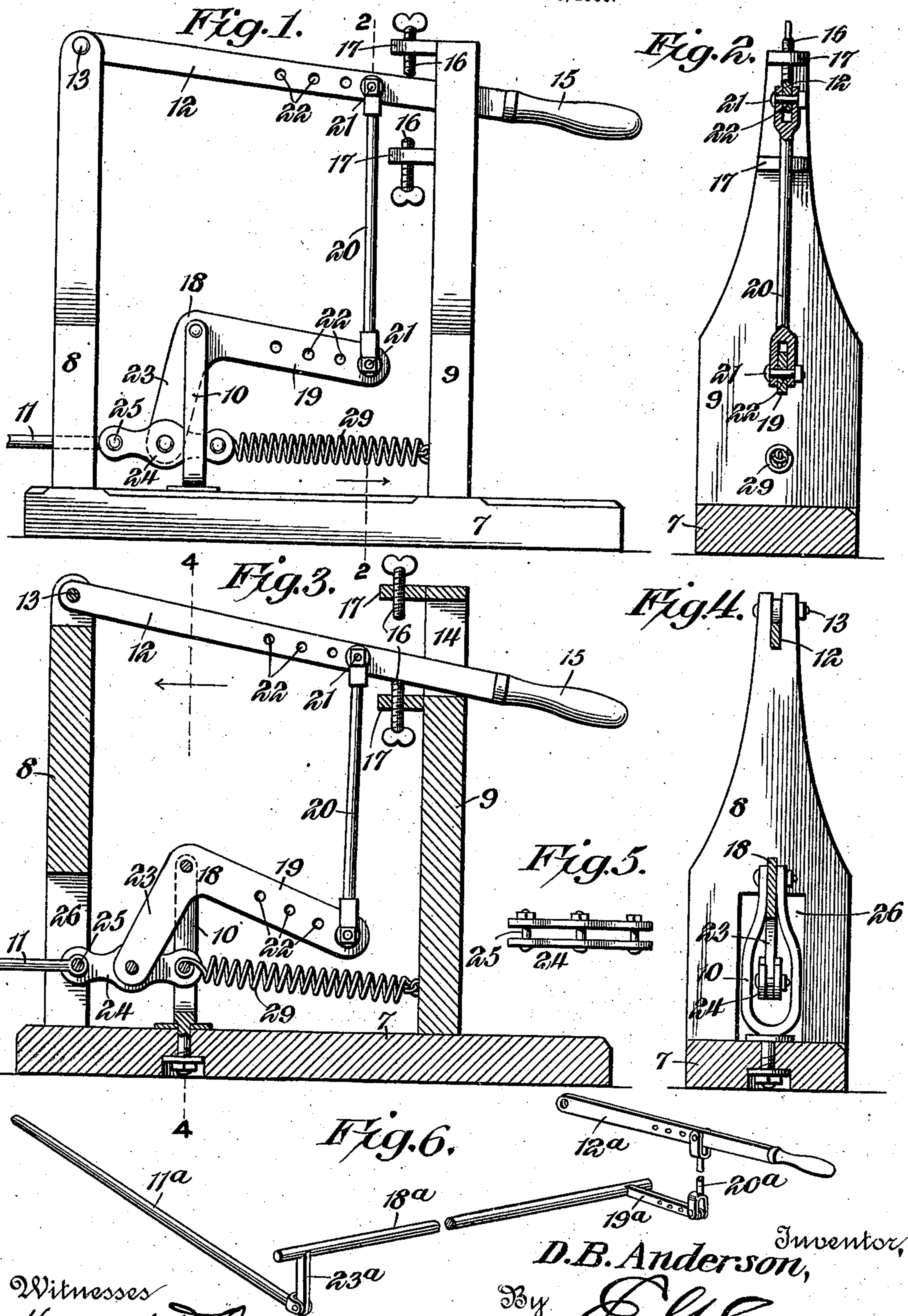


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PATENTED MAR. 19, 1907.

D. B. ANDERSON.
TARGET TRAP CONTROLLING MEANS.

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Witnesses
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DAVID B. ANDERSON, OF ST. MARYS, PENNSYLVANIA.

TARGET-TRAP-CONTROLLING MEANS.

No. 847,539.

Specification of Letters Patent.

Patented March 19, 1907.

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To all whom it may concern:

Be it known that I, DAVID B. ANDERSON, a citizen of the United States, residing at St. Marys, in the county of Elk and State of Pennsylvania, have invented a new and useful Target-Trap-Controlling Means, of which the following is a specification.

This invention relates to mechanism for manually effecting or controlling the movements of different parts of target-traps. In every type of target-trap of which I am aware certain parts or movements are controlled by hand. Thus, in some the target carrying or projecting arm is manually drawn back. In others the latch is hand-controlled to release such arm, and manually-actuating means are provided in others for feeding targets to the carrying mechanism. In some traps these movements are effected by a push-rod, in others by a draft rod, cord, wire, or the like, all of which devices are intended to be embraced by the term "trap-actuating device" hereinafter employed.

The principal object is to provide novel, convenient, and exceedingly-simple means for effecting the movement of such trap-actuating device, said means being clearly applicable to the different types of traps and devices and being readily adjustable to the different conditions of use.

An embodiment of the invention that is at present considered the preferable one is disclosed in the accompanying drawing and is described in the following specification. It will be apparent from an inspection of the claims that the invention is not limited absolutely to this disclosure.

In the drawing, Figure 1 is a side elevation of the controlling means. Fig. 2 is a cross-sectional view on the line 2 2 of Fig. 1. Fig. 3 is a vertical longitudinal sectional view. Fig. 4 is a cross-sectional view on the line 4 4 of Fig. 3. Fig. 5 is a top plan view of the yoke. Fig. 6 is a detail perspective view of a slightly - modified form of bell-crank.

Like numerals of reference designate corresponding parts in all the figures of the drawing.

In the embodiment illustrated in the first five figures a supporting-frame is provided, which comprises a base 7, carrying spaced upright standards 8 and 9, together with a supporting-stirrup 10, located between the

standards. A portion of a trap-actuating device is shown at 11, this device in the present instance being in the form of a rod, though the structure thereof will of course depend on the type of trap, as already set forth. Mounted on the supporting-frame is the means for actuating this trap-actuating device. A vertically-movable operating-lever 12 is fulcrumed, as shown at 13, on the upper end of the standard 8, said lever passing through a guide-slot 14 in the other standard 9 and having a handle-grip 15 on its free end. The movement of the lever is limited by adjustable abutments in the form of screws 16, threaded in opposite directions through ears 17, carried by the standard 9, the inner ends of the screws being located on opposite sides and in the path of movement of the lever. By this arrangement the limits of movement of the lever may be varied. Fulcrumed to and between the arms and stirrup 10 is a bell-crank 18, one arm 19 of which is disposed substantially parallel to the lever 12 and is connected thereto by a link 20, the pivots 21 of which are adjustable toward and from the fulcrums of the lever and crank, the same being provided with openings 22 to receive the pivots. The other arm 23 of the crank is preferably arranged vertically and pivoted to its lower end is a yoke 24, comprising side plates extending on opposite sides of the crank 23. To one end of this yoke is pivoted, as shown at 25, the trap-actuating device 11, said device preferably extending through a slot 26 in the lower portion of the upright standard 8. A counterbalancing-spring 29 may be connected to the rear end of the yoke and to the standard 9, if desired.

By this arrangement it will be apparent that when the handle-grip is moved up or down the trap-actuating device 11 will be moved horizontally, and through the medium of the same the desired movement of the trap or trap element associated with the device 11 will be effected. Because of the adjustable connections and stops employed the extent of movement of the device 11 can be controlled and varied as desired to suit the different conditions of use. The arrangement of parts may also be considerably varied, if desired, and as an indication of this attention is invited to Fig. 6, wherein a slight modified form of structure is shown.

In Fig. 6 the trap-actuating device is

shown at 11^a, and the operating-lever is designated 12^a. The crank element in the present embodiment consists of a shaft 18^a, having the angularly-disposed arms 19^a and 23^a at its opposite ends. The horizontal arm 19^a is connected by the link 20^a with the lever 12^a, and the depending-arm 23^a is connected to the trap-actuating device 11^a. It will of course be apparent that in this structure the operation is substantially the same as that already described.

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

1. In target-trap-controlling means, the combination with an operating-lever that moves in a substantially vertical direction and is provided with a handle, of a substantially horizontally movable trap-actuating device, and mechanism connecting the operating-lever and device for effecting the substantially horizontal movement of the latter upon the substantially vertical movement of the former.

2. In target-trap-controlling means, the combination with an operating-lever that moves in a substantially vertical direction and is provided with a handle, of a substantially horizontally movable trap-actuating device, and mechanism connecting the operating-lever and device for effecting the substantially horizontal movement of the latter upon the substantially vertical movement of the former, said mechanism comprising connected angularly-disposed crank-arms, one of which has a connection with the lever, the other having a connection with the device.

3. In target-trap-controlling means, the combination with an operating-lever that moves in a substantially vertical direction and is provided with a handle, of a substantially horizontally movable trap-actuating device, and mechanism connecting the operating-lever and device for effecting the substantially horizontal movement of the latter upon the substantially vertical movement of the former, said mechanism comprising connected angularly-disposed crank-arms, one of which is movable in a substantially horizontal direction and has a connection with the device, the other being movable in a substantially vertical direction, and a link connecting the latter arm and the lever.

4. In target-trap-controlling means, the combination with a supporting-frame, of a

substantially vertically movable manually-actuated lever fulcrumed therein, a bell-crank pivoted in the frame below the lever, a trap-actuating device connected to one arm of the bell-crank, and means connecting the other arm of the bell-crank and the operating-lever for transmitting motion from the latter to the former.

5. In target-trap-controlling means, the combination with a base, of spaced standards mounted thereon, a lever fulcrumed on one of the standards, the other standard having a guide-slot in which the lever operates, a supporting device mounted on the base, a bell-crank fulcrumed on the supporting device, a link connecting the lever and one arm of the bell-crank, and a trap-actuating device pivoted to the other arm of the bell-crank.

6. In target-trap-controlling means, the combination with an operating-lever, of a crank element, a connection between the lever and crank element adjustable longitudinally along one of the same, and a trap-actuating device having a connection with the crank element.

7. In target-trap-controlling means, the combination with an operating-lever, of a crank element, a link connected to the crank element and having a connection with the lever, said connection being adjustable toward and from the fulcrum of the lever, and a trap-actuating device connected to the crank element.

8. In target-trap-controlling means, the combination with an operating-lever, of a crank element, a link pivotally connected to the crank element and to the lever, said pivot connections being adjustable on both toward and from their axes of movement, and a trap-actuating device having a connection with the crank element.

9. In target-trap-controlling means, the combination with a supporting-frame, of an operating-lever fulcrumed thereon and having a handle, a bell-crank fulcrumed on the supporting-frame, a trap-actuating device connected to one arm of the bell-crank, a link, and pivotal connections between the link and the other arm of the bell-crank and between said link and the lever, said pivotal connections being adjustable on the lever and arm.

10. In target-trap-controlling means, the combination with a trap-actuating device, of a manually-actuated movable operating member for moving the same, connections between the member and device for transmitting motion from the former to the latter and adjustable means for varying the limit of movement of the operating member.

11. In target-trap-controlling means, the combination with a trap-actuating device, of a manually-actuated operating-lever for positively moving the same, and means for

limiting the extent of manual movement of the lever, said means being adjustable to vary the limits of said movements.

12. In target-trap-controlling means, the combination with a trap-actuating device, of an operating-lever for moving the same, a guide for the lever and adjustable abutments mounted on the guide, said abutments being located on opposite sides and in the path of movement of the lever.

13. In target-trap-controlling means, the combination with a supporting-frame, of a trap-actuating device, an operating-lever fulcrumed on the supporting-frame and having a handle, connections between the lever and the trap-actuating device, and abutment-screws threaded upon the supporting-frame and located on opposite sides and in the path of movement of the lever.

14. In target-trap-controlling means, the combination with a supporting-frame, including spaced standards, one of which is provided with a guide-slot, of a trap-actuating device, a lever fulcrumed on one of the standards and having a sliding engagement in the slot of the other, connections between the lever and the trap-actuating device including a bell-crank, and abutment-screws mounted on the standard having the slot, said screws being located on opposite sides and in the path of movement of the lever.

15. In target-trap-controlling means, the combination with a crank element, of a trap-actuating device connected thereto, an operating member connected to the crank element, and a spring also connected to the crank element.

16. In target-trap-controlling means, the combination with a supporting-frame, of a bell-crank fulcrumed thereon, a trap-actuating device, a spring, an operating-lever, and means for connecting the trap-actuating device and the spring to one arm of the bell-crank and the operating-lever to the other arm of said bell-crank.

17. In target-trap-controlling means, the combination with a supporting-frame, of a bell-crank fulcrumed thereon, a yoke pivoted to one arm of the bell-crank, a trap-actuating device and a spring connected to the yoke, an operating-lever fulcrumed on the supporting-frame, and a link connecting the other arm of the bell-crank and the lever.

18. In target-trap-controlling means, the combination with a base, spaced standards mounted thereon, one of said standards having a slot in its upper end, an operating-lever fulcrumed on the other standard and movably engaging in the slot, means located on opposite sides of the lever for limiting the movements thereof, a bell-crank fulcrumed between the standards, a trap-actuating device pivotally connected to one arm of the bell-crank, a spring also connected to one arm of the bell-crank, and a link adjustably connecting the operating-lever and an arm of the bell-crank.

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

DAVID B. ANDERSON.

Witnesses:

SAM S. FISCHER,
H. M. BIGLOU.