

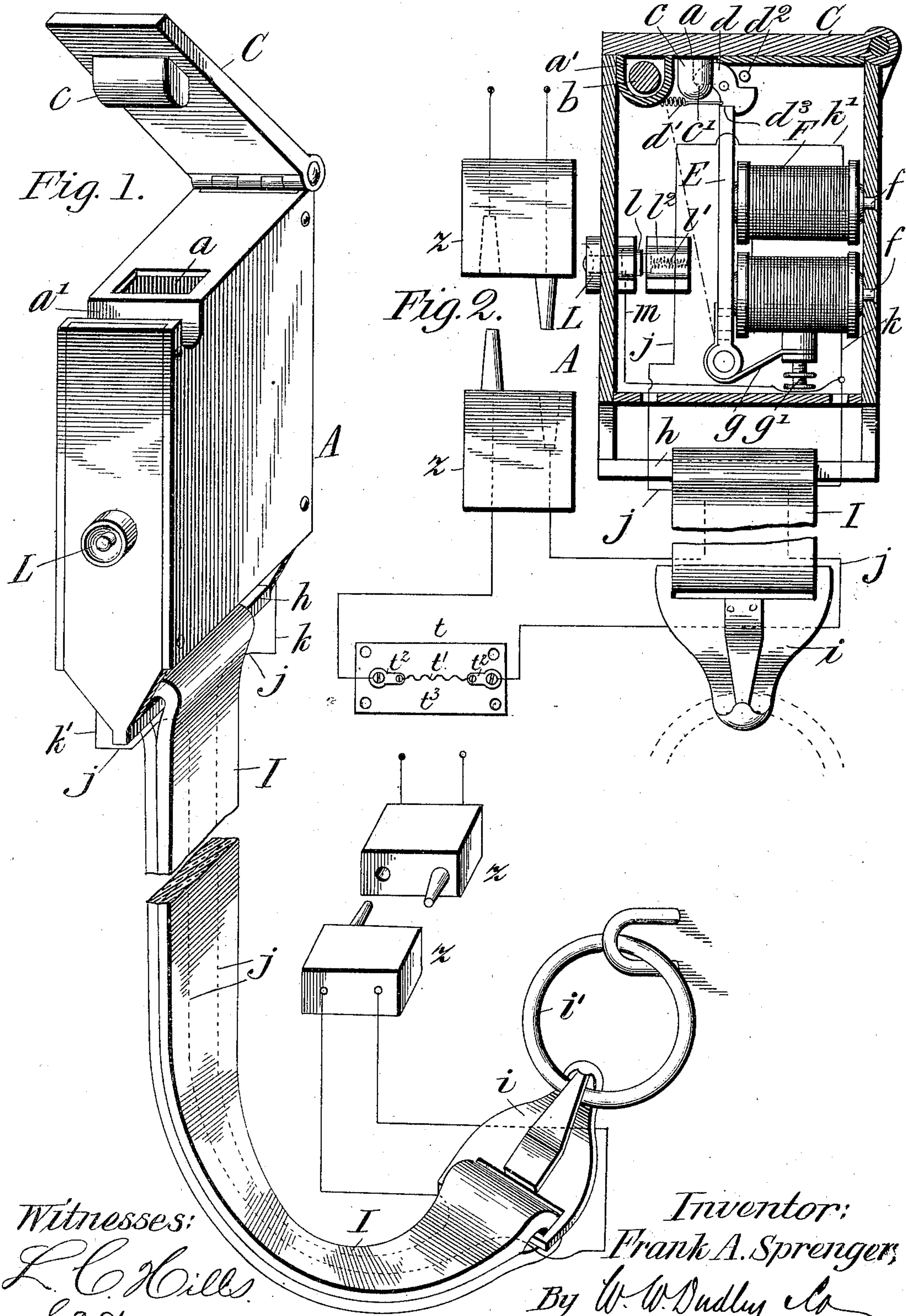
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Patented Aug. 28, 1900.

F. A. SPRENGER.  
ANIMAL RELEASING DEVICE.

(Application filed Sept. 30, 1899.)

(No Model.)



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# UNITED STATES PATENT OFFICE.

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## ANIMAL-RELEASING DEVICE.

SPECIFICATION forming part of Letters Patent No. 656,672, dated August 28, 1900.

Application filed September 30, 1899. Serial No. 732,175. (No model.)

*To all whom it may concern:*

Be it known that I, FRANK A. SPRENGER, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Animal-Releasing Devices; and I do 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, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to animal-releasing devices, and has for one object the production of an improved electrical appliance of this character in which provision is made for effecting the release of the halter-ring carried by the animal either automatically through the operation of a thermostatic device connected in the circuit wherein the appliance is arranged or manually by manipulating a switch.

A further object of the invention is the production of an electrically-operated releasing device the construction of which is comparatively simple and durable and which is instantaneous in action and at all times thoroughly reliable.

The nature of the invention will be readily comprehended by reference to the following detailed description and to the accompanying drawings, which form a part thereof, and in which—

Figure 1 is a perspective view of an animal-releasing device embodying my invention. Fig. 2 is a vertical sectional view of the same.

Referring to the drawings by letter, A denotes the lock-casing, having in its top an opening or slot *a* and a socket *a'*, which latter receives the halter-ring *b*, carried by the animal.

C is a hasp which is pivoted at one end to the top of the casing and is provided toward its other end with a depending catch *c*. In the lowered position of the hasp the halter is confined in the socket, and the catch on the hasp enters the slot *a* and is engaged by a trigger *d*, the catch to this end being provided with a shoulder *c'*. The trigger is retracted to release the catch and hasp by the

action of a coiled spring *d'*, a stop *d''* in the path of the trigger limiting its retracting movement. The trigger *d* has at its lower side a shoulder *d''*, against which is normally pressed an armature E in the form of an arm pivoted at its lower end to be brought into contact with electric magnets F. These magnets are normally energized through connection with a suitable source of electricity and hold the armature to their poles, whereby the trigger is held in engagement with the catch and the hasp is retained in locking position. The magnets are preferably secured to one of the sides of the casing by screws *f f*, which are passed through from the outside.

*g* is an armature adjustment-spring secured at one end to the armature adjacent to its pivot and engaging at the other end an adjusting-screw *g'*, whereby the tension of the spring may be varied.

Suspended from the lower end of the casing is hanger-rod *h*, around which is looped one end of the hitching-strap I, the other end of the strap being provided with a snap-hook *i*, which engages a fixed ring *i'* on the wall or other upright. The strap I is preferably made of thin strips of leather or other suitable material cemented or sewed together, and between them are placed the electric conducting-wires *j* of the circuit. These wires, which are insulated and sufficiently flexible, pass at one end through insulated openings in the base-plate of the casing and connect with the terminal wires *k k'* of the magnets. The other end of the wires *j* connect with a battery or other source of electricity.

L is a push-button switch located in the side or end of the casing, the button, which carries one contact *l*, being pressed outwardly by the action of a coiled spring *l'*. From this contact *l* extends a wire *m*, which connects with the circuit at the junction of the terminal wire *k* and its corresponding wire *j*.

*l''* denotes the fixed contact of the switch, to which is connected the terminal wire *k'* and the other wire *j*, whereby upon the engagement of the contacts through the movement by hand of the button the current is shunted outside of the magnets, the result being the retraction of the armature and trigger and the release of the hasp.

The push-button and its connections afford



means by which the animal may be released by hand. To effect the release automatically of the animal, I provide a suitable thermostatic device, which is arranged in the circuit 5 and which is operated under the action of a predetermined degree of heat to break or to shunt the circuit and release the armature, it being understood that the invention is designed mainly for use in case of fire or other 10 accident to the building. Any form of thermostat which will operate under the action of heat to break the circuit may be employed. In the drawings I have shown for the purpose of illustration a device  $t$ , which consists of a 15 fusible wire  $t'$ , electrically connected at its ends to terminal plates  $t^2$ , the plates being mounted on a base-plate  $t^3$ , secured to the wall or other upright or ceiling. The circuit-wires  $j$  lead to the plates  $t^2$ . In operation the 20 circuit is normally closed through the wire  $t'$ ; but when the heat reaches a predetermined degree—say two hundred—the wire fuses or melts and the circuit is broken. Normally the magnets are in circuit and the current 25 must be shunted or broken to effect the release of the animal or animals. This breaking or shunting, as the case may be, of the circuit may, as above stated, be accomplished automatically or manually. By either method 30 the action is instantaneous and thoroughly reliable.

To obviate the necessity of employing wrapped joints or connections for the wires  $j$ , I employ circuit-connecting blocks  $z$ , each 35 of which is provided with a pin which enters a socket in the other block, as shown.

The devices, where a number are employed, may be connected either in multiple or series.

I claim as my invention—

40 1. An animal-releasing device comprising a casing having a socket to receive the halter-ring, a pivoted hasp confining the ring in the socket, an armature normally attracted by an electric magnet, a spring-controlled 45 trigger moved by the armature to engage the hasp and hold it in locking position, and means for depriving the magnet of current to

effect the release of the armature and permit movement of the trigger to release the hasp.

2. An animal-releasing device comprising 50 a casing having a socket to receive the halter-ring, a movable hasp confining the ring in the socket and provided with a catch, a spring-controlled trigger, an armature adapted when 55 attracted by an energized magnet to move the trigger into engagement with the catch to lock the hasp, and means for depriving the magnet of current.

3. An animal-releasing device comprising 60 a casing having a socket to receive the halter-ring, a pivoted hasp confining the ring in the socket, magnets connected with an electric circuit, an armature, means actuated by the armature when attracted to engage and 65 hold the hasp in locking position, and a hand-switch and a thermostat in the circuit whereby the magnet may be manually or automatically deprived of current to effect the release of the hasp.

4. An animal-releasing device comprising 70 a casing carrying a pivoted hasp normally confining the halter-ring, a spring-controlled trigger adapted to engage a catch on the hasp, magnets connected with an electric circuit, 75 an armature in operative relation to the trigger, a spring connected with the armature, an adjusting-screw for the spring, and means for depriving the magnets of current.

5. An animal-releasing device comprising 80 a casing carrying locking means for confining a halter-ring, magnets connected with an electric circuit, an armature operatively connected with the locking means, a push-button 85 switch carried by the casing and electrically connected with the circuit to shunt the magnets, a strap fixed to the casing and carrying the wires of the circuit, and a thermostat in the circuit.

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

FRANK A. SPRENGER.

Witnesses:

J. S. JACOBY,

WILLIAM L. WEBER.