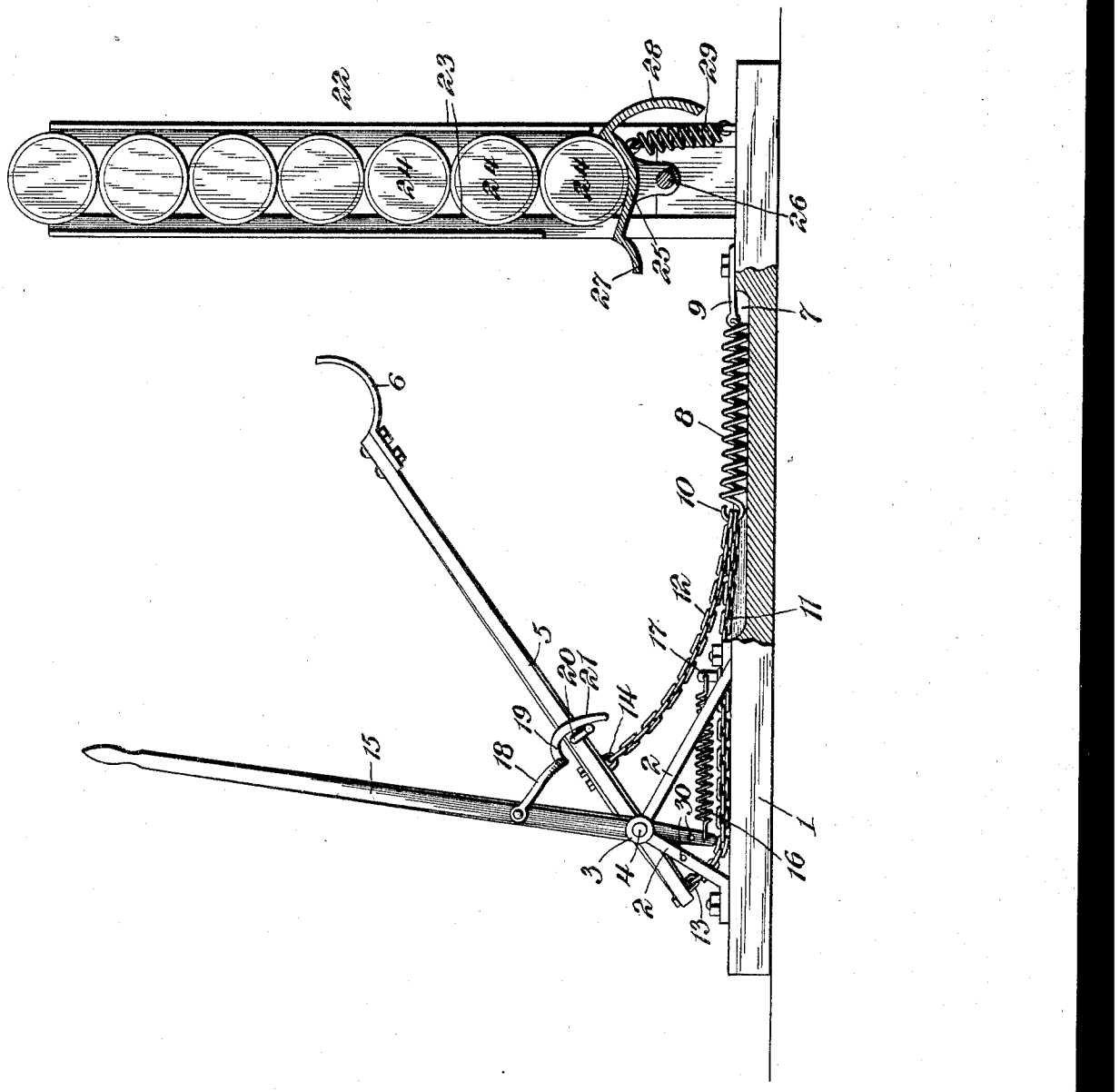
No. 783,523. PATENTED FEB. 28, 1905.

A. H. HOFFMAN.

TARGET TRAP.

APPLICATION FILED AUG. 25, 1903.



Witnesses
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No. 783,523. Patented February 28, 1905.

UNITED STATES PATENT OFFICE.

ALVIN H. HOFFMAN, OF HALLAM, NEBRASKA.

TARGET-TRAP.

SPECIFICATION forming part of Letters Patent No. 783,523, dated February 28, 1905.

Application filed August 25, 1903. Serial No. 170,753.

To all whom it may concern:

Be it known that I, ALVIN H. HOFFMAN, a citizen of the United States, residing at Hallam, in the county of Lancaster and State of Nebraska, have invented a new and useful Target-Trap, of which the following is a specification.

This invention relates to that class of machines employed in projecting flying targets; and one of the objects is to provide a structure in which ordinary tin cans may be employed as targets, these being easily obtainable and capable of being used repeatedly.

A further object is to provide very simple target-projecting mechanism which can be readily operated at hand or at a distance, being automatically supplied with targets and operating automatically after being so supplied.

A side elevation of the preferred embodiment of the invention is illustrated in the accompanying drawing, portions thereof being shown in section.

As illustrated, a base 1 is employed carrying an upstanding bracket composed of convergently-arranged bars 2, which terminate in an eye 3. In this eye is fitted a journal-pin 4, constituting a pivotal support for a target-carrying arm 5, mounted between its ends upon said pin. The outer end of the arm has attached thereto a target-holder 6, comprising a dished finger. The base 1 is preferably provided with a longitudinally-disposed channel 7 in its upper end, and in this channel is located a spring 8, secured by means of a clip 9 to the rear portion of the base. The front end of this spring is in the form of a hook 10, over which detachably engage the rear ends of a pair of chains 11 and 12. The chain 11 has a detachable and adjustable connection with a hook 13, carried by the lower end of the target-carrying arm, while the chain 12 has an eye connection 14 with the arm 5 above the pivot or, in other words, on the opposite side thereof to the connection 13. The chain 11 constitutes an actuating connection between the spring and the target-carrying arm, while the chain 12 forms a draft connection, as is hereinafter more fully described.

Means for moving the target-carrying arm to a set position is employed in the form of a lever 15, journaled upon the pin 4 and having a connection at its lower end with a return-spring 16, attached, as shown at 17, to the base. This spring therefore serves to hold the lever in an upright position. A trip 18 is pivoted to an intermediate portion of the lever and has a shoulder portion 19 formed by an intermediate offset of said trip, said shoulder being arranged to engage an outstanding finger 20, carried by an intermediate portion of the arm 5. The terminal 21 of the trip is arranged to project beyond the finger 20, and the rearwardly-extending bar 2 of the target is located in the path of movement of said terminal.

A vertical magazine 22 is carried by the rear end of the base and comprises suitable angle-bars 23, spaced apart sufficiently to permit the arrangement therein of a vertical series of targets 24, that may be ordinary tin cans. These targets can gravitate freely through the magazine. The lower end of the magazine is open, and a concave bottom 25 normally extends across the same, being pivoted, as shown at 26, directly beneath the open end. This bottom has a forwardly-extending projection 27, that is downwardly curved to conform to the shape of the outer end of the target-holder 6, said projection being located in the path of movement of said holder. A downwardly-extending convexed stop 28 is carried by the rear end of the bottom, and a coiled spring 29, connecting the base 1 and the under side of said bottom, serves to yieldingly hold the latter across the lower end of the magazine, where it constitutes a support for the targets.

In the illustration the mechanism is shown relaxed. In order to obtain the proper tension between the target-carrying arm and the spring 8, the upper end of said arm is drawn forwardly. As a result the spring 8 will be extended because of the draft connection between the same and the arm. At the same time the lower end of said arm will be moved rearwardly and the actuating connecting-chain 11 thereby loosened. The result is that any link desired of said chain 11 can be engaged over the hook 13, and upon releasing the upper end of the target-carrying arm the tension will

be transmitted through the actuating-chain. If desired, the draft-chain can then be detached from the spring, though this is not particularly necessary, as said chain limits the forward movement of the arm and yet does not interfere with the actuation of said arm by the spring. The magazine having been supplied with targets in order to operate the trap, it is only necessary to draw downwardly on the lever. This may be easily accomplished by grasping the upper end thereof, or, if it is desired to operate the machine from a distance, a cord can be fastened to said upper end. Upon the rearward movement the shoulder 19 of the trip will engage the finger 20, thus carrying the target-carrying arm rearwardly against the tension of the spring 8. As this rearward-and-downward movement continues the target-holder 6 will engage the projection 27 of the magazine-bottom, thus tilting said bottom, which will deliver the lowermost target into the holder. At the same time the stop 28 passing across the lower end of the magazine will prevent the remainder of the targets dropping below a desired point. A still further movement on the part of the lever 15 brings the terminal 21 of the trip against the rear bracket-bar 2, and riding down said bracket-bar the shoulder 19 will be moved out of engagement with the finger 20. The target-carrying arm 5 being released will be actuated by the spring 8 and the target projected. As soon as this actuation takes place the combined bottom and feed device of the magazine will return to its normal position and ready for another operation. As soon as the lever is released it will be moved upwardly by means of the spring 16, and the shoulder 19 will be brought into proper relation to reëngage the finger upon the next rearward movement of said lever. In case the marksman desires to operate the trap the lever 15 can be secured against movement and in such a position that the dog 18 will hold the target-carrying arm so that the spring 8 will have sufficient tension thereon to operate the same when released. For this purpose openings 30 are formed in the front bracket-bar 2 and the lower end of the lever. When these openings are alined, a pin can be passed therethrough. The marksman having placed a target in the holder 6 and engaged the finger 20 beneath the shoulder 19 can thereupon release the arm by kicking the lower end of the trip.

It will be apparent that this structure is extremely simple, that as much tension can be placed upon the arm as desired, and that it may be moved to a set position and automatically released by a single movement. While the trap is primarily intended for tin cans, because the same may be readily obtained practically without cost, it will be evident that there are various features which can be employed in traps for projecting clay targets, balls, and the like.

From the foregoing it is thought that the construction, operation, and many advantages of the herein-described invention will be apparent to those skilled in the art without further description, and it will be understood that various changes in the size, shape, proportion, and minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

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

1. In a target-trap, the combination with target-projecting mechanism, of means for moving the projecting mechanism to a set position including a device movably mounted thereon and having a detachable connection with the projecting mechanism.

2. In a target-trap, the combination with target-projecting mechanism, of means for moving the projecting mechanism to a set position including a trip movably associated therewith and having a detachable connection with the projecting mechanism, and means for moving the trip with respect to the remainder of the setting means to disengage said trip from the projecting means.

3. In a target-trap, the combination with target-projecting mechanism, of means for moving the projecting mechanism to a set position, said means including a trip that is movable with relation to the remainder of the means and engages the projecting mechanism, and means for automatically moving the trip with respect to the remainder of the setting means and out of such engagement when the mechanism reaches a predetermined position.

4. In a target-trap, the combination with target-projecting mechanism including a swinging arm, of means for moving the arm to a set position, said means including a trip that is movable with relation to the means and engages the arm, and a device located in the path of movement of the trip with respect to the remainder of the setting means and to automatically move said trip out of engagement with the arm when the latter reaches a predetermined position.

5. In a target-trap, the combination with a swinging target-carrying arm, of a spring for moving the same in one direction, a lever for moving the arm to a set position, and a connection between the lever and arm movably associated with both, said connection automatically disconnecting the same when a predetermined position is reached.

6. In a target-trap, the combination with a swinging target-carrying arm, of a spring for moving the same in one direction, a lever for moving the arm to a set position, and a trip pivoted on the lever and engaging the arm, said trip automatically disconnecting the lever from the arm when a predetermined position is reached.

7. In a target-trap, the combination with a target-carrying arm, of a lever, a finger carried by the arm, a trip pivoted upon the lever and engaging the finger, and a device located in the path of movement of the trip to automatically disengage the same from the finger.

8. In a target-trap, the combination with a base, of a bracket mounted on the base and carrying a journal-pin, a swinging target-carrying arm pivoted upon the pin and carrying an outstanding finger, and a lever also pivoted upon the pin and having a trip pivoted thereto, said trip detachably engaging the finger.

9. In a target-trap, the combination with a target-carrying arm, of a spring for operating the same, an adjustable connection between the arm and spring, and means for relieving the tension of the spring upon the connection during the adjustment of said connection.

10. In a target-trap, the combination with a swinging target-carrying arm, of a spring for swinging the arm, an actuating connection between the spring and arm, and a draft connection between the arm and spring to relieve the strain upon the actuating connection during the adjustment thereof.

11. In a target-trap, the combination with a pivoted target-carrying arm, of a spring for moving the same, and connections between the spring and arm on opposite sides of the pivot of the latter.

12. In a target-trap, the combination with a pivoted target-carrying arm, of a spring for moving the same, and connections between the spring and arm on opposite sides of the pivot of the latter, one of said connections being adjustable.

13. In a target-trap, the combination with a target-carrying arm pivoted between its ends, of a spring for moving the arm, and flexible connections between the spring and the portions of the arm on opposite sides of its pivot, said connections being detachable and adjustable.

14. In a target-trap, the combination with a swinging target-carrying arm pivoted between its ends, of a spring for actuating the arm, an actuating-chain attached to the spring and having an adjustable connection with one end of the arm, and a draft-chain detachably connected to the spring and connected to the arm on the side of the pivot opposite the actuating-chain.

15. In a target-trap, the combination with a target-projecting device, of a magazine, a movable bottom for the magazine, said bottom also constituting a target-carrier for transporting the targets from the lower portion of the magazine and delivering the same to the projecting device, and said projecting device being movable into engagement with said bottom to effect the movement of the same.

16. In a target-trap, the combination with a target-carrying arm, of a substantially vertical magazine for holding a substantially vertical pile of targets, a pivoted bottom constituting the support for said targets and having a portion located in the path of movement of the arm, whereby the bottom will be moved upon engagement with the arm to feed the bottom target of the pile to the latter, and a stop carried by the bottom and movable across the lower end of the magazine when said bottom is moved, said stop constituting a support for the pile of targets.

17. In a target-trap, the combination with a swinging target-carrying arm, of a vertically-disposed magazine having an open lower end, a combined bottom and feed device pivoted beneath the lower open end of the magazine and constituting a support for the targets placed therein, a projection located on one end of the bottom and disposed in the path of movement of the target-carrying arm, and a curved stop arranged upon the offset end of the bottom and movable across the lower end of the magazine upon the movement of the bottom.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

ALVIN H. HOFFMAN.

Witnesses:

JOHN LEONHARDT,

G. H. RUHAAK.