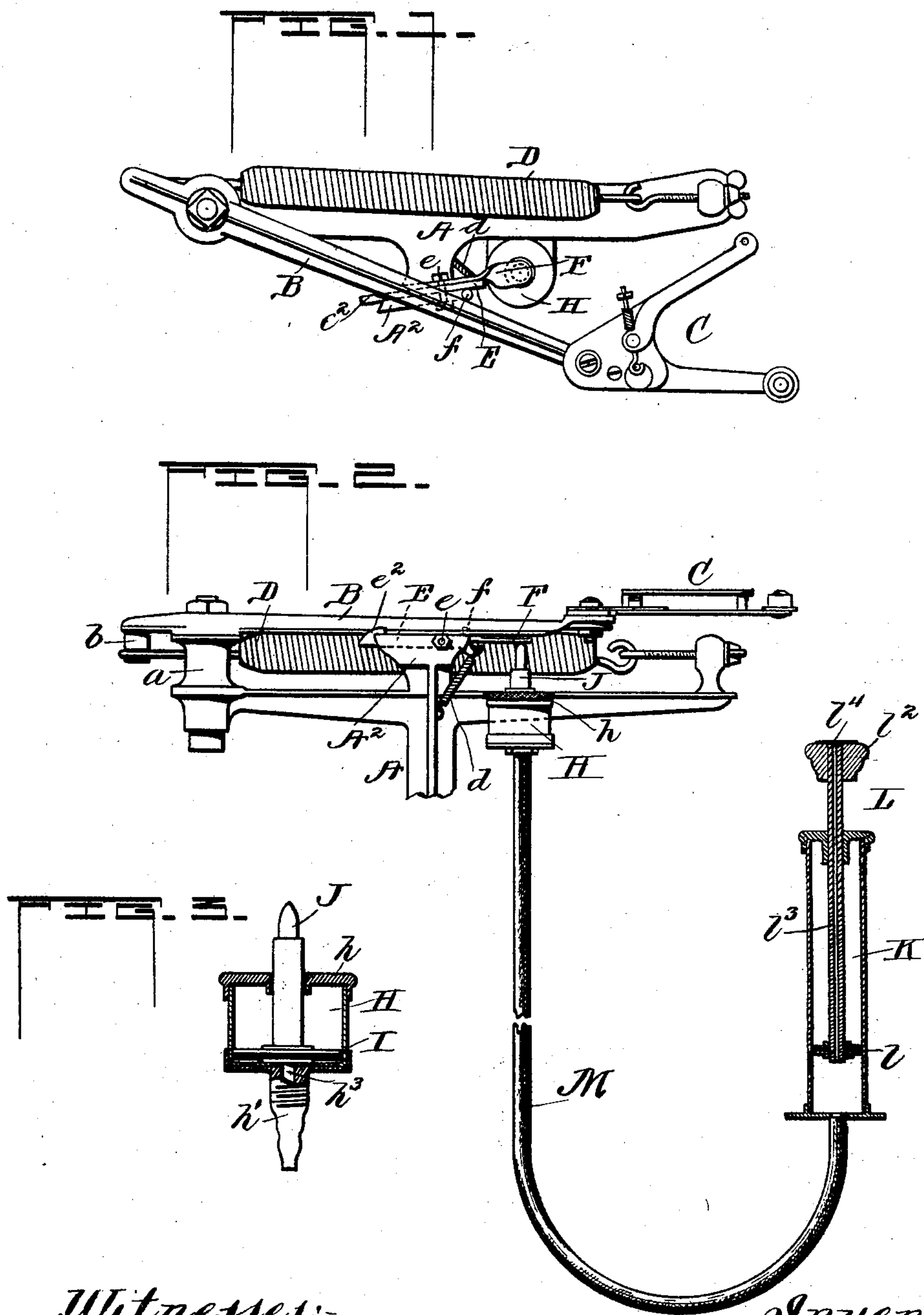


(No Model.)

J. M. WELLS & J. WAMBSGANS.
BALL TRAP.

No. 592,221.

Patented Oct. 19, 1897.



Witnesses:
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UNITED STATES PATENT OFFICE.

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BALL-TRAP.

SPECIFICATION forming part of Letters Patent No. 592,221, dated October 19, 1897.

Application filed July 1, 1896. Serial No. 597 793. (No model.)

To all whom it may concern:

Be it known that we, JAMES M. WELLS, and JACOB WAMBSGANS, citizens of the United States, residing at Peoria, in the county of Peoria and State of Illinois, have invented certain new and useful Improvements in Ball-Traps; and we 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 the same.

Our invention relates to certain new and useful improvements in bird-traps, by means of which a simple attachment is made to the principal operating parts thereof that greatly facilitates in the effectiveness of its operation.

Our invention relates to a pneumatic trip to be applied for operating the usual trap throw-arm-releasing mechanism, by means of which air is utilized to operate the throw-arm engaging and releasing mechanism when the same is acted upon in the confines provided by our mechanism to cause a compression thereof.

Heretofore long strings or ropes have been employed to operate the trip mechanism of bird-traps and likewise electric appliances, but we are not aware that any one has ever utilized air under mechanically-constructed controls for the purpose of operating the trip mechanism.

The mechanical means employed in carrying out our invention consists of an air-reservoir supported in connection with the framework of the trap, or otherwise supported in close proximity to and immediately below the usual trip mechanism of a bird-trap; a piston-head carried therein, provided with a pin projection or piston bearing out through and opening in the reservoir or cylinder and designed to contact with the trip when the cylinder-head is elevated and to release it when it is depressed; an air-pump; and a flexible or other tube connecting the air-pump and the cylinder or reservoir whereby the air confined within the mechanism may be compressed for the purpose of elevating the piston-head within the cylinder or reservoir to cause the piston or pin projection therefrom to actuate

the trip mechanism for the purpose of releasing the throw-arm of the bird-trap and may be relieved from such compression to release the piston to allow it to descend for the purpose of releasing the trip.

In carrying out the invention we find that in using the ordinary pump in operating the device there is some danger of getting too much air into the confines thereof, which would result in the piston or pin being maintained in its extreme elevated position after operating the trip mechanism, even after the pump had been operated to relieve the compression by withdrawing the pump-valve, and to overcome this tendency we have provided a perforation through the entire length of the valve-stem of the air-pump and placed a flexible cap over the extreme upper end of the said stem, so that when the pressure of the hand is removed from the stem the excess of air passing up through the perforation will inflate the cap and provide the additional air-space necessary to relieve the piston-head in the cylinder or reservoir and allow it to descend.

That our invention may be more fully understood, reference is had to the accompanying drawings, in which—

Figure 1 is a plan view of a bird-trap, showing our invention applied thereto. Fig. 2 is a side elevation of the same and showing the air-pump in section. Fig. 3 is a vertical section of the cylinder or air-reservoir.

To better understand the application and use of our invention as it is applied to a bird-trap, we will proceed to describe in a general way the construction of the bird-trap shown in the drawings, although it does not constitute any part of our invention.

In the drawings, A refers generally to the main framework upon which the operating parts are mounted. B is a bar pivoted thereon and formed of a long and a short arm.

C is a bird-carrier pivoted to the extremity of the long arm of the bar.

D is a tension device or spring connected at one end with the pin *b* on the short arm of the bar and with a hook carried in the upwardly-extending portion *a* of the frame A.

E is a bar pivoted upon pin or bolt *e*, the said pin being supported in the frame part A². F is also a bar secured to bar E and pivoted upon the same pin, and the rear end thereof is twisted so as to provide a horizontally-bearing face which is designed to receive the stroke from actuated piston or pin of our device. The bar E is provided at its forward extremity with the engaging hook *e*², and is purposed to engage the long arm of bar *b*, in the manner shown in the drawings, and to hold the same under tension of spring D until it is desired that it shall be released for the purpose of throwing the bird from the jaws of the bird-carrier C, and to release the said bar at the moment desired and when it is actuated by the means made to be applied for that purpose.

d is a spring engaging the rear end of bar E and also secured to the supporting-framework and is purposed to hold the bar or trip in position to engage the long arm of bar B, and to return it to its engaging position after it has been actuated to release the bar.

f is a pin projection from the framework and is used as a stop for the long arm of bar to prevent its being thrown too far around and stops it just in position to be engaged by the trip E.

Referring to our attachment, H is a cylinder or reservoir which may be secured to the frame A. *h* is a cap designed to be screwed thereon and is provided with a centrally-located perforation or opening.

h' is a tapering and open-threaded projection from the base of the cylinder, provided with the perforation *h*³, opening out of said cylinder.

I is a piston-head fitting in cylinder. J is a piston or pin connected therewith and bearing out through the opening in the cap.

K is the outside casing of an air-pump.

L is a stem, to the lower end of which the valve *l* is attached, and to the upper end of which a knob *l*² is attached. *l*³ is a perforation through the said stem, and *l*⁴ is a flexible cap suitably secured at its outer edge to the knob.

M is a tube connecting the air-pump and the reservoir.

The operation of our device in connection with the bird-trap shown in the drawings is as follows: The air cylinder or reservoir H having been first adjusted or fixed so that the piston I will strike the rear end of bar F, as the piston is thrust upwardly and the air-pump has been connected with the cylinder by means of a flexible tube or other suitable duct, the pump being placed at any distance from the trap that may be desired and the trap having been set and provided with a bird to be thrown, the pump is operated to compress the air within the cylinder H and the connecting-tube, which will cause the piston to be thrown upwardly and striking rear end

of pivoted trip and releasing the throw-arm, which, acting under the force of spring G, will throw the bird as desired. By withdrawing the plunger or stem of the pump the air will be relieved ordinarily from compression and the piston will drop back into its normal position and the trip will resume its natural position; but in the event too much air has been forced into the confines of the device a removal of the hand from the knob *l*² will allow the excess of air to expand the flexible cap *l*⁴, thus insuring the release of the piston-head, so that it will drop back and release the trip.

It will be understood, of course, that our device may be as successfully applied to any other bird-trap to operate the trip mechanism as it is to this trap shown in the drawings. It will also be understood that we may modify the construction herein shown so far as such modifications relate to the details of construction without departing from the central idea of employing suitable means to utilize air for the purpose herein shown.

Having thus fully described our invention, what we claim, and desire to secure by Letters Patent, is—

1. In a ball-trap the combination with the trip mechanism thereof of a means for actuating the trip mechanism consisting of an air-cylinder, a piston and piston-head carried in said cylinder and so adjusted that the piston when actuated in the cylinder will contact with and operate the trip mechanism, an air-pump and a tube connecting the pump and cylinder, whereby air may be forced into the cylinder to give an impulse to the piston and piston-head for the purpose of engaging the trip mechanism and the air may be withdrawn from the cylinder so that the piston and piston-head will drop back to normal position and release the trip, all substantially as described and shown.

2. In a ball-trap, the combination with the pivoted trip E, having a part connected therewith adapted to receive a stroke from mechanism adapted to actuate said trip, of mechanism adapted to actuate said trip consisting of the cylinder H, provided with piston-head I having the pin J which is carried through an opening in the head of the cylinder and is adapted to strike the trip; the air-pump K, and the tube M connecting the air-pump and the cylinder all substantially as described and shown.

3. In a ball-trap, the combination with trip mechanism consisting of the pivoted bar E, having a notch at one end adapted to engage the trap throw-arm, and having the bar F attached thereto which is provided with a horizontally-bearing expanded part adapted to receive a stroke from mechanism provided to release the trip, the mechanism adapted to actuate the trip-bar E, consisting of the cylinder H having an air-inlet opening, the

piston-head I, the piston or pin J projecting
through an opening in one of the cylinder-
heads, the air-pump consisting of the case K,
the stem L, having the perforation l^3 therein,
5 the valve l and the knob l^2 and the flexible
cap l^4 , and the tube M connecting the air-
pump and the cylinder, all substantially as
described and shown.

In testimony whereof we affix our signa-
tures in presence of two witnesses.

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