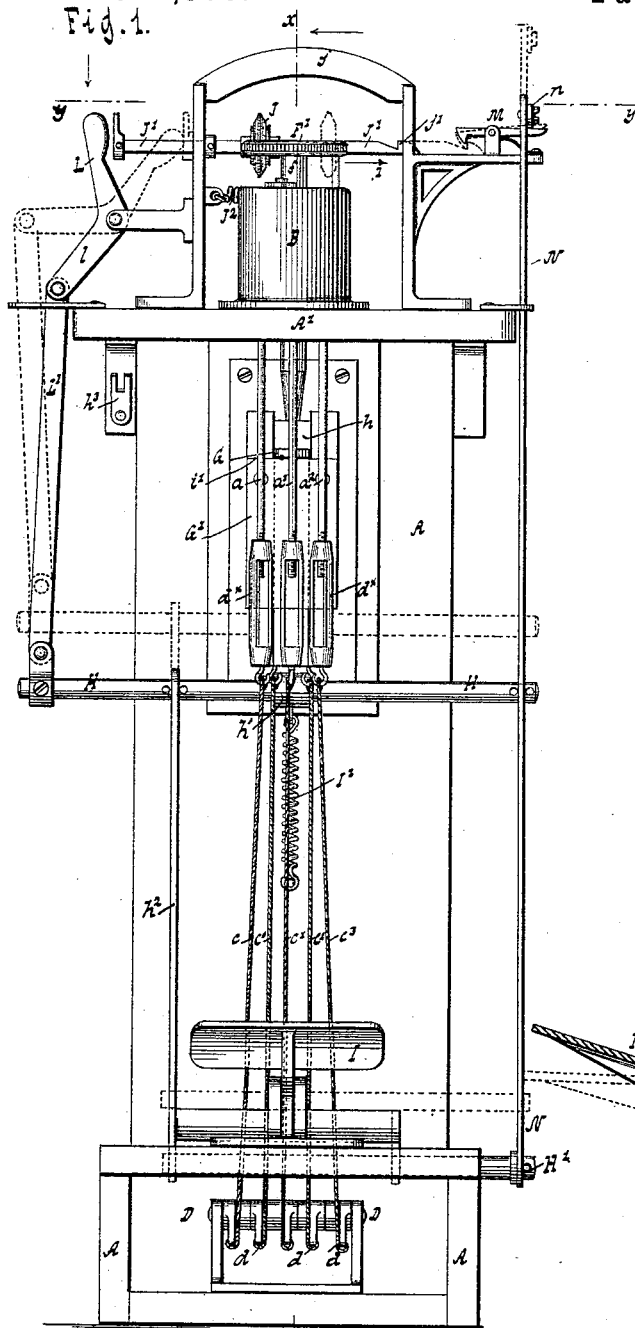


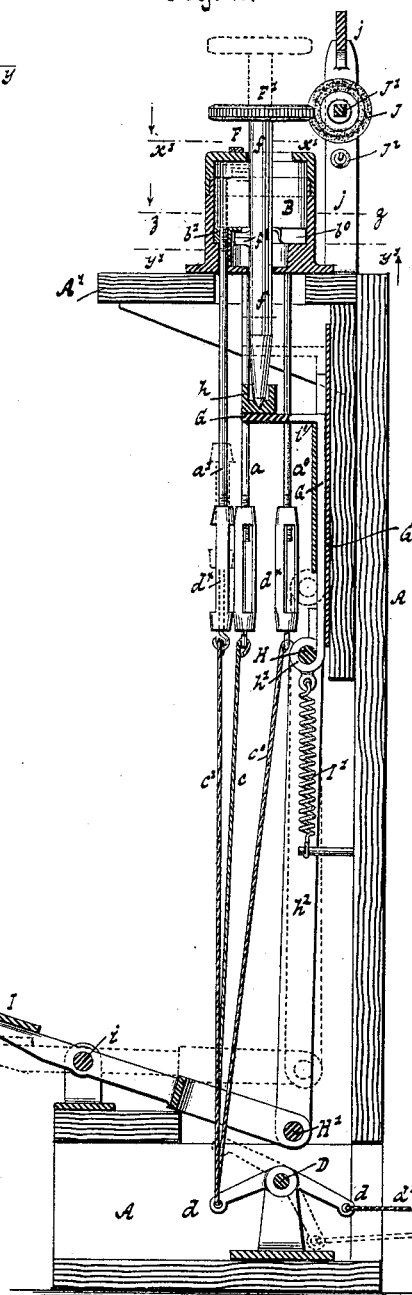
2 Sheets—Sheet 1.

Patented Apr. 17, 1888.

Fig. 2.



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(No Model.)

2 Sheets—Sheet 2.

J. J. KING.
PIGEON TRAP.

No. 381,386.

Patented Apr. 17, 1888.

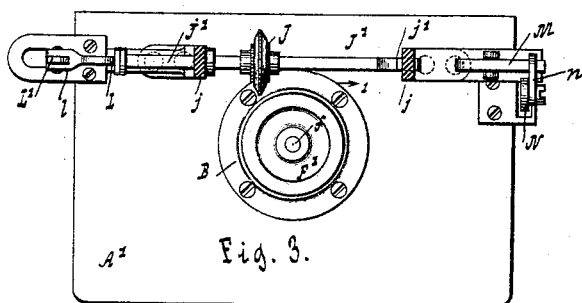


Fig. 4.

Fig. 5.

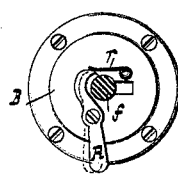
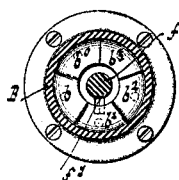


Fig. 7.

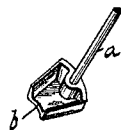


Fig. 6.

Fig. 8.

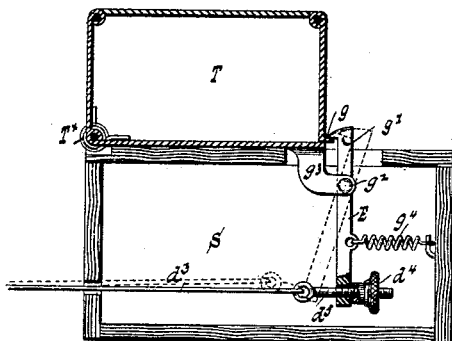
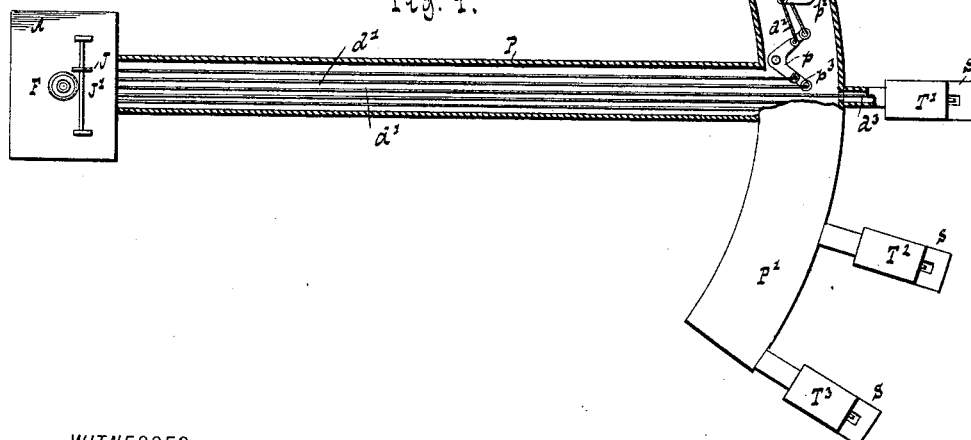


Fig. 9.



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UNITED STATES PATENT OFFICE.

JEREMIAH J. KING, OF NEW YORK, N. Y.

PIGEON-TRAP.

SPECIFICATION forming part of Letters Patent No. 381,386, dated April 17, 1888.

Application filed July 28, 1887. Serial No. 245,532. (No model.)

To all whom it may concern:

Be it known that I, JEREMIAH J. KING, a citizen of the United States, residing at New York, in the county and State of New York, have invented new and useful Improvements in Pigeon-Traps, of which the following is a specification.

My invention consists in an apparatus for springing pigeon-traps and the like, as is fully set forth in the following specification and claims and illustrated in the accompanying drawings, in which—

Figure 1 represents a front elevation of the trap-springing apparatus. Fig. 2 is a vertical section in the plane $x x$, Fig. 1. Fig. 3 is a horizontal section in the plane $y y$, Fig. 1. Fig. 4 is a horizontal section in the plane $z z$, Fig. 2, of a portion of the apparatus. Fig. 5 is a similar section in the plane $x' x'$, Fig. 2. Fig. 6 is a section in the plane $y' y'$, Fig. 2. Fig. 7 is an inverted perspective of a detail part. Fig. 8 is a vertical longitudinal section of a trap and its lock. Fig. 9 is a sectional plan of the entire apparatus as situated in the field, said figure being drawn to a smaller scale than the preceding figures.

Similar letters indicate corresponding parts.

In the drawings, the letter A, Figs. 1 and 2, designates a frame which supports the operating parts of the trap-starting apparatus. On a suitable shelf, A', of the frame is secured a hollow cylindrical casing, B, in which is located a number of movable segments, $b^0 b^* b' b^2 b^3$, Figs. 2, 4, and 6. Said segments are arranged about a common center, and from the same extend vertical rods $a^0 a a' a^2 a^3$, which are connected, respectively, by suitable chains or cords, $c^0 c c' c^2$, &c., with crank-levers d , Figs. 1 and 2, that can turn about a horizontal shaft, D, arranged near the bottom of the frame. The said crank-levers, Figs. 2 and 9, are eventually connected by cords or chains $d' d^2 d^3$ and interposed crank-levers with the locking-levers F, or other equivalent locks, Figs. 8 and 9, of the respective traps T⁰ T T', &c., which are distributed in the field in the usual manner.

The traps T, Fig. 8, are of ordinary construction, having their backs hinged to the bottom and subjected to the action of a stiff spring, T*, their tops hinged to the backs and the sides and front hinged to the top. A nib,

g , on the front is engaged by a nose, g' , on the locking-lever E, which latter is pivoted at g^2 to a lug, g^3 , projecting from the bottom of the trap. A spiral spring, g^4 , stretched between the lever E and the hollow support S of the trap, holds the said lever normally in contact with the nib g on the trap. When the lever E is vibrated to the position indicated by dotted lines in Fig. 8, the front of the trap is released and the same is thrown open by the action of the spring T*. The segments $b^0 b b'$, &c., connected with the releasing-levers E of the traps, normally rest upon a circular ledge, a , Fig. 2, formed in the casing B, and can be raised from the same by the use of an actuator, F, Figs. 1 and 2, whereby one of the traps is sprung.

The actuator F consists of a vertical spindle, f , which extends through the center of the casing B, and has a bearing at its lower end in a cup-shaped support, h , that is affixed to the upper end of a bent slide, G. From the spindle f projects a finger, f' , which is adapted to engage with the under side of any particular one of the segments $b^0 b b'$, &c., Figs. 2, 4, 5, and 6, when the actuator is raised to the position shown in dotted lines in Fig. 2 by the movements of the slide G.

The slide G can move in suitable ways, G', 80 secured to the frame A, and it is connected at h' to a cross-head, H. A pitman, h^2 , connects this cross-head H with a spindle, H', carried by a treadle, I, which is pivoted at i to the lugs rising from the frame. When the outer end of the treadle I is depressed to occupy the position shown by dotted lines in Fig. 2, the slide G is raised, carrying the actuator F with it. The finger of the actuator engages a segment, as b' , and moves the same upward, whereby the corresponding trap is started. A spring, I', attached to the slide G and to the frame A, returns the operating parts to their normal position, the slide in this case coming into contact with a suitable stop, i' .

To rotate the actuator F after each depression of the treadle I, I provide the latter with a notched milled head, F', which may be in the shape of a wheel. This head F', Figs. 1, 2, and 3, is adapted to be engaged by an engaging device, J, affixed to a horizontal sliding bolt, J', located behind the casing B. The said sliding bolt is supported in a suitable frame, j , secured to the shelf A', and is pro-

vided with suitable stops to limit its motion in either direction, said stops engaging the frame *j*. The bolt is actuated to move in the direction of arrow 1, Fig. 1, by a lever, *l* L, Figs. 1 and 3, one arm, *l*, of which engages its ends and the other arm of which is connected by a link, *L*, with the cross-head H. On the opposite end of the bolt *J'* is formed a hook, *j'*, which is adapted to be engaged at certain intervals by a spring-pressed latch, M, which is arranged in line with the bolt on the frame *j*. The outer arm of the latch is engaged by an arm, *n*, on the upper end of a vertical rod, N, Fig. 1, that is connected to the cross-head H and the treadle I.

The engaging device J on the bolt *J'* can be in the form of a wheel made of rubber or other suitable material, which is so arranged that it will engage with the periphery of the head F and rotate the actuator.

When the treadle I is depressed, the actuator moves upward and the bolt slides in the direction of arrow 1, Fig. 1, but does not engage the head F'. The bolt at the end of its motion is held by the latch M until the actuator has descended, upon which the arm *n* of the rod N engages the latch and releases the bolt, which rapidly returns under the action of a stout spiral spring, *J'*, Figs. 1 and 2, attached to the frame *j*. In this rapid return movement of the bolt the actuating device J engages the head F' of the actuator and rotates the same, whereby the finger *f'* is brought under another one of the segments, *b'' b' b'*, &c.

To prevent the finger *f'* from drawing upward two of the segments at once its upper portion is in the form of a knife-edge, and the segments are hollowed out to form sharp meeting inclined walls, Figs. 6 and 7, so that the said finger will slip into one or the other of the segments.

In practice the cords or chains *d'*, eventually connecting with the segments *b'' b' b'*, &c., are arranged in a conduit, P, which connects with a curved conduit, P', in which are arranged crank-levers *p p'*, &c., which are connected with the cords *d'* and by cords or chains *d''* and *d'''* with the releasing-levers E.

To take up any slack in the cords or chains *d*, I provide suitable buckles, *d**, Figs. 1 and 2, which are connected to the threaded end of the rods *c'' c' c'*, &c., and to take up slack in the cords or chains *d'' d'*, I provide a set-screw, *d'*, which engages a threaded eyebolt, *d''*, extending through the releasing-lever E.

Referring to Figs. 1, 2, and 9, it will be observed that the finger *f'* of the actuator F is directly under the segment *b'*, and consequently, when the actuator is elevated by depressing the treadle I, the trap T' is sprung, whereupon the actuator is rotated, as previously described, to cause the finger *f'* to come beneath another of the segments. The actuator is rotated through a considerable number of revolutions, and consequently the segment under which the finger *f'* will remain stationary can-

not be determined in any way, and the "starter," or person having charge of the apparatus, does not know which trap he will spring on depressing the treadle.

In some cases it is desirable to repeatedly spring several traps at one and the same time. To accomplish this it is only necessary to remove the cords or chains *d* from their proper segments and attach the same to one and the same segment, so that when the latter segment is actuated it will draw all the chains attached thereto.

The link *L* is disconnected from the cross-head H, so that the bolt *J'* will not be moved to rotate the actuator F. The finger *f'* of the actuator F is then set to engage the segments having the chains attached. The link *L* is held clear of the cross-head H by an arm, *h'*, pivoted to the frame, Fig. 1, which is swung outward to engage the link. A friction-brake, Fig. 5, consisting of a lever, R, pivoted to the casing, which is in contact with a spring, *r*, can be thrown into engagement with the spindle *f* to prevent the actuator from being inadvertently turned as the latter is reciprocated. The spring *r* serves to hold the lever R in forcible contact with the spindle.

Heretofore pigeon-traps have been sprung by the starter by pulling the trap-chains by hand, and consequently the particular trap to be sprung was at the option of the starter. By the use of the apparatus herein described the starter is unable to previously determine the trap to be sprung, as said apparatus acts automatically. By attaching a handle to the slide G or providing a hand-lever in engagement with the same the apparatus can be operated by hand as well as by foot.

The apparatus can evidently be used for springing clay-pigeon or glass-ball traps.

What I claim as new, and desire to secure by Letters Patent, is—

1. The combination, with a hinged trap, T, and a catch, E, for locking the trap, of a vertically-movable segment, *b*, a pivoted crank-lever, *d*, connections between said crank-lever and catch, connections between said crank-lever and segment, a vertically-movable slide, G, a spindle carried by said slide and engaging the segment when raised, and means for raising and lowering the slide to actuate the segment, substantially as described.

2. The combination of a trap, T, a vertically-movable segment, *b*, a pivoted crank-lever, *d*, a catch, E, for locking the trap, connections between said catch and crank-lever and between the crank-lever and segment, a vertically-movable slide, G, a spindle carried by the latter and engaging the segment *b*, and a pivoted treadle, I, connected with the slide, substantially as described.

3. The combination, with a series of traps, of a case, B, a series of vertically-movable segments guided by the latter, a series of pivoted crank-levers, catches E, for locking the traps, connections between the respective crank-le-

versand segments and between the said crank-levers and catches, and means, substantially such as described, for raising the segments to operate the crank-levers and open the traps, substantially as described.

4. The combination, with a series of traps, of a case, B, a series of vertically-movable segments guided by the latter, a series of pivoted crank-levers, connections between the respective segments and crank-levers, a series of catches, E, for locking the traps, connections between said catches and crank-levers, a vertically-movable guide, G, a spindle, f , carried by the slide to engage the segments, and means for raising and lowering the slide and rotating the spindle, substantially as described.

5. The combination, with a series of traps, of a series of vertically-movable segments, a series of pivoted levers, connections between said levers and segments, a series of catches for locking the traps, connections between said catches and levers, a vertically-movable slide, a spindle carried by the slide and having a finger to engage the segments, means to rotate the spindle, and a treadle for raising the slide and spindle, substantially as described.

6. The combination, with a series of traps and catches for locking the same, of a series of rising and falling segments arranged about a common center, connections between each segment and the locking-catch of each trap, a spindle, f , having a finger, f' , to engage the segments, means for intermittently rotating the spindle, and mechanism for raising and lowering the spindle to operate the segments and release the traps, substantially as described.

7. The combination, with a series of traps and catches for locking the same, of a series of segments arranged about a common center, connections between each segment and the locking-catch of each trap, a slide, G, a spindle, f , having a head, F' , and a finger, f' , and supported by the slide, a sliding bolt, J' , having a hook, j' , and a device, J, to engage the head of the spindle, the lever L l , for moving

the sliding bolt, a latch, M, for engaging the hook on the sliding bolt, a device, N n , for releasing the latch, a spring, J^2 , for retracting the sliding bolt, and means, substantially as described, for operating the lever L l , the releasing-catch, and raising and lowering the spindle.

8. The combination, with a series of traps and the locking-catches E for the same, of a series of segments, connections between each segment and each catch, a spindle having a head, F' , and provided with a finger, f' , engaging the segments, a slide supporting the spindle, means, substantially such as described, for imparting motion to the slide to raise and lower the spindle, and an engaging device for rotating the spindle, substantially as shown and described.

9. The combination, with a series of traps and locking-catches for the same, of a series of segments, connections between each segment and each catch, a spindle movable in the direction of and about its axis and having a finger, f' , to engage and lift the segments, mechanism for raising and lowering the spindle, and an engaging device for automatically rotating the spindle subsequent to its linear movement, substantially as shown and described.

10. The hollow segments b , having their adjacent sides beveled to form a sharp juncture, in combination with the actuator F, having a finger, f' , provided with a knife-edge, the traps, a locking-catch for each trap, connections between each segment and each catch, and devices, substantially as described, for raising and lowering and rotating the actuator to operate the segments.

In testimony whereof I have hereunto set my hand and seal in the presence of two subscribing witnesses.

JEREMIAH J. KING. [L. s.]

Witnesses:

W. C. HAUFF,

A. FABER DU FAUR, Jr.