(No Model.) 2 Sheets—Sheet 1.

C. SWAN.

TARGET TRAP.

No. 424,834 Patented Apr. 1, 1890.

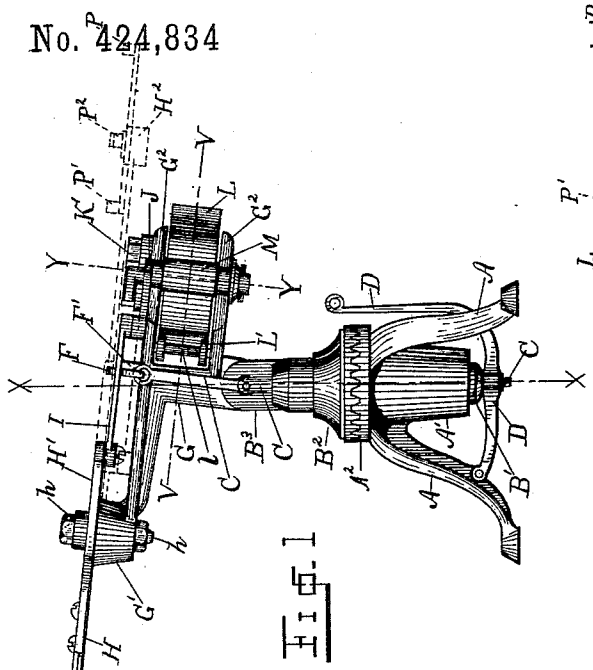


Fig. 1

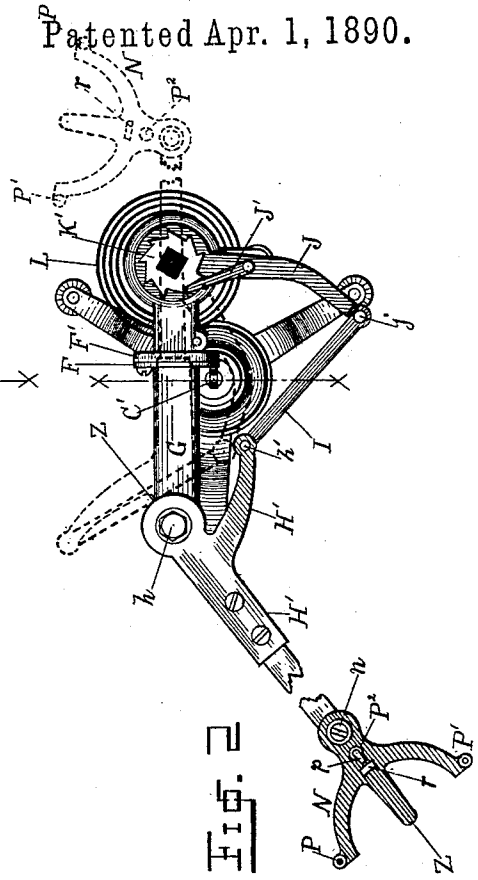


Fig. 2

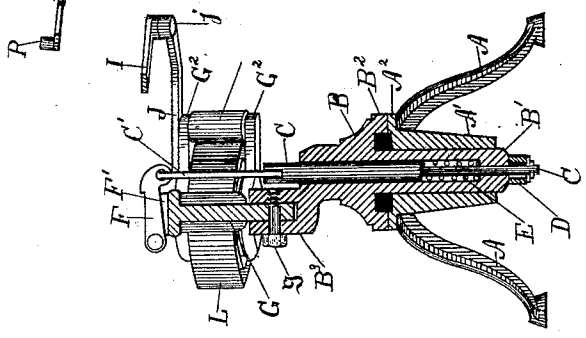


Fig. 3

Witnesses

S. D. Dobbins.

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Inventor

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(No Model.) 2 Sheets—Sheet 2.

C. SWAN.

TARGET TRAP.

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Fig. 4

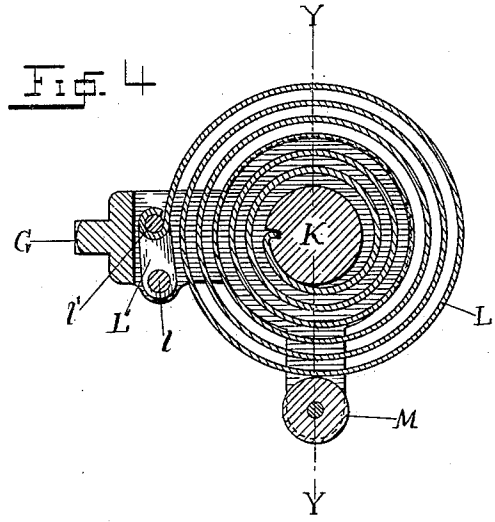


Fig. 5

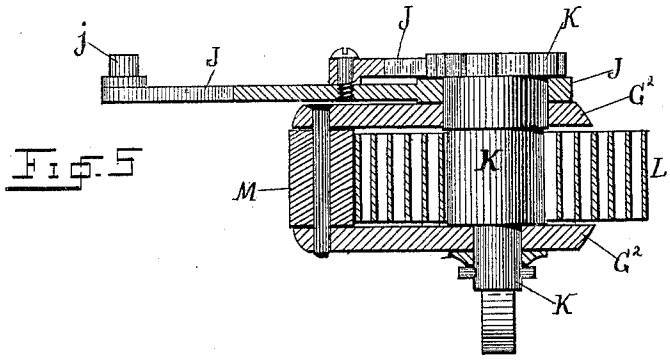
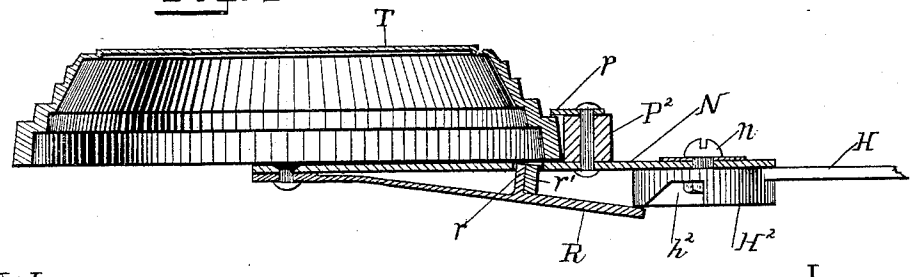


Fig. 6



Witnesses

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UNITED STATES PATENT OFFICE.

CHARLES SWAN, OF CORRY, PENNSYLVANIA.

TARGET-TRAP.

SPECIFICATION forming part of Letters Patent No. 424,834, dated April 1, 1890.

Application filed September 2, 1889. Serial No. 322,742. (No model.)

To all whom it may concern:

Be it known that I, CHARLES SWAN, a citizen of the United States, residing at Corry, in the county of Erie and State of Pennsylvania, have invented certain new and useful Improvements in Target-Traps; 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 target-traps; and it consists in certain improvements in the construction thereof, as will be hereinafter fully set forth, and pointed out in the claims.

The invention is illustrated in the accompanying drawings as follows:

Figure 1 is a side elevation of the trap, full lines showing the sling in the position it assumes as it discharges the target, and dotted lines showing the sling in the position it occupies when the trap is set. Fig. 2 is a top or plan view, the full and dotted lines showing the parts in the same relation as in Fig. 1. Fig. 3 is a vertical sectional view, the line of section being in the plane represented by the lines $x\ x$ in Figs. 1 and 2, the point of observation being from the left of those dotted lines. Fig. 4 is a horizontal section taken on the line $v\ v$ in Fig. 1. Fig. 5 is a vertical section taken on the line $y\ y$ in Figs. 1 and 4. Fig. 6 is a vertical section taken on the line $z\ z$ in Fig. 2.

Like letters indicate like parts in all the figures.

The construction is as follows:

A is a stand having a central hub A′ and a toothed top A^2.

B is a standard, which has a stem B′, which is journaled in the hub A′ of the stand, and a toothed flange B^2, which engages the toothed top A^2 of the stand, and an arm B^3.

G is a cross-head, which is pivoted in the fork of the arm B^3 of the standard B. One arm of the cross-head G has prongs G^2 G^2, between which is adjusted the spring L, and the other arm has at its end a boss G′, on which the sling is pivoted. The cross-head can be tilted to any angle desired on the pivot g. The standard B is bored out its entire length and receives a plunger C, which is supported on a contained spring E, and is actuated by a trigger-lever D. The plunger C is connected by a link C′ with a catch F, which is pivoted to and lies beside a fixed block F′ on the top of the cross-head. The catch F is held up by the spring E, acting on the plunger C, and is pulled down by the trigger-lever D, acting on the plunger C. The sling-arm H is pivoted at h on the cross-head on top of the boss G′, and has an arm H′, which reaches out to a point opposite the pivot h, so as to form in effect a bell-crank lever. The free end of the sling-arm H has pivoted to it at L′ a target-holder N. The arm H′ is pivoted at h' to a link I, which is pivoted at j to the spring-lever J, which is pivoted on the spring-mandrel K. The spring-mandrel K has formed at its upper end a ratchet K′, and on the lever J there is pivoted a pawl J′, which engages said ratchet. In the center of the ratchet there is a squared cavity to receive a wrench. When a wrench is applied to a ratchet, the spring can be wound up to any desired tension, and the pawl J′ be engaged with the ratchet, and thus impart to the lever J the tension given to the spring.

To set the trap, the arm H is drawn back so as to lie upon and be parallel with the cross-head, as shown in Fig. 2 by dotted lines. This action winds the spring L up to the extent of the movement of the arm or lever J. When the arm H is in the position shown by dotted lines in Fig. 2, it is engaged by the catch F and retained until the trigger-lever D is pulled. The spring L is attached in any desired manner to the mandrel K at its inner end, and the outer end is attached pivotally at l' to the link L′, which is attached pivotally at l to the forks G^2 of the cross-head. The object of the link-connection for the outer end of the spring L is to allow the outer end of the coil of the spring to move radially toward the center as the spring is wound up. On the side of the spring L, I place a roller M to prevent the spring moving into an eccentric position when under strain.

The target-holder N is pivoted to the end of the arm H at n, and beneath this pivot there is a circular boss H^2, with a cam-notch h^2 on one side of the arm, as seen in Figs. 1 and 6. Attached to the target-holder N on its under side there is a leaf-spring R, the free

end of which rides on the edge of the cam-ring or boss H^2. On the spring R there is a lug or point r, which is cushioned by a leather lining r' on the side toward the pivot n. In the holder N there is a mortise for the lug or point r to pass through and project up above the upper surface of the holder N. When the holder N is in line with the sling-arm H, as seen in full lines in Figs. 1, 2, and 6, the spring R has its free end extended and the point or lug r is drawn down below the upper surface of the holder; but when the holder N is turned so as to stand at right angles to the arm H, as shown by dotted lines in Figs. 1 and 2, the free end of the spring R will be in the cam-notch h^2 of the boss H^2 and the point r will protrude above the upper surface of the holder. On the upper face of the holder there are three studs P, P′, and P^2, which I prefer to have covered with rubber or other cushioning material. The middle stud P^2 is back of the other two about half of the diameter of the target, and the studs P and P′ are far enough apart to just receive the target between them. The movable stud r, above described, is placed in front of the stud P^2 a distance equal to the thickness of the rim of the target.

A target will be put in place, as shown in Fig. 6, when the holder is in the position there shown, and also shown in full lines in Figs. 1 and 2. On the top of the stud P^2 there is a lip p, which reaches out over the rim, as seen clearly in Fig. 6. When the target is in place, as just described, the holder is turned into the position shown by dotted lines in Fig. 2, and this causes the stud r to take position within the rim of the target T. The target cannot now be removed from the holder until the holder is turned into line with the arm H.

When the trap is sprung and the sling-arm is thrown with great velocity from the position shown by dotted lines in Figs. 1 and 2 to the position shown by full lines, it is suddenly stopped as soon as it reaches that position, and the momentum acquired by the holder N causes it to swing around into line with the arm H with great force. When this occurs, the lug r is drawn down and the target is free to fly from the holder.

The angle of the path of the arm H with reference to the horizon is determined by the adjustment of the cross-head G on its pivot g.

The point of discharge with reference to radiation from the center of the stand of the trap is determined by the adjustment of the standard B upon the stand. This adjustment is effected by lifting up the standard B, so as to disengage the toothed flanges B^3 and A^2, and turning the standard so the cross-head will lie in any desired vertical plane, and then letting it down into engagement again. This movement of the standard B vertically is effected by lifting up on the lever D. Thus the lever D has two functions— one to draw down the plunger C and the other to lift up the standard B.

What I claim as new is—

1. In a target-trap, the combination, with the stand A, having a standard B swiveled therein and engaging serrated flanges A^2 and B^2, as described, of the lever D at the lower end of said standard, for lifting the standard out of engagement with the stand.

2. In a target-trap, the combination of the stand A, the standard B, swiveled in said stand, the cross-head G, pivoted on the arm B^3 at one side of the center of the swivel of the standard, a catch F on said cross-head, a sling on said cross-head which is engaged when set by said catch, a plunger C, passing through the spindle of the swiveled standard vertically and connected with said catch, a spring sustaining said plunger, and a trigger-lever D for drawing down said plunger.

3. In a target-trap, the combination of a stand A with a central hub and a clutch-formed top and a standard B, swiveled in said hub and having a clutch-formed flange to engage with the clutch formation on the top of the stand.

4. In a target-trap, the combination of the tilting cross-head G, the sling H, pivoted at one end of said cross-head and having a short arm H′, the spring L, secured at the other end of said cross-head and having an arm J extending from its mandrel, and a link I, connecting the arm J with the short arm H′ of the sling.

5. In a target-trap, the combination, with the sling, of the spring L, having a mandrel K, with a ratchet K′ thereon, the arm J, pivoted on said mandrel and having a pawl J engaging said ratchet, and a link I, connecting the arm J with the sling.

6. In a target-trap, the combination, with the sling-arm H and the cam-boss H^2, of the target-holder N, pivoted to the arm H, the spring R, bearing on the cam-boss H^2, and the lug r, extending upward from said spring R.

7. In a target-trap, the combination, with the sling-arm H and the cam-boss H^2, of the holder N, having stud-pins P, P′, and P^2, as shown, the lip p on the stud P^2, the vertically-moving lug r in front of the stud P^2, and the spring R, carrying said stud r and acted upon by the cam-boss H^2.

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

CHARLES SWAN.

Witnesses:
JNO. K. HALLOCK,
WM. P. HAYES.