

A. T. RUTHVEN.

MEANS FOR RELEASING AND LEADING ANIMALS FROM STABLES.

APPLICATION FILED AUG. 21, 1906.

2 SHEETS—SHEET 1.

Fig. 1.

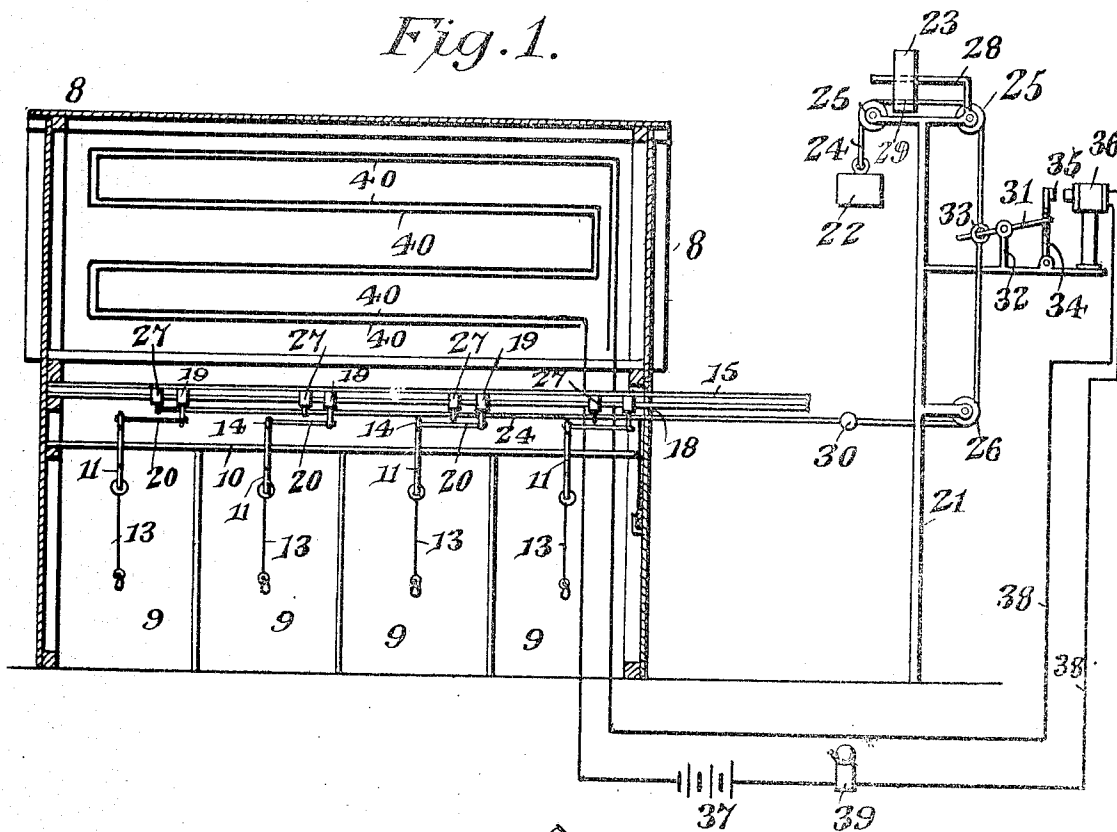


Fig. 2.

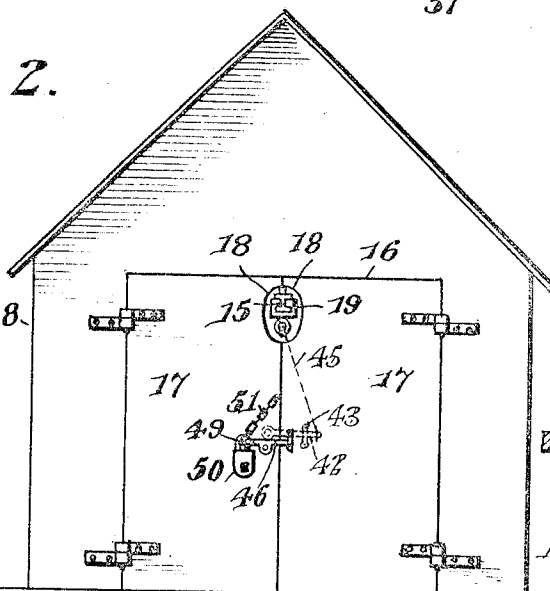
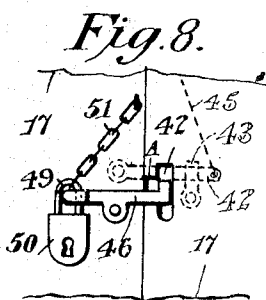
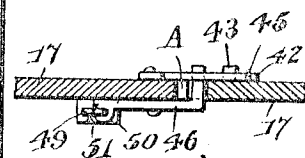


Fig. 9.



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2 SHEETS—SHEET 2.

Fig. 3.

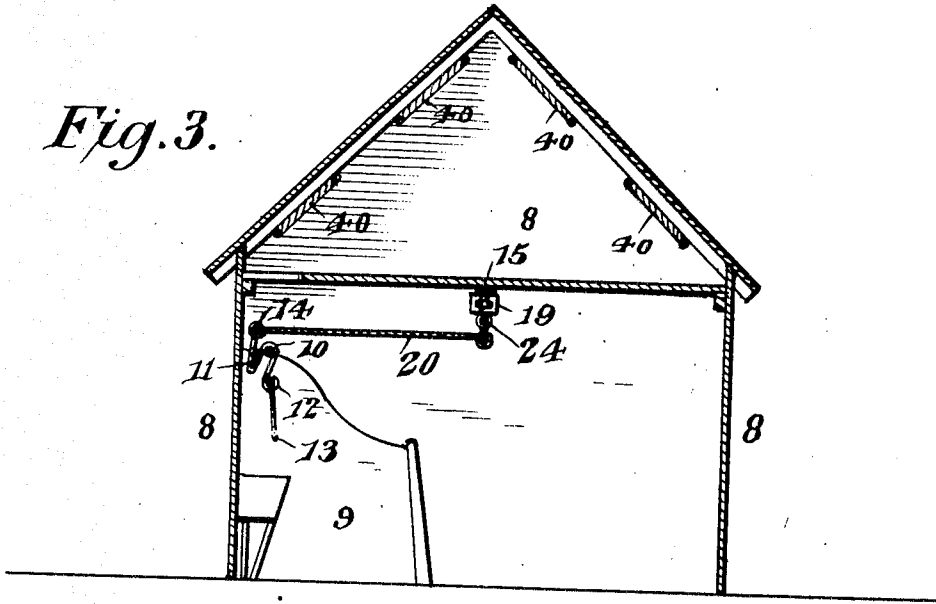


Fig. 4.

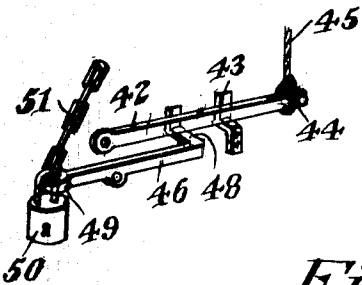


Fig. 6.

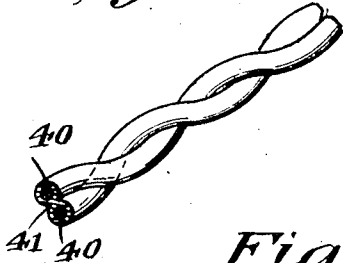


Fig. 5.

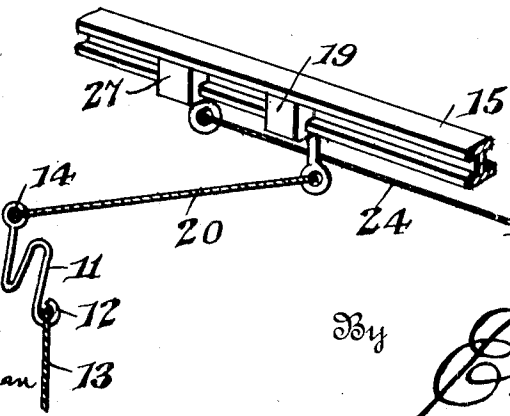
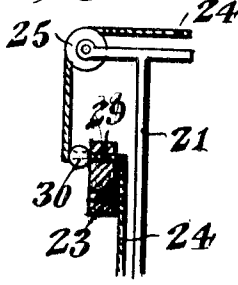


Fig. 7.



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UNITED STATES PATENT OFFICE.

ARTHUR THEODORE RUTHVEN, OF TOPEKA, KANSAS.

MEANS FOR RELEASING AND LEADING ANIMALS FROM STABLES.

No. 856,727.

Specification of Letters Patent.

Patented June 11, 1907.

Application filed August 21, 1906. Serial No. 331,465.

To all whom it may concern:

Be it known that I, ARTHUR THEODORE RUTHVEN, a citizen of the United States, residing at Topeka, in the county of Shawnee and State of Kansas, have invented a new and useful Means for Releasing and Leading Animals from Stables, of which the following is a specification.

The principal object is to provide novel means for automatically releasing and leading animals from stables in case the same catch fire, thereby materially reducing the danger of burning the animals.

The preferred form of construction is illustrated in the accompanying drawings, wherein:—

Figure 1 is a sectional view through a stable, showing the mechanism associated therewith, this view being partly diagrammatic. Fig. 2 is an end elevation of the stable. Fig. 3 is a cross sectional view therethrough. Fig. 4 is a detail perspective view of the locking means for the door. Fig. 5 is a detail perspective view of one of the animal holding and leading devices. Fig. 6 is a detail perspective view of the circuit closer. Fig. 7 is a detail view, showing the operation of the secondary motor weight. Fig. 8 is a detail view of the locking mechanism, as shown in Fig. 2, but on an enlarged scale. Fig. 9 is a detail horizontal sectional view through the same.

Similar reference numerals designate corresponding parts in all the figures of the drawings.

The stable, designated generally by the reference numeral 8, may be of any desired construction, including suitable stalls 9. Extending across the inner portions of the stalls and at a considerable elevation is a support, in the form of a bar or rod 10. A plurality of hooks 11 detachably engage over this bar or rod, and have lower terminal eyes 12, to which the halter straps 13 are fastened, said hook also having upstanding terminal eyes 14 disposed above the rod 10. A track 15 is located longitudinally in the stable in rear of the stalls, and extends through the door-way 16 in one end of the stable. Doors 17 are provided for said door-way, and are arranged to swing outwardly, their adjacent edges being cut away, as shown at 18 to permit the extension of the track. Slidably mounted on said track, are a series of blocks 19, which are connected by leading cables 20 to the upper eyes 14 of the holding

hooks 11. It will thus be apparent that if the blocks 19 are moved outwardly, the hooks 11 will be disengaged from the rod or bar 10, and the animals, secured to said hooks, will thus be released from the stalls, and will be led outwardly through the door-way 16, and from the stable. To effect this automatic releasing and leading operation, the following mechanism is preferably provided.

A standard 21 is located exteriorly of the stable, and is provided with a weight motor, consisting of one or more weights, two being shown in the present embodiment, though the number may be varied, as desired, one of these weights being designated 22, the other 23. The weight 22 is secured to one end of a cable 24, passing about upper pulleys 25, and a lower guide sheave 26. The cable extends from said guide sheave 26 through the door-way, and is connected to a series of actuating elements or blocks 27 that are disposed in rear of the blocks 19, being slidably mounted on the track 15. The other weight 23 is detachably mounted on a horizontal arm 28, carried by the upper end of the standard, and said weight has an opening 29 therethrough, through which the cable 24 slidably passes. This cable is, however, provided with an enlargement 30, which when it reaches and strikes the weight 23, will cause its detachment from the arm 28. The projection 30 is so disposed that it will detach the weight 23 just prior to the weight 22, reaching the ground, and thus the secondary weight will be brought into operation, and the movement of the cable continued even after the weight 22 has stopped. The additional weight is of course unnecessary, except in barns or stables of considerable length.

For the purpose of normally holding the motor against movement, a detent, in the form of a lever 31 is fulcrumed between its ends on an arm 32, carried by an intermediate portion of the standard 21. One end of the lever engages in the eye 33, formed in the cable, the other end is engaged by a swinging latch 34 pivoted on the arms 32 and having at its upper end an armature 35. This armature is disposed in coöperating relation to an electro magnet 36. A suitable source of electric power, preferably a dry battery, is shown diagrammatically at 38, and is in circuit through wires 38 with the electro-magnet 36, said circuit also preferably having a

suitable alarm 39 therein. The circuit furthermore includes a closer, a portion of which is shown in detail in Fig. 6. This consists of spaced wires 40, twisted together, and normally covered and separated by heat-destroyed insulation 41. This insulation may be celluloid or other suitable material that will readily ignite or be destroyed under intense heat.

For the purpose of holding the doors 17 of the stable in closed condition, a latch 42 is pivoted to the inner side of one and detachably engages in a keeper 43 secured to the inner side of the other. The free end of this latch is detachably engaged by a ring 44, carried by a cable 45 that is connected to the cable 24. An actuating device for the latch consists of a lever 46, pivotally mounted on the outer side of one of the doors 17, and having an intumed terminal 48 that engages said latch. The other terminal is in the form of an ear 49, in which a suitable padlock 50 may be engaged, said padlock also engaging a holding chain 51 suitably fastened to the door. By means of the lever 46, it will be evident that the latch is readily operated from the outside of a stable, except when fastened by the lock 50, but whether the lever 46 is locked or unlocked, it will not interfere with the raising of the latch 42 through the medium of the cable 45.

While the locking mechanism may be mounted on the doors in any suitable manner, in the present construction, a substantially T-shaped slot A is provided in the door 17, which carries the keeper 43. Thus no part of said door is inclosed by the lever 46 and latch 42, and both doors can swing open when unlatched.

The operation of the mechanism may be briefly described as follows. The parts under normal condition are, as shown in Fig. 1, the motor being held against operation by the detent and the circuit of the source of electro-energy being open. If, however, fire breaks out, some portion of the circuit closing wires 40 which are strung throughout the stable, will be subject to sufficient heat to destroy the insulation, whereupon these wires will contact. This will effect the closing of the circuit, and as a result, the alarm 39 will be sounded. Simultaneously, the electro-magnet 36 will be energized, thereby drawing the armature 35 toward it. This will actuate the latch 36, and disengaging it from the detent lever 31, will free the same. Immediately the weight motor 22 will be freed, and the weight will drop. This movement causes the cable 24 to be drawn outwardly through the stable door, raising the latch 42. At the same time, the blocks 27 will engage the blocks 19, thereby detaching the hooks 11 so as to release the animals from their stalls and lead them outwardly from the stable, the track 15 extending beyond the

range of danger. As a result, it will be evident that simple means of a novel nature are provided, whereby animals will be automatically released and led from a stable, thereby eliminating to a material degree the danger of their being burned, and avoiding the necessity of human beings entering the stable to release them.

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. The combination with an animal holding device, of means controlled by the presence of heat for automatically releasing the holding device and moving the same from the stable.

2. The combination with a support, of an animal holding device including a hook that detachably engages the support, and means for effecting the movement of the hook to detach it from the support.

3. The combination with a supporting bar, of a holding hook that detachably engages over the bar and has means for fastening the animal thereto, and means for detaching the hook from the bar and moving said hook from the stable.

4. The combination with a supporting bar, of a plurality of hooks that detachably engage over the bar, and common means for detaching the hooks from the bar and moving them from the stable.

5. The combination with a track, of an animal leading device slidable on the track, and means for moving the device including an element that is slidable on the track in rear of the leading device and engages it to push said leading device along the track.

6. The combination with a track, of a plurality of separate leading devices movable on the track, and means separate from and detachably engaging the said leading devices for sliding them on the track.

7. The combination with a track, of a plurality of animal leading devices, including blocks slidable on the track, and means for moving the blocks, said means including a plurality of connected elements disposed in rear of the blocks.

8. The combination with a supporting bar, of a plurality of holding hooks detachably mounted on the bar, and having means for fastening animals thereto, a track, a plurality of blocks slidably mounted on the track and connected to the different hooks, and means

engaging the blocks for moving them on the tracks.

9. The combination with animal holding and leading means, of a single motor for effecting the operation of both the holding and leading means, an electrically operated detent for holding the motor against movement, and a heat-controlled circuit closer co-operating with the detent.

10. The combination with animal releasing and leading means, of an automatic motor controlled by the presence of heat for operating the same.

11. The combination with animal releasing and leading means, of a motor for operating the same, a detent for holding the motor against movement, and heat-controlled means for operating the detent.

12. The combination with animal releasing and leading means, of a motor for operating the same, a detent for holding the motor against movement, and heat controlled electrically operated means for releasing the detent.

13. The combination with animal releasing and leading means, of an upright support, a weighted motor mounted on the support and connected to the releasing and leading means, a movable detent mounted on the support and engaging the weighted motor to hold the same against movement, an electromagnet co-operating with the detent, a source of electric energy, and circuit wires connecting the magnet and source of electric energy and including portions separated by heat-destroyed insulation.

14. The combination with a stable having a door, of a plurality of animal releasing and leading devices movably mounted therein, a motor disposed exteriorly of the stable and having cable connections with the releasing and leading means, holding means for the door connected to said cable, an electrically operated detent co-operating with the motor, and an electric circuit including a heat controlled circuit closer arranged in the stable and controlling the movement of said detent.

15. The combination with a stable including a door, of animal releasing and leading means movably mounted in the stable, a motor for moving said releasing and leading

means, a latch for locking the door in closed position, connections between the motor, the latch and the releasing and leading means, and an electrically operated detent for holding the motor against movement.

16. The combination with a stable having a door-way, a door, a track located in the stable and extending through the door-way, a plurality of holding hooks, a plurality of blocks slidably mounted on the track and connected to the holding hooks, a latch for the door, a motor disposed exteriorly of the stable, a plurality of actuating elements slidably mounted on the track in rear of the blocks, a cable connected to the motor, the latch and the elements, an electrically operated detent for the motor, and means for actuating the detent including conducting wires, and heat-destroyed insulation interposed between them.

17. The combination with a support, of animal holding means that detachably engages the support, and common means for disengaging the holding means from the support and drawing the same from the stable.

18. The combination with a bar, of animal holding means including a hook that detachably engages the bar, and common means for disengaging the hook from the bar and moving the same from the stable.

19. The combination with a bar, of a plurality of animal holding hooks that detachably engage the bar, and automatic means for disengaging the hooks from the bar and moving them from the stable.

20. The combination with a track, of a plurality of animal leading devices slidable on the track, a cable, and devices connected to the cable and slidable on the track, said devices detachably engaging the leading devices to move the same upon the track and disengaging therefrom when moved to the outer end of the track.

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

ARTHUR THEODORE RUTHVEN.

Witnesses:

E. ROOF,
C. MESPELT.