Nov. 23, 1937. J. H. FLATLEY 2,099,956

HOG TRAP

Filed Sept. 18, 1935 2 Sheets-Sheet 1

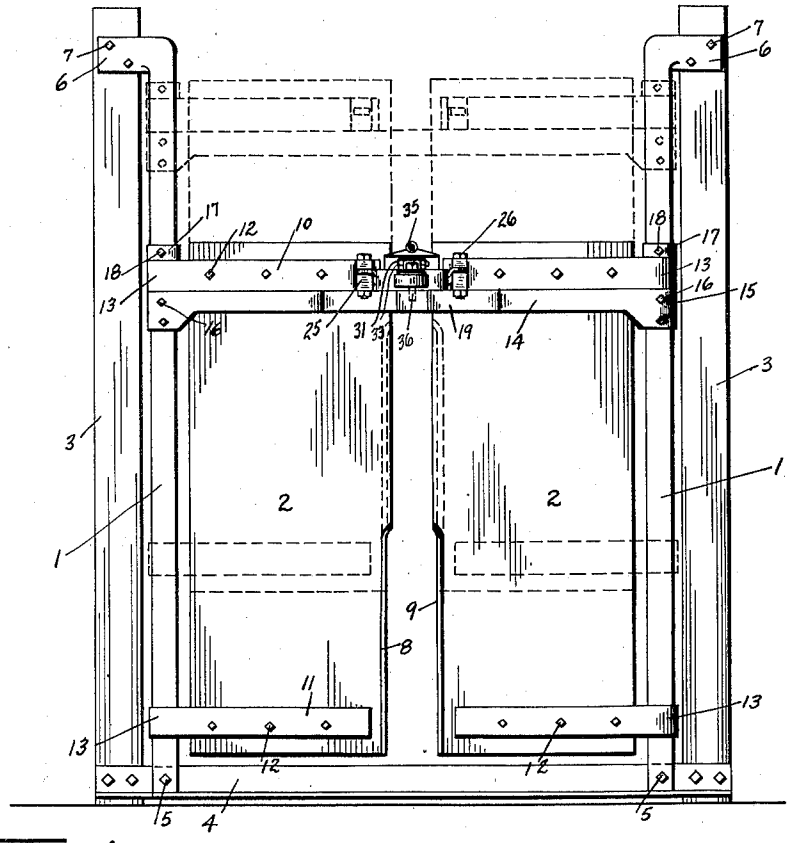


FIG. 1

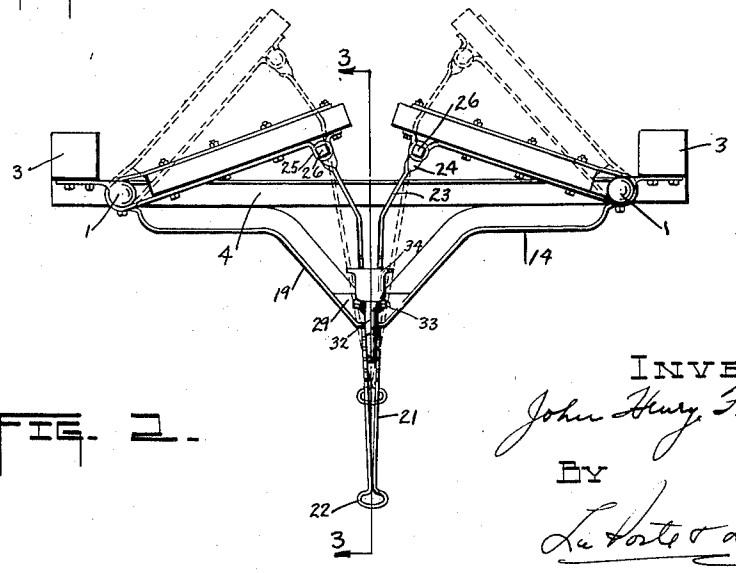


FIG. 2

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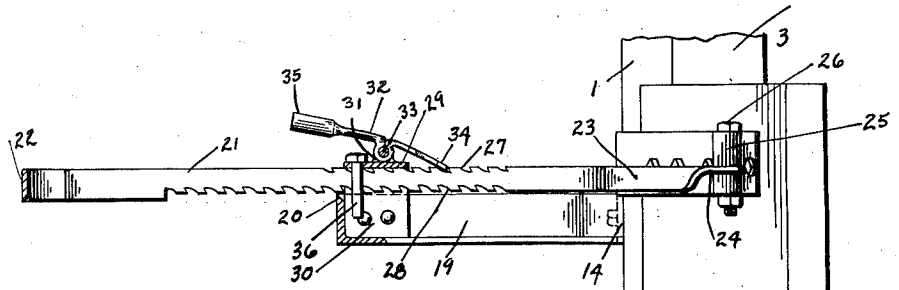


FIG. 3.

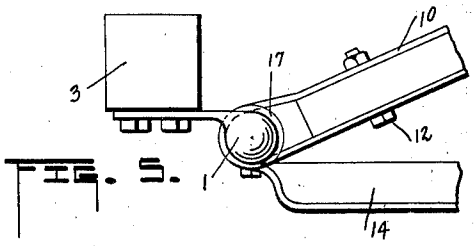


FIG. 5.

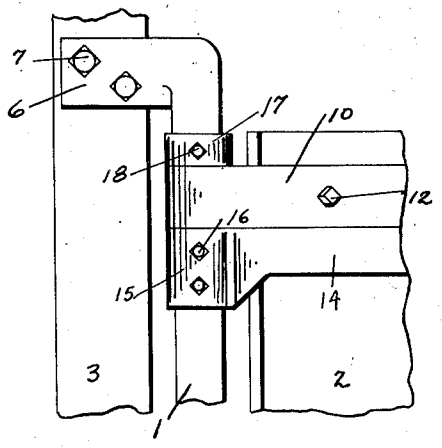
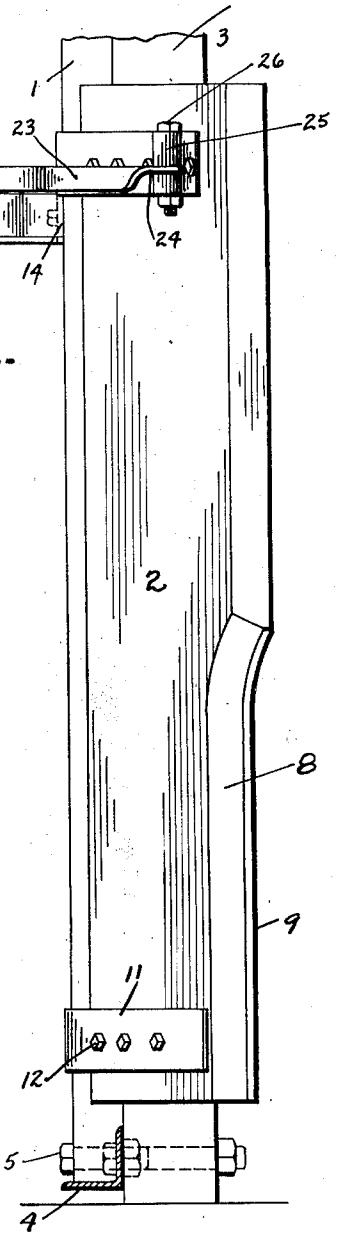


FIG. 4.



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2,099,956

HOG TRAP

John Henry Flatley, Little York, Ill., assignor of one-half to Edward G. Flatley, Rock Island, Ill.

Application September 18, 1935, Serial No. 41,018

8 Claims. (Cl. 119—98)

This invention has reference to certain new and useful improvements in hog-traps.

The invention is of that character and relates to hog-traps, such for example, as shown and described in Letters Patent issued to me April 13, 1915, numbered 1,135,004, wherein is shown a device for automatically catching and holding hogs.

An object of the present invention is an improvement in the frame structure and in the hinge mounting for the doors of the trap, of which frame parts constitute elements of the hinges.

The invention has for a further object a hinge mounting for the doors, which by a very simple and convenient adjustment will allow the doors to be raised to different heights to accommodate the trap to different sized animals and the doors held or secured in such adjusted raised positions.

A further object of the invention is to improve and simplify the connecting means between the doors which adapt the doors for alignment and for divergence, in which is included the means for "setting" the doors and also for "locking" the doors, under certain conditions. Such connecting means comprising a V-shaped bar with ends arranged for attachment to the respective doors and embodies a spring-like or resilient feature so that, when the doors are diverged and the bar ends spread, said resilient feature or established tension urges a return of the doors to a more or less non-diverging position upon the release of the "setting" means and thereby effect a locking of the doors against redivergence by said "locking" means.

Essentially the improved device is very simple to manufacture, of few parts and, therefore, easily and conveniently assembled and yet embodies that strength necessary in a device of this character, while at the same time making it possible to produce a trap for farm use at a minimum cost.

Other and further objects will more fully appear from the following description.

That the invention may be more fully understood, reference is had to the accompanying drawings, forming part of this description, illustrating a preferred embodiment of the invention, in which:—

Fig. 1 is a front elevation of my improved hog-trap with the doors shown in full and in dotted lines in different positions, the doors being diverged;

Fig. 2 is a plan view of Fig. 1, the doors shown in full and in dotted lines in different diverged positions;

Fig. 3 is an enlarged vertical sectional elevation as the same would appear if taken on the line 3—3, Fig. 2;

Fig. 4 is an enlarged detail of the supporting and hinge structure for the doors, and

Fig. 5 is a plan view of Fig. 4.

Like characters of reference denote corresponding parts throughout the figures.

In the drawings the supports for the trap comprise the spaced elongated tubular uprights 1 on each of which a door 2 is hinged. This structure, together with the means for supporting the doors in different vertical adjusted positions and the means for setting and locking the doors in diverged positions constitute substantially the trap.

The trap is designed for use wherever the farmer utilizing the same considers it most convenient or expedient, but for purposes of illustration, I have shown the same in Fig. 1 as sustained in a position in an open way between posts 3 forming part of a yard, corral or other enclosure, not shown. These posts at their lower ends are connected preferably by an angle bar 4, located immediately adjacent the ground or floor line and it is to this bar next adjacent the posts 3 that the lower ends of the uprights 1 are secured by bolting as at 5. The upper ends of the uprights are preferably flattened and formed into the angular out-turned ends 6 which are also bolted to the posts 3, as shown. The uprights 1 have a length substantially longer than the height of the doors 2 and the doors are adapted to be adjusted up and down on said uprights to accommodate the trap to different sizes and heights of animals. The inner edges of the doors 2 are cut away for a portion of their length as at 8 from the lower edges of the doors, as shown in Figs. 1 and 3, so as to provide the more or less sharp edges 9 which are designed to grip the hog when the hog projects its head between the doors in a more or less vise-like manner.

The hinges for the respective doors comprise the upper and lower U-shaped straps 10 and 11 which are bolted against the opposite faces of the doors as at 12, the turned outer end of such straps embracing the uprights 1 and form hinge elements for the doors on the uprights, the uprights forming the other hinge elements for the doors. A cross-bar 14 preferably of angle-iron formation is designed to be carried across the doors immediately below the plane of the upper straps 10 and the opposite outer ends thereof are turned as at 15 to embrace the uprights 1, so as

to have a slidable relation therewith and set screws 16 are employed to fix this bar in different adjusted positions on the uprights. It is apparent, therefore, that the turned ends 13 of the straps 10 will rest on the turned ends of the bar 14 and by adjusting the bar on the release of the set screws 16, will determine the position of the doors 2 on the uprights 1. It will be understood that the turned ends 13 of the strap hinges 10 and 11 permit the doors to have slidable movement up and down on said uprights. Adjustable collars 17 which are slidable on the uprights 1 above the straps 10 and secured by means of set screws 18 are provided to prevent upward thrust of the doors 2 when adjusted in position. The medial portion 19 of the bar 14 is preferably of V-shape, the apex thereof projecting away from the doors and at the apex of the V-shaped portion 19, a tooth 20 is provided thereon at its upper edge.

21 denotes an elongated V-shaped bar element made resilient or spring-like, preferably by turning the bar on itself, and comprises corresponding lengths terminating in the outer end 22 which is utilized as a handle portion in the manual setting and manipulation of the trap. The inner ends of the length of the bar have the normally diverging portions 23, which are preferably flattened at their ends as at 24, transversely to their length, to provide for pivoting the respective ends of the bar between overlying bowed ears 25 which are formed by pressing out the body of the hinge straps 10, as shown; the pivots between the ends of the bar and straps being formed by bolts 26 which pass through the bowed ears and the flattened ends of said bars, as shown. The spring-like bar may be detached from connection with the doors by the removal of the bolts 26, as will be understood.

The bar 21, when connected with the respective doors, projects rearwardly therefrom and overlies the bar 19, as shown in Fig. 3. The upper edges of the lengths of the bar 21 are provided with a series of rachet teeth 27, and the lower edges of the lengths of this bar are provided with a similar series of ratchet teeth 28. These teeth on the lower edge are reverse to the teeth on the upper edges on the bar, as shown in Fig. 3. The lower teeth 28 of the bar 21 are adapted to have a coacting and locking engaging relation with the tooth 20 of the portion 19 of the bar 14. A plate 29 overlies the lengths of the bar 21 and is secured in a fixed position by the parts 30, located within the apex portion 19 of the bar 14. The plate 29 is provided with spaced ears 31 between which a weighted detent or setting means 32 is arranged to pivot upon a pin 33. The acting end 34 of the detent is adapted to be set in coacting relation with any of the upper teeth 27 on the bar 21 to hold the bar under tension after the doors 2 have been swung open to their desired divergence. Any pressure on the doors by an animal attempting to open them by squeezing therebetween, which will act to increase their divergence, will cause a releasing of the detent 32 and its weighted end 35 will drop by weight of gravity thereby releasing the acting end 34 from said teeth 27. Upon the detent 32 being so released from the upper teeth of the bar 21, said bar, due to its unsupported outer free end, will sag or drop sufficiently to bring about a movement of one of the lower teeth 28 of said bar into locking engagement with the tooth 20 of the portion 19 of the bar 14, whereby to lock the bar 21 and the connected doors 2 against further divergence, sufficient to release the trapped animal. The spring tension resultant from a divergence of the lengths of the bar 21, acts to move the doors inwardly, such action resulting in an immediate locking of the doors and holding the animal therebetween. The detent 32 may be referred to as the "setting" means whereby to adjust the divergence of the doors and hold them temporarily for the purpose of trapping an animal attempting to pass between the doors. The animal's desire to pass between the doors will tend to increase their divergence which will move the bar 21 forward and such action will immediately release the detent 32, at which moment the tooth 20 will engage with teeth 28 on the bar 21 and lock said bar and the doors against any further divergence and the sharp edges of the cut away portions 9 of the doors 2 will grasp the animal in a vise-like manner, until released.

It is believed that it is now apparent that to set the trap the doors 2 are swung to their proper divergence to provide the necessary opening therebetween to entice the animal through the opening, whereupon the doors are set by the dropping of the detent 32 and its acting end 34 into engagement with the teeth 27 on the bar 21. This setting of the device is a manual operation and the release of the setting means and the locking means is entirely automatic resulting from the contact of the animal with the doors as previously explained.

A pin 36 is shown depending through the plate 29 and between the lengths of the bar 21 which will prevent side lashing of the lengths of the bar 21 during operation of the setting and locking means.

As constructed the device is of the fewest number of parts, very durable and yet light in construction as compared with any devices of like character. It is efficient in its operation and the operative parts are arranged for ease of operation and control and adapted for easy repair and is such that it can be manufactured and placed in the hands of the user at a minimum cost.

What I claim is:

1. In a hog-trap, in combination, a support comprising spaced tubular uprights, a pair of doors, straps attached to the doors having turned ends which embrace said uprights forming elements of hinges, the uprights forming the other elements of the hinges, a flexible member comprising corresponding lengths, the free end of each of which has a pivotal connection with a strap of each of the doors adapted for aligning and diverging the said doors, said member adapted to establish progressively increasing tension when the doors are diverged to exert a pressure toward door alignment, means cooperating with the member for setting the doors in diverging positions, and means to lock the doors upon release of the setting means, whereby to prevent further divergence of the doors sufficient to release the trapped animal.

2. In a hog-trap, in combination, a pair of doors, supports for the doors comprising spaced tubular uprights which have a length normally longer than the height of the doors, straps attached to the doors having turned ends which embrace said uprights forming elements of hinges, the uprights forming the other elements of hinges, said straps arranged for slidable movement on the uprights whereby the doors may be raised and lowered to accommodate the

doors to different height animals, means to hingedly support the doors at different heights, a member having a pivotal connection with a strap of each of the doors and adapted for aligning and diverging the said doors, said member being under tension when the doors are diverged to exert a pressure toward door alignment, means cooperating with the member for setting the doors in diverging positions, and means to lock the doors upon release of the setting means, whereby to prevent further divergence of the doors sufficient to release the trapped animal.

3. In a hog-trap, in combination, a support comprising spaced tubular uprights, a pair of doors, straps attached to the doors having turned ends which embrace said uprights forming elements of hinges, the uprights forming the other elements of the hinges, a cross bar having its ends connected to said uprights next below said straps, means to fix the bar on the uprights and thereby determine the hinged position of the doors, a member overlying said bar and having a pivotal connection with a strap of each of the doors and adapted for aligning and diverging the said doors, said member being under tension when the doors are diverged to exert a pressure toward door alignment, means adapted to coact with said member for setting the doors in diverging positions, and means on the member adapted to coact with said bar to lock the member and doors upon release of the setting means, whereby to prevent further divergence of the doors sufficient to release the trapped animal.

4. In a hog-trap, in combination, a support comprising spaced tubular uprights, a pair of doors, straps attached to the doors having turned ends which embrace said uprights forming elements of hinges, the uprights forming the other elements of the hinges, a cross bar having its ends connected to said uprights next below said straps, means to fix the bar on the uprights and thereby determine the hinged position of the doors, a member overlying said bar and having a pivotal connection with a strap of each of the doors and adapted for aligning and diverging the said doors, the upper and lower surfaces of said member provided with teeth and said member being under tension when the doors are diverged to exert a pressure toward door alignment, a free acting detent adapted to coact with the teeth on the upper surface of the member for setting the doors in diverging positions, the teeth on the lower surface of said member arranged for coaction with said bar to lock the member and doors upon release of said detent, whereby to prevent further divergence of the doors sufficient to release the trapped animal.

5. In a hog-trap, in combination, a support, a pair of doors hingedly connected with said support to adapt the doors for alignment and for divergence, a bar so constructed and arranged as to put tension in the bar when its ends are diverged, the ends of the bar each having a pivotal connection with a door, means coacting with said bar for setting the doors in diverged positions, and other means to lock the bar and doors upon release of said setting means, whereby to prevent further divergence of the doors sufficient to release the trapped animal.

6. In a hog-trap, in combination, a support, a pair of doors hingedly connected with said support to adapt the doors for alignment and for divergence, a V-shaped bar comprising corresponding lengths, the free end of each of which has a pivotal connection with a door, said bar so constructed and arranged as to put tension in the bar when its ends are diverged, said bar having teeth on its respective upper and lower surfaces, a transverse bar connected with said support, a free acting detent having connection with said transverse bar and arranged for engagement with the teeth on the upper surfaces of said bar to set the doors in diverged positions, and a tooth on said transverse bar adapted to engage with the teeth on the lower surfaces of said bar to lock the doors upon release of said detent from said upper teeth of the bar, whereby to prevent further divergence of the doors sufficient to release the trapped animal.

7. In a hog-trap, in combination, a support, a pair of doors slidably and hingedly connected with said support whereby to accommodate the trap to different heights of animals and to adapt the doors for alignment and for divergence, a transverse bar slidably adjustable on said support adapted to sustain said doors in vertical adjusted positions, a V-shaped member comprising corresponding lengths overlying said transverse bar and so constructed and arranged as to put tension in the member when its ends are diverged, the ends of the member each having a pivotal connection with a door, said member having teeth on its respective upper and lower length surfaces in reverse relation to each other, a settable detent having connection with said transverse bar and arranged for engagement with the teeth on the upper surfaces of said member to set the doors in diverged positions, and a tooth on said transverse bar adapted to engage with the teeth on the lower surfaces of said member to lock the doors upon release of said detent, whereby to prevent further divergence of the doors sufficient to release the trapped animal.

8. In a hog-trap, in combination, a support, a pair of doors hingedly connected with said support to adapt the doors for alignment and for divergence, a member so constructed and arranged as to put tension in the member when its ends are diverged, the ends of the member each having a pivotal connection with a door, means cooperating with said member to prevent side-lash thereof during movement of the member with said doors, means coacting with said member for setting the doors in diverged positions, and other means to lock the member and doors upon release of said setting means, whereby to prevent further divergence of the doors sufficient to release the trapped animal.

JOHN HENRY FLATLEY.