 9 and 10 and with a vertical surface 11. When the ball or cylinder 8 is in the recess 6, the surface 9 rests over the top of the same, and thus holds it firmly in
70 place, as shown in Fig. 2; but when the ball is out of the recess, or in the position shown in Fig. 3, the surface 10 bears against it, so that when the collar is actuated to resume its normal or closed position the surface just referred to bears against the ball or cylinder
75 and causes it to revolve, whereby friction and consequent wear of the barrel will be largely obviated. The two collars are connected by means of a rod 12, one end of which is rigidly
80 secured to the collar 3, while the opposite end works in a recess 13, formed in the collar 4, and carries a spring 14, adapted to exert a tension the reverse of the opening movement of the ring 3, whereby the latter will be caused
85 automatically to bear against the collar 4 when the two are in their closed or locked position.

To the inner end of the collar 4 is secured a rod 15, which is also secured to the adjusting-screw 16 of the ring 17, which operates and controls the dies, so that any impact from the ring 17 is transmitted directly to the collar 4. As the dies do not form any part of this invention, and as their operation and
90 construction are well understood, a detailed description of them is not thought necessary.

Having thus fully described my invention, I will explain the manner of its operation. When it is desired to insert a pipe or rod be-
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tween the dies for the purpose of cutting threads thereon, a shipping-lever, (not shown,) which engages the recesses 17' in the collar 3, is operated, thus moving the said collar back, and with it the ring 17, through the medium of the rod 15, thus opening the dies. In this movement the vertical wall 18 of the collar 4 contacts with the cylinder or ball and lifts it out of the recess and allows it to roll back into the position shown in Fig. 3, the spring 14 allowing of the two collars being moved apart, so as to admit of the cylinder resting between the same, as shown in the figure above referred to. The material is then inserted between the dies and the shipping-lever again operated to force the collar 3 back to its closed position, which movement causes the inclined surface 10 to revolve the cylinder, and thus aid the parts in moving freely. As soon as the cylinder has reached the recess 6 it drops therein, and the inclined surface 9, by means of the spring 14, operates to lock it in place. When the die-head is operated, all impact therefrom is transmitted through the rod 15 to the collar 4, and as the latter bears directly against the cylinder or ball it will be readily seen that a solid backing is formed for the die-head, which effectually prevents the dies having any backlash or movement. Although I have shown but one locking device applied to the die-head, I would distinctly have it understood that I do not limit myself to that number, but may employ as many as may be found desirable or necessary. Moreover, I do not limit its use to die-heads alone, but may employ it for various other mechanical devices—as, for instance, with clutches.

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

1. In a stop-motion device, the combination of a stationary portion having a recess there-

in, a locking device adapted to engage the said recess, and movable portions adapted to move the said device into and out of engagement with the said recess.

2. In a stop-motion device, the combination of a stationary portion having a recess therein, a cylinder or its equivalent adapted to engage the said recess, and movable portions adapted to move the cylinder into and out of engagement with the said recess.

3. In a stop-motion device, the combination of a stationary portion having a recess therein, a cylinder adapted to engage the said recess, and connected movable portions, one of which is formed with an irregular surface adapted to lock the said device in the recess.

4. In a stop-motion device, the combination of a stationary portion having a recess therein, a cylinder adapted to engage the said recess, and movable spring-connected portions adapted to move the cylinder into and out of engagement with the said recess.

5. In a stop-motion device, the combination of a stationary portion having a recess therein, a cylinder adapted to engage the said recess, and movable portions, one of which is adapted to move the cylinder out of the recess and the other to move it into and lock it in the recess.

6. In a stop-motion device, the combination of a stationary portion having a recess therein, a cylinder adapted to engage the said recess, and movable spring-connected portions, one of which is adapted to move the cylinder out of the recess and the other to move it into and lock it in the recess.

In testimony that I claim the foregoing as my own I hereby affix my signature in presence of two witnesses.

WILLIAM L. CLOUSE.

Witnesses:

FRANK MIZEN,
ROBERT LYSLE.