

(No Model.)

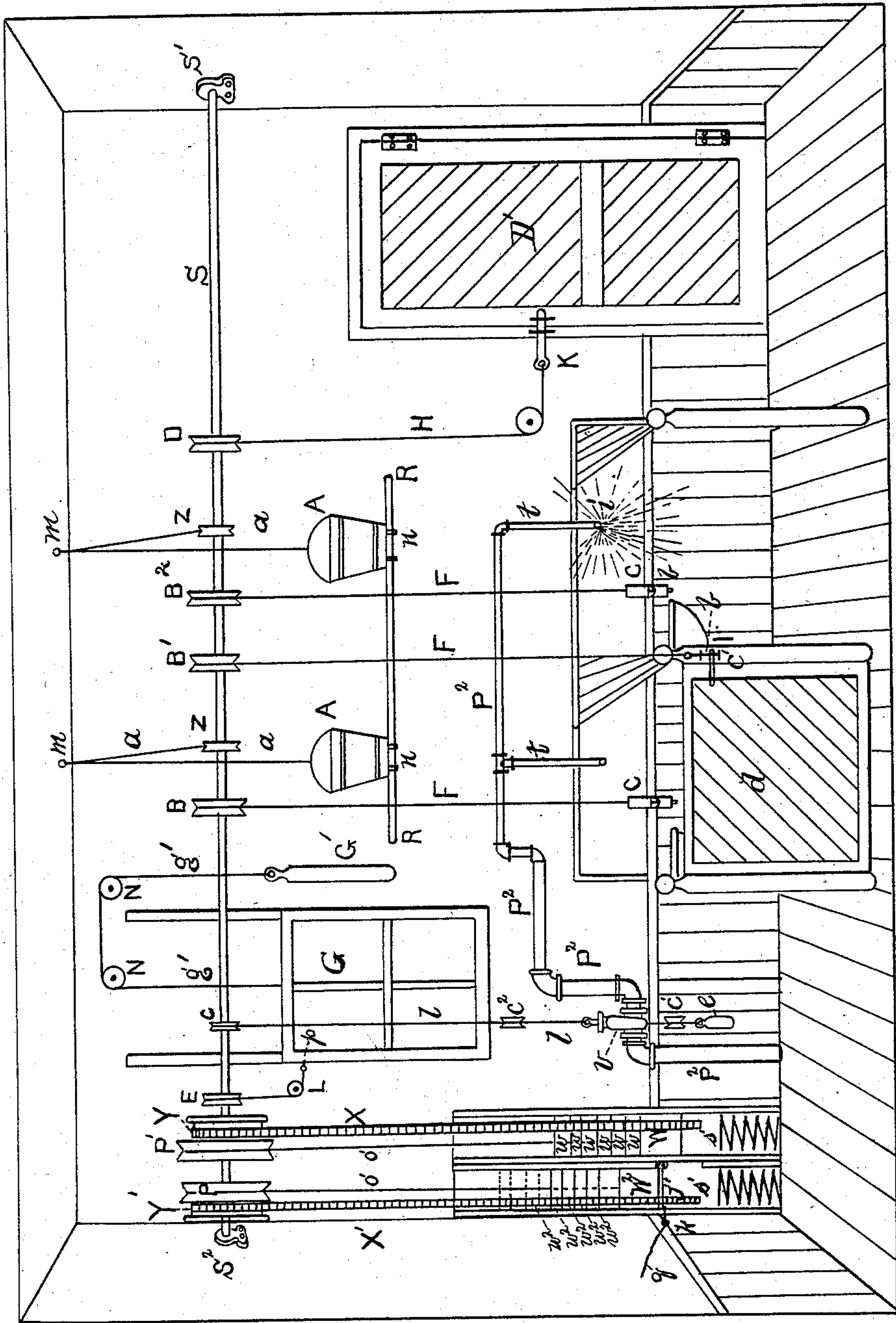
2 Sheets—Sheet 1.

M. M. SHELLEY.  
ANIMAL RELEASING DEVICE.

No. 406,674.

Patented July 9, 1889.

Fig 1



Witnesses

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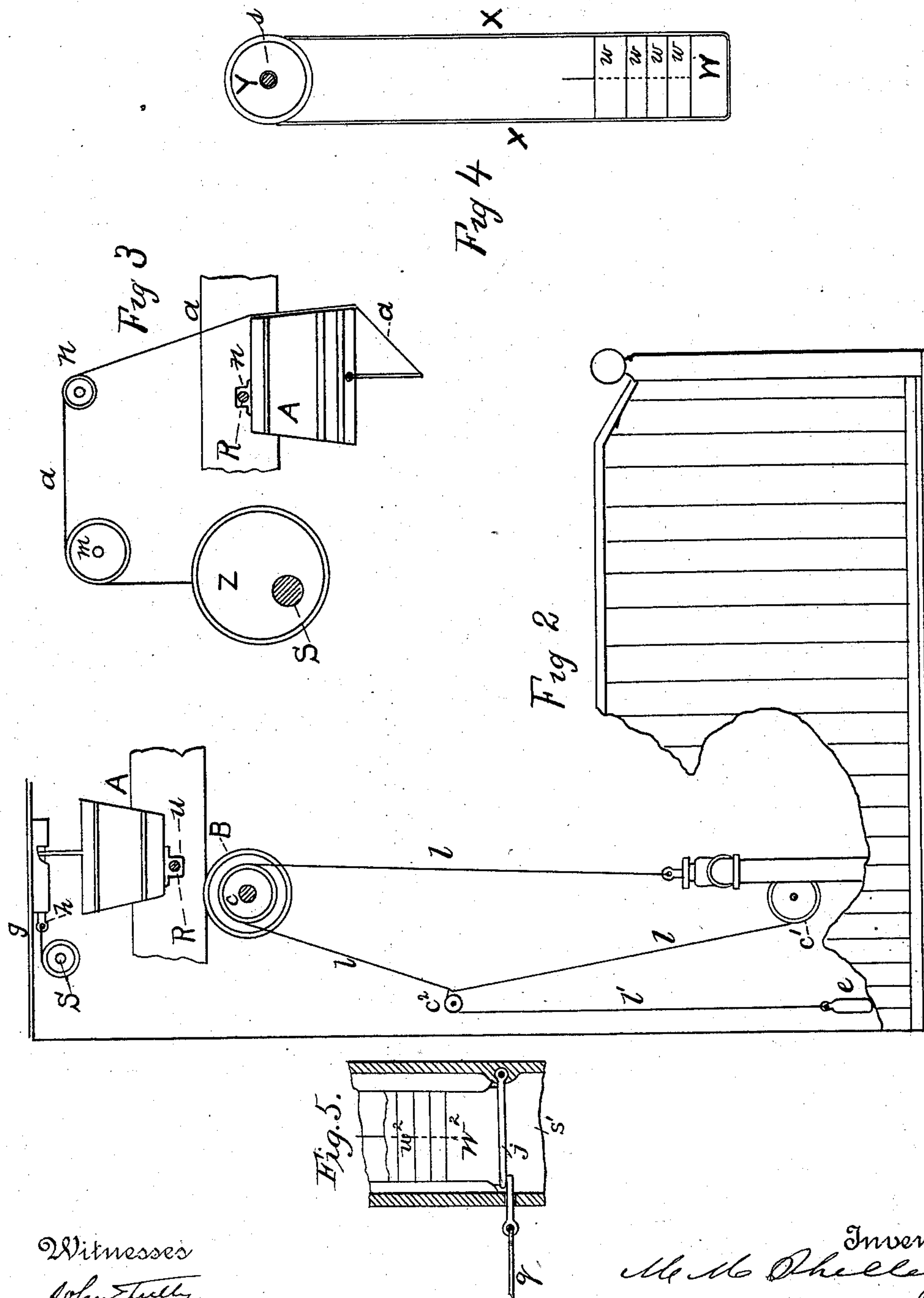
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Witnesses  
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# UNITED STATES PATENT OFFICE.

MORTIMER M. SHELLEY, OF BROOKLYN, NEW YORK.

## ANIMAL-RELEASING DEVICE.

SPECIFICATION forming part of Letters Patent No. 406,674, dated July 9, 1889.

Application filed December 22, 1887. Serial No. 258,658. (No model.)

*To all whom it may concern:*

Be it known that I, MORTIMER M. SHELLEY, of Brooklyn, in the county of Kings and State of New York, have invented a new and useful improvement in devices for releasing and rescuing horses or other animals from burning buildings or stables, which invention is fully set forth and illustrated in the following specification and accompanying drawings.

This invention is an improvement upon that for which Letters Patent No. 367,556 were issued to me August 2, 1887.

The object of this invention is to provide more efficient mechanism for the purposes intended and of the simplest character, while accomplishing the complete results either automatically, upon the occurrence of a fire, or by releasing by hand a weight whose fall operates the entire mechanism.

The invention will first be described in detail, and then particularly set forth in the claims.

In the accompanying drawings, Figure 1 illustrates the invention, partly in perspective and partly in geometrical elevation, as applied to a stable. Fig. 2 is a side elevation, on an enlarged scale, showing one method of hanging and detaching the water-buckets which may be employed, together with a method of operating the water-valve for admitting water to the scattering pipes, hereinafter described. Fig. 3 shows, on an enlarged scale, the method of hanging the water-buckets, so that they may be upset when required, being the same method indicated in Fig. 1. Fig. 4 is an end view of a modification shown in Fig. 1 in front view, for arresting the fall of the actuating-weights by straps or chains, instead of by springs, as hereinafter described. Fig. 5 shows, on an enlarged scale, mechanism for releasing the falling weights.

In said figures the several parts are indicated by letters, like letters indicating like parts, as follows:

The power-shaft S, journaled in suitable brackets or hangers, as S' S<sup>2</sup>, as many as may be required, actuates the whole mechanism to which it is connected, being provided with pulleys B B' B<sup>2</sup>, for withdrawing the pins or bolts b from their sleeves or cases C by means of the lines or wires F, thus releasing the

halter-rings and the strap on the stall-door d from engagement with said pins. A pulley D is also provided for withdrawing, by means of the line or wire H, the bolt K from the outer stable-door D'. Another pulley E is also provided for withdrawing, by means of the line or wire L, the pin p from the window-sash G. Said sash is provided with a weight G', suspended over pulleys N by a line g', so that when the bolt p is withdrawn the weight G' will open the window. Said window-sash may, however, be suspended by two weights in the ordinary way, heavy enough to hold it open, or it may be hinged like a door. Still another pulley c is provided for opening, by means of the line or wire l, the water-valve V, to which the ends of said line are secured after passing over the fixed pulleys c' c'. Said line is shown in Figs. 1 and 2 as a slack line tightened by means of a weight e, suspended from its bight by a line l', running over a fixed pulley c<sup>2</sup>. This arrangement may be used conveniently when it is desired, by means of the lost motion obtained by the slack-line l to open the water-valve V a little later than the release of the animals' halters from their holding-pins b, for it is obvious that the valve V will not be opened by the rotation of the pulley C until the slack of the line l has first been taken up. The weight e of course prevents kinking of the line l' and preserves the necessary friction between it and its driving and carrying pulleys. The valve V is shown as a gate-valve; but any style of water stop-valve may be used, the gate-valve, however, being preferable by reason of its quick opening.

From the pulley Z are suspended, by lines a, running over or through pulleys or holes m n, Figs. 1 and 3, water-buckets A, said buckets being also hung by their bottoms, so as to swing on a rod or hinge R by brackets or straps n. The pulley Z, Fig. 3, is shown as secured eccentrically upon the shaft S, and it is evident that its rotation in unwinding the line therefrom will quickly let the bucket capsize by gravitation and discharge its contents, the hinge on the bottom of the bucket being also set out of the bucket's center that is parallel with but not in the line of its diameter.

As part of Fig. 2, the water-bucket is shown



released by the withdrawal of a bolt or pin  $h$  from the handle of the bucket by a line  $g$  past the shaft  $S$  for winding thereon, the bolt  $h$  being in this case withdrawn from the bucket in the same manner as the other releasing devices are operated.

It is obvious that either or both water-scattering devices may be adopted—that is, the water-pipes  $P^2$   $t$  with the valve  $V$ , or the water-buckets  $A$ , the bucket arrangement alone being the cheaper of the two, though not so long-continued a water-scattering device. If desired, the dash of water from the buckets may precede by a moment the discharge of water from the pipes  $t$ . The animals will thus first be startled by a heavy dash of water, followed up by streams or sprays. A spray is illustrated from one of the pipes  $t$  at  $i$ , Fig. 1.

The method of operating the winding-shaft  $S$  (shown in the drawings) is as follows: The weight  $W$ , loaded with a series of other or smaller weights  $w$ , and suspended in guides by the line or wire  $O'$  from the pulley  $P'$ , is permitted to hang down the full length of its line, while the weight  $W^2$ , in like manner suspended by the line or wire  $O$ , is wound up by said line upon the pulley  $P$ . This position of the weight  $W$  will permit all the releasing and opening devices to engage each with its respective counterpart and maintain the entire mechanism in position for operation. In this position the weight  $W^2$  is retained wound up by the hinged trip  $j$ , held in place by the pin or bolt  $k$ , to which bolt the wire or line  $q$  is secured. Said bolt may be fitted, if desired, with a spring to hold it automatically in its closed position when the trip  $j$  is set closed, and it may be pulled open by hand by the wire  $q$ , led off to any convenient place. Any other force, automatic or otherwise, may, however, operate said bolt.

The springs  $s$   $s'$  may be used to arrest the fall of the weights  $W$   $W^2$  and prevent jar and strain upon the lines  $O$   $O'$ .

Instead of springs belts of elastic material or made of metal chains may be suspended over pulleys  $Y$   $Y$ , Figs. 1 and 4, which, depending below and around said weights, will arrest their fall by receiving them in their bights, as more clearly shown in Fig. 4.

The complete operation of the mechanism is as follows: When the apparatus is set ready to operate upon the breaking out of a fire, the weight  $W$  is depressed or occupying its lowest position, and the weight  $W^2$  in its elevated position by having its suspension wire or line  $O'$  wound on the pulley, whose rotation has also rotated its shaft  $S$ , the main-line shaft. Said shaft's rotation has already unwound all other wires or lines from their respective pulleys  $E$ ,  $c$ ,  $B$ ,  $z$ , and  $d$ , thereby allowing their respective pins to slip through the halter-rings and to slip in as bolts to secure the window  $G$  and the doors  $d$   $D'$ . Said shaft's rotation also permits the water-valve  $V$  to be seated closed by slacking the wire or rope  $l$ , and at the same time holds the buckets  $A$  in

a vertical position by winding their suspension wires or ropes  $a$  upon their respective pulleys. The parts being all in the positions described, the weight  $W^2$  is fixed in its elevated position by the catch or trip  $j$ , to the bolt  $k$  of which trip the wire or line  $q$  is secured for operating said trip, as hereinbefore described, either by hand or by any automatic mechanism set in motion by an incipient fire. When the weight  $W^2$  is so secured, one or more of the detachable disks  $w$ , constituting the weight  $W$ , are removed therefrom and placed on weight  $W^2$  in the positions  $w^2$ , thereby so increasing the preponderance of weight  $W^2$  over all opposing forces as to insure its rotating the shaft  $S$  by its fall when released. To again elevate the weight  $W^2$ , it will be only necessary, of course, to restore the disks  $w^2$  to the weight  $W$  in the positions  $w$ , when its preponderance over all opposing forces will accomplish the desired result of resetting the apparatus for operation. It will be quite evident now that as soon as the bolt  $k$  is withdrawn the weight  $W^2$ , overloaded with the weights  $w^2$ , will fall and in so falling wind on their respective pulleys the several lines or wires hereinbefore named, which being thus shortened will first withdraw the halter-pins, door-bolts, and window-bolts, and almost simultaneously, but preferably immediately afterward, open the water-valve  $V$ , causing the water to be discharged out of the pipes  $t$  upon the released animals, and also emptying the water out of the buckets  $A$ , if said buckets be additionally used, by capsizing the same, leaving them suspended by their bottoms. The animals will thus be released from their stalls and driven therefrom and toward the doors by the water thrown upon them and the fire, if near them.

It is obvious that any number of animals can be released, any number of doors and windows opened, and any number of water-valves, water-pipes, water-buckets, or other water-scattering devices be operated by the falling of the weight  $W^2$ , all said operations being practically simultaneous; and thus the animals can be released and rescued by being driven out of the building in an exceedingly short period of time, even before any one has entered the building. In such combustible buildings as stables or stock-houses the element of time is of the first importance, controlling all other questions.

The advantage of opening windows as well as doors is that the smoke can more easily escape through more numerous outlets by the greater draft generated; but of course the window-opening devices may be omitted, if desired. Either the buckets alone, or the water-pipes alone, or both, as shown, may be used.

All doors and windows may also be provided with any of the well-known forms of springs or weights for throwing them open when their releasing bolts or pins are thrown out of use, which of course form no part of this invention.



I do not confine myself to the hinged trip *j* and retaining-bolt *k*, for supporting the releasing-weight in its elevated position, as it is evident that any removable supporting means  
 5 may be substituted for releasing said weight upon the withdrawal of such supporting means without departing from the principle of my invention.

Having thus fully described my said improvements as of my invention, I claim—

1. An animal-releasing mechanism consisting of the following-named elements in combination: a winding-shaft, a line secured thereto and provided with a weight, removable means for upholding the weight, and a  
 15 line also secured to said shaft and provided with a releasing-bolt, whereby, when said weight is permitted to fall, said shaft is thereby rotated and withdraws the releasing-bolt  
 20 by winding up its line, substantially as and for the purposes set forth.

2. An animal-releasing mechanism consisting of the following-named elements in combination: a winding-shaft, counter-weights  
 25 suspended by lines or wires on opposite sides from said shaft, and one or more releasing-bolts suspended by lines or wires from said shaft, whereby said shaft may be rotated in either direction by impairing the counter-  
 30 balance of said weights, substantially as and for the purposes set forth.

3. In an animal-releasing mechanism, in combination with a winding-shaft and a weight secured thereto by a line or wire, one or more  
 35 releasing-bolts suspended by lines or wires from said shaft, and an elastic bumper or arresting device, whereby the momentum of said weight is gradually arrested when unwinding

its line from said shaft, substantially as and for the purposes set forth.

4. In an animal-releasing mechanism, in combination with a winding-shaft, one or more hinged buckets connected thereto by a line or lines, whereby on the turning of said shaft  
 40 said buckets are turned upon their hinges and their contents discharged, substantially as and  
 45 for the purposes set forth.

5. In an animal-releasing mechanism, in combination with a winding-shaft provided with a line and weight, a water-releasing device, an endless belt or line secured to said  
 50 releasing device and operated on fixed pulleys by said shaft, and a running weight secured by a line to said endless belt, whereby while the slack of said belt is taken up lost  
 55 motion for said shaft is obtained before it causes the opening of said releasing device by said endless belt, substantially as and for the purposes set forth.

6. An animal-releasing mechanism consisting of the following-named elements in combination: one or more halter-detachers, a pipe and bucket—one or both—for discharging water, and a releasing bolt or catch on one or  
 60 more doors, all connected by lines or wires to a winding-shaft operated by a weight secured thereto by a line or wire, whereby upon the fall of the weight the animals are released  
 65 and driven out of the building without the necessity of persons entering the same, substantially as and for the purposes set forth.

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Witnesses:

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