

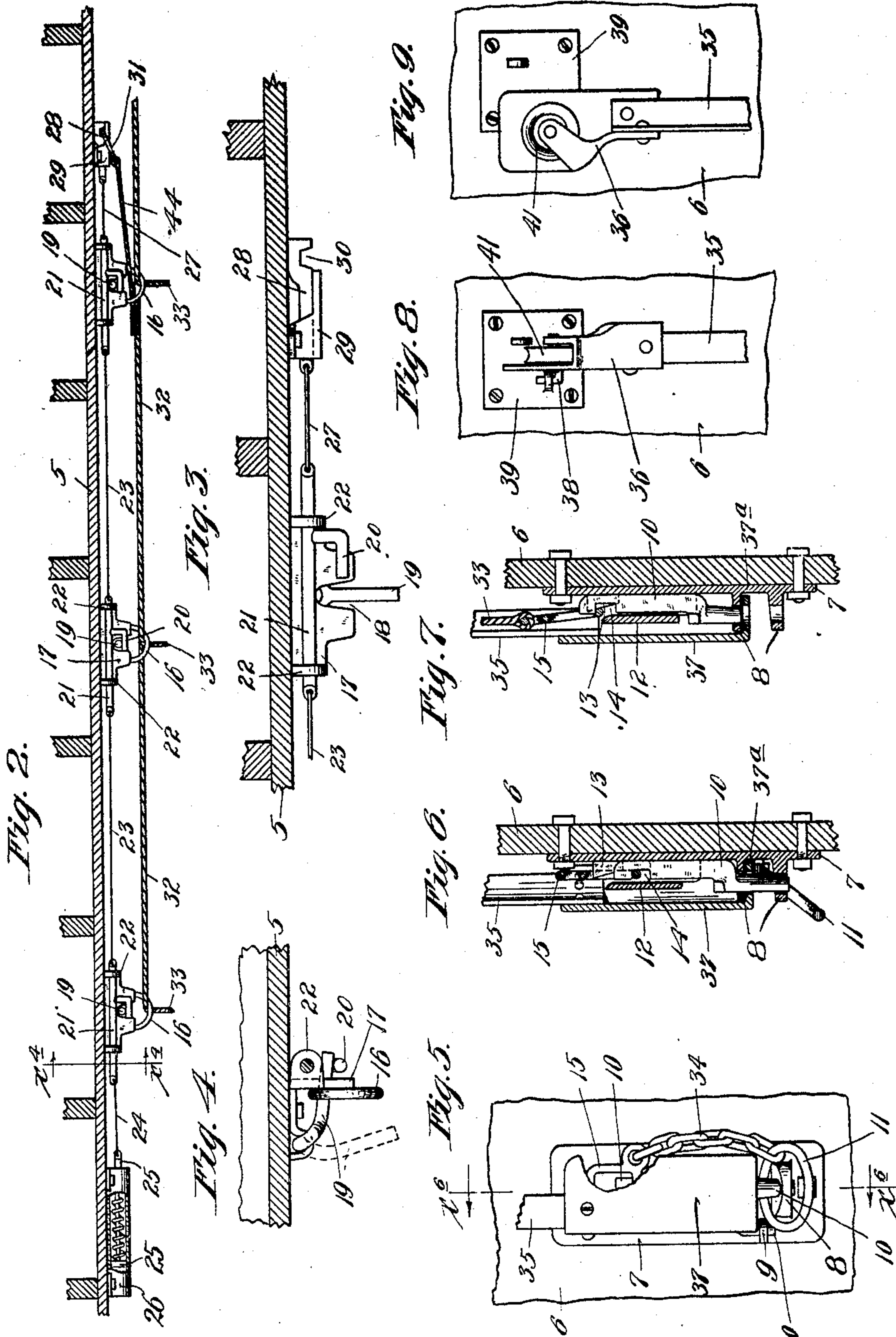
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 DEVICE FOR LEADING ANIMALS FROM BURNING BUILDINGS.

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UNITED STATES PATENT OFFICE.

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DEVICE FOR LEADING ANIMALS FROM BURNING BUILDINGS.

No. 799,336.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that we, ELMER E. HIGGINS and JOHN W. LANSING, citizens of the United States, residing at Minneapolis, in the county of Hennepin and State of Minnesota, have invented certain new and useful Improvements in Devices for Leading Animals from Burning Buildings; and we do hereby 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.

Our invention relates to means for leading horses or other animals from a stable in case of fire or at any other time, and has for its object to provide simplified and improved mechanism for the above purpose.

To the above ends the invention consists of the novel devices and combinations of devices hereinafter described, and defined in the claims.

The invention is illustrated in the accompanying drawings, wherein like characters indicate like parts throughout the several views.

Figure 1 is a perspective view illustrating our improved apparatus or fire-escape applied in working position, the stalls and a portion of the barn to which it is applied being indicated by dotted lines. Fig. 2 is a vertical section taken approximately on the line $x^2 x^2$ of Fig. 1. Fig. 3 is a vertical section on the same line as Fig. 2, showing certain of the parts on a larger scale than in Fig. 2. Fig. 4 is a transverse vertical section taken approximately on the line $x^4 x^4$ of Fig. 2, showing the parts on the same scale as in Fig. 2. Fig. 5 is a detail in front elevation, showing the lower portion of one of the line-holding sheaths and one of the locks for normally holding the hitching-ring. Fig. 6 is a vertical section on the line $x^6 x^6$ of Fig. 5. Fig. 7 is a view corresponding to Fig. 6, but showing the lock in releasing position. Fig. 8 is a view in front elevation, showing the upper portion of one of the line-sheaths; and Fig. 9 is a view corresponding to Fig. 8, but showing the sheath in an open position.

The numeral 1 indicates one wall of the barn, the same having the ordinary door-opening 2, and the numeral 3 indicates the partitions of the several stalls, the same having the usual mangers 4, all of which parts are indicated by dotted lines in Fig. 1.

In Figs. 2, 3, and 4 the numeral 5 indicates the ceiling of the barn, the same being indicated by full lines.

To the wall or partition 6 of the barn just above the mangers 4 are rigidly secured bearing-plates 7, having vertically-spaced perforated lugs or plunger-seats 8 and having an offset hinge-lug 9. Mounted for vertical movements on each bearing-plate 7 is a lock-bolt or plunger 10, the depending end of which works through the perforations in the lugs 8 and normally stands, as best shown in Fig. 6, in position to securely hold a hitching-ring 11 between said lugs. This "hitching-ring" 11, so called, may take various forms and provides a device to which the horse or other animal may be hitched by means of a tie-strap. The upper portion of the bolt 10 is guided for vertical movements by a keeper 12 and by cam-lugs 13, rigidly secured on the bearing-plate 7. Near its upper end, but normally below the cam-lugs 13 and the upper portion of the outer web of the keeper 12, the lock-bolt 10 is provided with a notch or open seat 14, which adapts it to receive and normally hold the perforated lower end of a tripping head or link 15.

A plurality of overhead guides, preferably in the form of rings 16, are supported from the ceiling of the barn, one at the rear of each stall. These guide-rings are detachably supported, preferably by a novel device constructed substantially as disclosed and claimed in the prior application of Elmer E. Higgins, filed of date February 25, 1905, under Serial No. 247,255, entitled "Device for leading animals from burning buildings," and which device may be briefly described as follows: Rigidly secured to the ceiling of the barn in proper positions to support the several guide-rings 16 are brackets 17, formed with notches 18 and provided with pivoted detaining-arms 19, that are passed through said guide-rings 16 to normally hold the same in working position. The free ends of the detaining-arms 19 normally project through the notches 18 of the brackets 17 and are held in working position by crooked fingers or bolts 20, carried by sliding bars or plungers 21, mounted in lugs 22 on the respective brackets 17. The several slides 21 are, as shown, connected by light rods 23, and the inner end of the innermost slide is connected by a light rod or wire 24 to a spring-pressed bolt 25, mounted in a box 26, rigidly secured to the ceiling. The spring-pressed bolt 25, through the connections described, normally holds the lock-fingers 20 in their operative positions, thereby in turn normally holding the detaining-arms

19 and guide-rings 16 in their operative positions. To the outer end of the outermost slide 21 a light rod 27 is attached, and this rod is attached to a trip-slide 28, mounted in
 5 a keeper 29, secured to the ceiling. By the spring-pressed bolt 25 this trip-slide 28 is normally held as shown in Fig. 2, in which position a notch 30 formed therein coöperates with the bottom of the keeper 29 to securely
 10 hold a tripping-ring 31, the purpose of which will presently appear.

To lead the horses or other animals from the barn, I provide a main lead-line 32, having a plurality of branch lines 33. This main lead-
 15 line, which may be in the form of a rope, cable, wire, strap, or other flexible connection, is passed through the several detachable guide-rings 16 and its branch lines 33 extend one through each of said guide-rings. From the
 20 several guide-rings 16 the branch lines 33 extend along under the ceiling, over the stalls to the wall 6, and thence downward, and at their lower ends are attached one to each of the tripping-heads 15. Each tripping-head
 25 15 is connected to its corresponding hitching-ring 16, as shown, by a short chain 34, which has sufficient slack to permit the corresponding lock-bolt 10 to be freely raised out of the lugs 8, or at least high enough to release the
 30 said hitching-ring.

To protect and support those portions of the branch lines 33 that extend vertically along the inner surface of the wall 6, hinged sheaths 35 are provided. These sheaths are
 35 preferably formed of angle-iron and are provided, respectively, at their upper and lower ends with rigidly-secured angular extensions 36 and 37. The extensions 36 are provided with offset hinge-trunnions 38, that are piv-
 40 oted in lugs of bearings 39, rigidly secured on the wall 6. Likewise the extensions 37 are provided with offset hinge-trunnions 40, that are pivoted in the lugs 9 of the corresponding bearing-plates 7. On the upper
 45 sheath extensions 36 are journaled guide-sheaves 41, over which the branch lines 33 are run. As is evident, any tension on the branch lines will tend to swing the sheaths on their trunnions into open positions, (indi-
 50 cated in Fig. 9,) and it is also evident that under the opening movements of the sheaths the branch lines are released and permitted to drop. Normally the sheaths 35 are locked in their operative positions by the correspond-
 55 ing lock-plungers 10, the depending ends of which normally project through perforated flanges 37^a, formed on the lower ends of the sheath extensions 37.

The outer end of the main lead-line 32 is preferably provided with a hand-ring 42, which may be conveniently hung on a hook 43, located near the doorway 2. The tripping-
 60 ring 31, before described, is connected to the main lead-line 32 by a short flexible connection 44. This line-section 44 normally stands

approximately as indicated in Fig. 2, and it should be in length approximately such that when the lead-line is drawn upon the horses will be led to the rear ends of the stalls before
 70 it is drawn taut in a reverse direction—that is, in a direction toward the doorway 2.

The operation of leading the horses from the barn by means of the device above described is extremely simple, it being only
 75 necessary to draw outward on the outer end of the main lead-line, all other necessary actions being automatic. More definitely stated, an initial pull on the main lead-line and on the branch lines raises the tripping-heads 15 high
 80 enough to release the several hitching-rings 11 and the several sheaths, which are normally held by the respective lock-bolts 10, this releasing position being shown in Fig. 7. Imme-
 85 diately after the said hitching-rings and sheaths have been released the tripping-heads 15 are carried above the outer webs of the keepers 12 and by the cam-lugs 13 are forced laterally out of the notches 14 of the re-
 90 spective lock-plungers, thereby releasing the said heads 15 as well as the hitching-rings 11. By continued outward drawing action on the main lead-line and branch lead-lines the horses are first led approximately to
 95 the rear of the stalls or into the aisle back of the stalls and then by further drawing on said cables the line-section 44 is drawn taut in a direction toward the doorway 2, and by slight further outward drawing action the tripping-slide 28 is drawn into the position
 100 indicated in Fig. 3. In the position of the parts shown in Fig. 3 the notch 30 of said slide 28 is moved into a position to release the tripping-ring 31, and the slides 21 are moved into such positions that their lock-fingers 20
 105 are carried out of engagement with the detaining-arms 19, thereby also releasing and dropping the several guide-rings 16. This being done, all parts which are attached to or connected with the horses are released,
 110 and the horses may then be led from the barn by means of the main lead-line and its branch lines.

In the device above described the releasing of the horses or other animals from the de-
 115 vices to which they are normally hitched within the stalls is effected by drawing on the line or lines which are to be used to lead them from the barn. This feature we believe to be broadly new, and we desire to claim the
 120 same from the broadest possible point of view. The advantage of having to perform but one operation—to wit, to draw on the lead-line in order to release the animals and lead them
 125 from the barn at times when quick action is necessary and when an operator is liable to labor under excitement—is too obvious to need
 any further comment.

From what has been said it will of course be understood that the mechanism described is capable of a large range of modification
 130

within the scope of our invention as herein set forth and claimed.

The several so-called "branch lead-lines" might all be carried through the guiding devices described and be brought to the operating station or point near the doorway of the barn; but this arrangement would be the equivalent of the main lead-line having a plurality of branches and would be within the scope of the claims of this application.

What we claim, and desire to secure by Letters Patent of the United States, is as follows:

1. In a device of the character described, the combination with a lead-line extending into a stall and provided with a hitching device, to which an animal may be hitched, of a lock for locking and releasing said hitching device, and means whereby a drawing movement on said line will operate said lock and release said line, substantially as described.

2. In a device of the character described, the combination with locks in different stalls, and hitching devices held thereby, and to which horses may be hitched, of a main line having a plurality of branches extending to the several stalls and connected to said locks, and operating thereon to release said hitching devices, substantially as described.

3. In a device of the character described, the combination with a main lead-line having a plurality of branches extending into the several stalls, and provided with hitching de-

vices to which horses may be hitched, of locks for locking and releasing said branch lines and hitching devices, arranged to be actuated to release the same, by a drawing action on said lines, substantially as described.

4. In a device of the character described, the combination with a main lead-line having a plurality of branches extending into the several stalls, and provided with hitching-rings, of locks normally holding said hitching-rings, which locks are connected to said branch lines and are given releasing movements, under a drawing action on said lines, substantially as described.

5. In a device of the character described, the combination with a main lead-line having a plurality of branches extending into the several stalls, and provided with hitching devices, to which horses may be hitched, locks normally holding said hitching devices, hinged sheaths normally holding said branch lines, and themselves normally held by said locks, and connections between said branch lines and said locks, for imparting releasing movements to said locks, substantially as described.

In testimony whereof we affix our signatures in presence of two witnesses.

ELMER E. HIGGINS.

JOHN W. LANSING.

Witnesses:

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