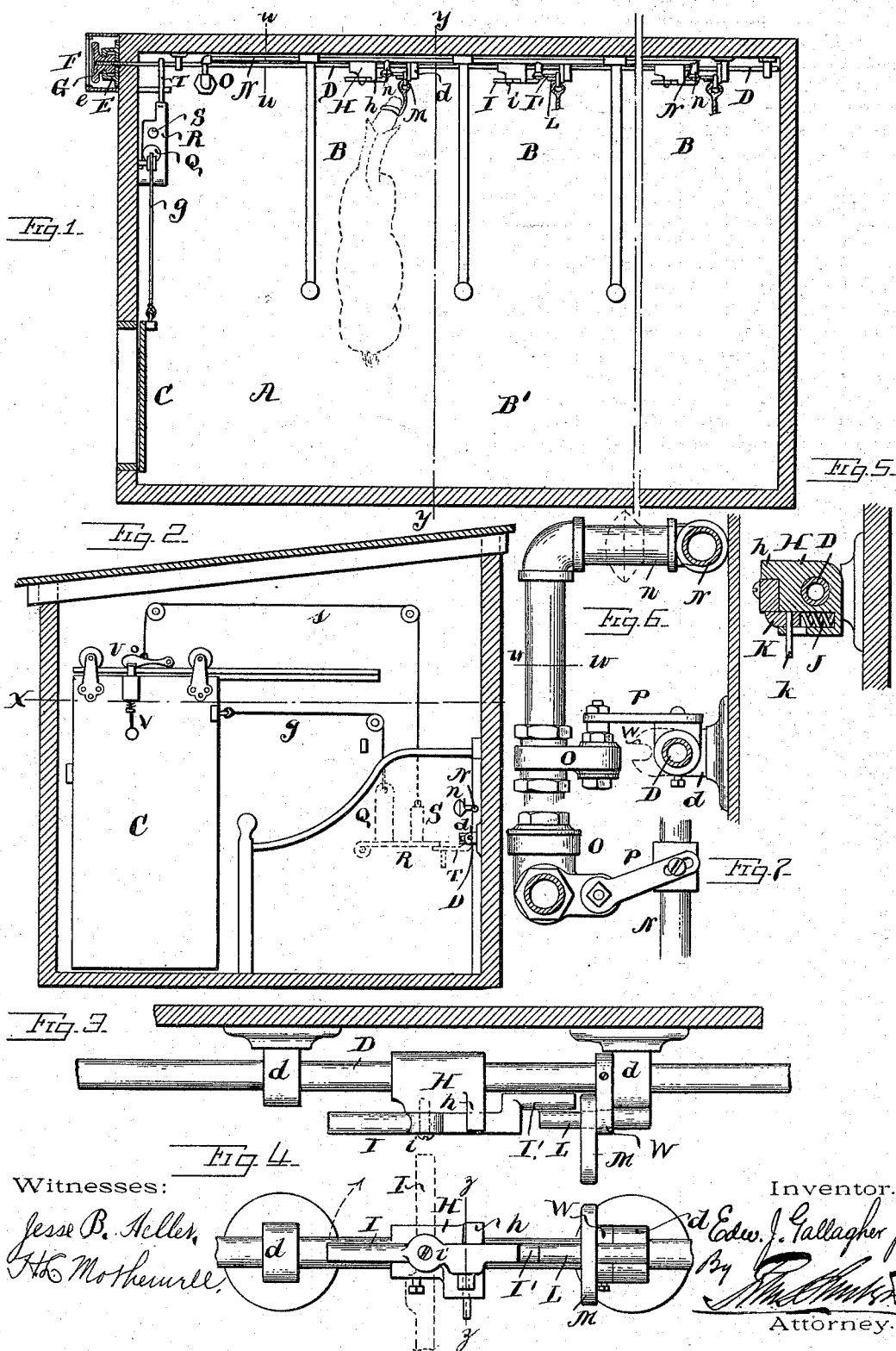


(No Model.)

E. J. GALLAGHER, Jr.
SAFETY STABLE DEVICE.

No. 530,617.

Patented Dec. 11, 1894.



Witnesses:

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UNITED STATES PATENT OFFICE.

EDWARD J. GALLAGHER, JR., OF PHILADELPHIA, PENNSYLVANIA.

SAFETY STABLE DEVICE.

SPECIFICATION forming part of Letters Patent No. 530,617, dated December 11, 1894.

Application filed April 2, 1894. Serial No. 506,049. (No model.)

To all whom it may concern:

Be it known that I, EDWARD J. GALLAGHER, Jr., of the city and county of Philadelphia and State of Pennsylvania, have invented an Improvement in Safety Stable Devices, of which the following is a specification.

My invention has reference to stable appliances, and consists of certain improvements which are fully set forth in the following specification and shown in the accompanying drawings, which form a part thereof.

My improvements have special reference to means for automatically unhitching a series of horses in their stalls from a single point, preferably outside of the building, and controlled by suitable hand operated devices.

My improvements further contemplate in connection with the unhitching devices, of suitable door operating devices adapted to automatically open the door or doors of the stable simultaneously with the liberation of the horses.

In addition to the foregoing features of my improvement, I arrange in each stall water spraying devices which are automatically caused to spray water in the direction of the horses simultaneously with their liberation, the object of which is to force the horses out of the stalls into the main passage-way leading to the door, in case of fire or other immediate danger.

My improvements are especially designed for the safety of horses in cases of fire, but it is evident that either in part or in whole it may be employed in liberating the horses under other conditions.

The spraying of water in the face of the horses is a decided and harmless way of causing them to back out of the stalls and into a position to find their escape from the building. Furthermore the spraying of the water in the manner described acts as a means for extinguishing the flames which may be reached by the spraying water.

In carrying out my invention, I provide each stall with a latching device, whereby a horse may be secured by its halter in proper position in its stall, and in conjunction with the said latching device, I provide a mechanism common to all of the latching devices for simultaneously liberating all of the horses, the said mechanism extending to one point,

and preferably to a position exterior of the building and having a hand operated part inclosed within a glass covered case, so as to require the breaking of the glass before it can be operated.

In addition to the foregoing devices, I employ a door or doors controlling the egress from the building, and combine therewith suitable automatic devices operated by the device for liberating the horses, whereby the door is unlatched and thrown open simultaneously or substantially so with the liberation of the horses.

Furthermore, in connection with the foregoing devices I provide the building with water pipes terminating in a spraying nozzle within each stall, and a valve adapted to be operated automatically by the devices for liberating the horses, so that simultaneously with the liberation of the horses the water may be sprayed in their faces and thereby drive them from their stalls.

It will be evident that the details of construction might be greatly varied in accomplishing these results, and therefore the apparatus hereinafter described is simply given as a suitable construction adapted for the proper carrying out of my invention.

Referring to the accompanying drawings: Figure 1 is a sectional plan view on line $x-x$ of Fig. 2 of a stable embodying my improvements. Fig. 2 is a cross section of same on line $y-y$ of Fig. 1. Fig. 3 is a plan view of the latching devices in each stall. Fig. 4 is a front elevation of same. Fig. 5 is a cross section of same on line $z-z$ of Fig. 4. Fig. 6 is a cross section on line $w-w$ of Fig. 1 showing the means for operating the water valve; and Fig. 7 is a plan view of the water valve and its connections.

A is the building forming the stable and is provided with a series of stalls B with a passageway B' into which the several stalls open. The passageway B' terminates at some suitable place in a door C hung upon rollers or otherwise formed so as to be readily opened. Arranged along the wall at the head end of the stalls is a reciprocating rod D carried in suitable bearings d attached to the wall. This rod may extend to a distant point, preferably outside of the building, and has its end screw threaded and received in a nut formed in the

hub of a hand wheel G. The hand wheel G is held in a suitable bearing E secured to the outside of the building. By turning the hand wheel the rod D may be reciprocated. To prevent manipulation with the hand wheel, excepting in case of necessity, a case *e* is arranged about it and may have a front plate T of glass which may be broken to secure access to the hand wheel. In each of the stalls there are two bearings *d*, and one of these bearings is provided with an overhanging projection or hook L directed toward the other bearing. Secured to the shaft intermediate of the bearings is a casting H which has pivoted to it at *i* a latch I having a latching projection I' adapted to fit between the overhanging projection or hook L and the rod D as clearly shown in Fig. 3 to prevent a halter ring M placed about the overhanging projection or hook L from escaping. The latch I may be turned in a vertical position as indicated in dotted lines in Fig. 4 or thrown to a horizontal position as indicated in full lines in this figure. When thrown in the latter position the ring M is locked upon the projection L, and the latch I is held between a lug *h* on the casting H and a spring K, which latter is formed on the casting H and is pressed outward by a spring J, and provided with a pin *k* with which to depress it when it is desired to liberate the latch to release the ring M.

W is a clearing finger or plate secured firmly to the rod D and movable with it, and has a slotted end which works on the projection or hook L. This part W performs the dual function of preventing the rod D from turning and at the same time acting as a clearing finger for pushing the ring M off the hook or projection L when the rod D is moved to the left. It is quite evident that the details of this latching mechanism might be modified or formed in a variety of ways, but the construction here shown is excellently adapted to the purpose and discloses the essential features of the structure comprehended by my improvement.

There is a latching device of the character above described in each one of the stalls, and it is evident that by turning the hand wheel G the rod D may be moved so as to withdraw the ends I' of the latches I from under the projections or hooks L, and simultaneously therewith the fingers or parts W push the halter rings M off the said projections. This act releases every horse in all of the stalls so that they are free to move backward into the passageway B' and toward the door C when open.

The door C may be constructed in any suitable manner and preferably so that it opens automatically upon liberating the horses. In the construction shown, which is given as an example of how the door may be operated, the door is hung upon suitable guideways by means of rollers, and may be drawn back by a weight Q acting through a cable or cord *q*. Normally the weight Q rests upon a pivoted

support R which support is locked in a horizontal position by an arm T on the reciprocating rod D. When the said arm T is moved by the rod D it allows the pivoted support R to fall, and permits the weight Q to pull the door open. The door may be normally locked by a hand latch V working in a pivoted keeper U. The keeper is connected by a cord *s* with a weight S also resting upon the pivoted support R. Normally the lock V holds the door from being opened. By pulling the latch or lock V down the door may be opened or closed in the usual manner. If however, the door be locked, and the support R dropped, the weight S instantly pulls up the keeper U unlocking the door C and the weight Q at the same time pulls the door open. In this manner it is evident that upon liberating the horses a free passage is provided for them whereby they may escape from the building in case of fire or other trouble.

It is well known that horses usually require positive means to remove them from the stalls even when unhitched. To insure their backing out of the stalls I provide a water pipe N extending through the stalls parallel to the shaft or bar D and provided in each stall with a sprinkler nozzle *n*. At some convenient place in the said pipe N, I provide a suitable valve O having a pivoted arm P connecting with the reciprocating rod or shaft D. It is evident that upon shifting the rod D the valve O will be operated to permit the flow of cold water through the pipe N and nozzles *n*, spraying it suddenly into the faces of the horses. The sudden action and chilling effect will cause the horses to quickly back out of the stable. The spraying of water upon the horses is a harmless and yet effective way of causing them to move. Furthermore, it will soak them so that in case of coming in contact with flame their hair will not be so readily singed. Furthermore the spraying of the water in each stall acts in a material measure to prevent the spread of the fire.

It will be seen from the foregoing description that the single movement of the hand wheel G simultaneously liberates the horses, turns water into their faces to drive them from their stalls, and opens the main door to the stable to permit their escape. It is evident that the particular devices might be greatly modified without departing from the principles of my invention, and I therefore do not limit myself to the details of construction.

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

1. In a safety device for a stable, the combination with a latch device for attaching a horse in the stall, an automatically opening door, means to cause the door to open automatically when permitted to operate, a trip to hold the means for opening the door out of action, a lock to hold the door closed, a latch releasing rod for operating the latch device, and operative connections between the latch

releasing rod and the door lock and trip, whereby upon the operation of the latch releasing devices the door will first be unlocked and then opened automatically.

5 2. In a safety device for stables, the combination of a latch device for attaching a horse in a stall, a door, a weight for automatically opening the door, a lock for holding the door closed, a weight for automatically operating
10 the lock to release the door, a latch releasing rod for operating the latch device to release the horse, and a support for the door and door lock weights, controlled by the latch releasing rod, whereby upon the operation of
15 the rod to release the horse the door will be unlocked and automatically opened by the release of the said operating weights.

3. A safety device for stables consisting of the stationary hook L adapted to enter a halter ring, a swinging latch I having a ring retaining projection I' and a movable bar carrying the latch I.

4. A safety device for stables consisting of the stationary hook L adapted to enter a halter ring, a swinging latch I having a ring retaining projection I' and a movable bar carrying the latch I, and a lock for locking the swinging latch I against movement on its point of support.

30 5. A safety device for stables consisting of the stationary hook L adapted to enter a halter ring, a swinging latch I having a ring retaining projection I', a movable bar carrying the latch I, and the clearing finger W carried
35 by the movable bar.

6. A latch device for a stable stall consisting of a ring retaining hook adapted to receive a halter ring, a clearing sleeve engaging the ring retaining hook and adapted to move the halter ring from the hook, a movable bar
40 carrying one of the said parts and adapted to move it with reference to the other to detach the ring from the hook, a movable latch or ring detaining piece carried by the bar adapted to close the end of the hook and prevent the ring being detached therefrom except when the bar is moved, but having a movement independent of clearing sleeve and hook to permit the ring to be attached to the hook or detached from it without operating the bar, and an independent lock to lock
45 the latch or retaining piece closed.

7. A latch device for stables consisting of a movable latch actuating bar, a stationary ring retaining hook, a clearing sleeve carried
55 by the bar and movable with it, and a latch carried by bar and movable with it, adapted to close the end of the retaining hook and prevent the ring becoming accidentally detached therefrom, but also having an independent
60 movement so that it may be opened to permit the hook to be placed on the ring or detached therefrom without operating either the bar or clearing sleeve.

In testimony of which invention I have here-
unto set my hand.

EDWARD J. GALLAGHER, JR.

Witnesses:

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WM. L. EVANS.