

No. 701,268.

Patented May 27, 1902.

A. HOWARD & G. F. LUM.
RELEASING HITCHING STRAP.

(Application filed Sept. 28, 1901.)

(No Model.)

Fig. 1.

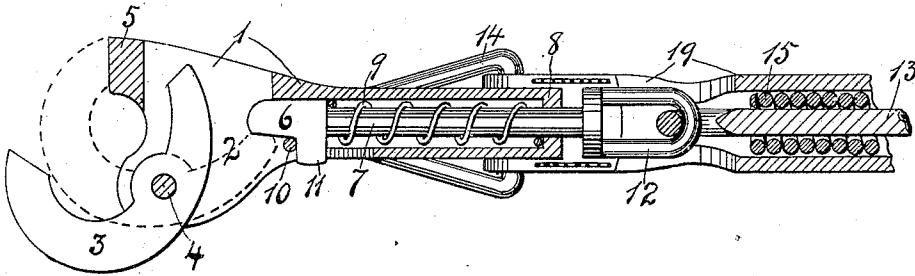


Fig. 2.

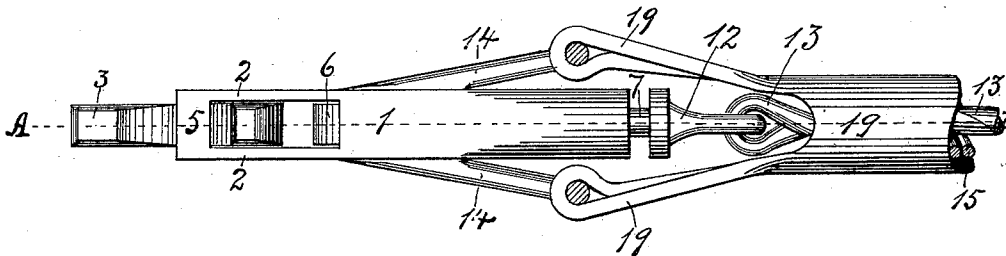
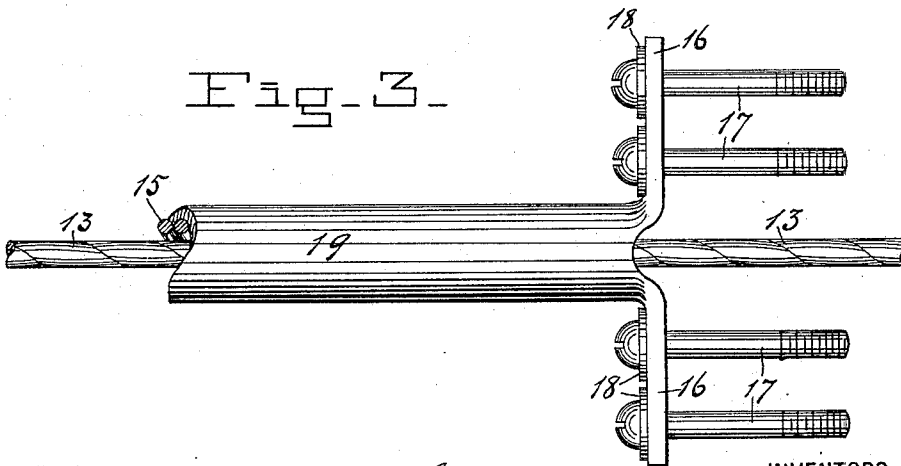


Fig. 3.



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ARCHIBALD HOWARD AND GEORGE F. LUM, OF OGDENSBURG, NEW YORK.

RELEASING HITCHING-STRAP.

SPECIFICATION forming part of Letters Patent No. 701,268, dated May 27, 1902.

Application filed September 26, 1901. Serial No. 76,583. (No model.)

To all whom it may concern:

Be it known that we, ARCHIBALD HOWARD and GEORGE F. LUM, citizens of the United States, residing at Ogdensburg, in the county of St. Lawrence and State of New York, have invented a new and useful Releasing Hitching-Strap, of which the following is a specification.

Our invention relates to releasing hitching-
10 straps of the class employed in fire-engine, hose, and patrol service for hitching the horses in the houses used for that purpose; and the objects of our improvement are to provide a positive release which can be actuated by the
15 same means as is now employed for opening the doors of such houses upon an alarm of fire, that will be light in weight and neat in appearance, economical in installation and maintenance, strong and not liable to get out
20 of repair or be accidentally operated, but which will release the horse instantly when operated and fall at once entirely out of his way without any necessary movement on the part of the horse. These objects we attain
25 by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a longitudinal section of the strap-head and a portion of the tubular strap on the line A B of Fig. 2 with the pivoted
30 hook, catch-bolt, and spring contained in such head shown in full. Fig. 2 is a perspective view of such head looking from above; and Fig. 3 is a perspective view of the other end of the tubular strap, showing the means for
35 attaching it to the side of the horse-stall.

Similar numerals refer to like parts throughout the several views.

The strap-head consists of a metal body portion 1, hollow throughout its length, its front
40 portion forming the jaws 2, adapted to embrace the swinging hook 3, which is pivoted to said jaws by a metal pin, which may be riveted in place in the usual manner, as shown at 4. The protruding end of this hook
45 when closed strikes against the abutment 5, which forms a part of said body portion and makes a close joint therewith. The inclosed end of said hook is adapted to engage with
50 when the hook is closed, as hereinafter explained. The rear part of said body portion is made tubular, with an interior collar 8 at

its rear end adapted to hold in place the compressed helical spring 9, the other end of which constantly presses against the abutment formed by the rear end of said catch-bolt head. A transverse pin 10 is placed in the path of said bolt-head, as shown, to limit its motion, and the lug 11 is formed upon the side of said bolt-head and projected through
60 an aperture formed in said body portion, so that said catch-bolt may be operated by hand when desired. The hook 3 is preferably of an arc shape and is pivoted intermediate of its length, but to one side of the center thereof, thus permitting the front end of the hook
65 to fall, owing to the action of gravity, when the rear end is released from engagement with the catch-bolt. The rear end of said catch-bolt is formed into a loop 12 for holding the end of the pull-cord 13, which is fastened therein.
70 About midway on each side of said strap-head is attached a bail 14, adapted to receive one of the ends of the tubular strap 19, which is bifurcated for the purpose of thus forming attachment
75 between said tubular strap and said strap-head, one of said bifurcations being passed around the wire of said bail on either side, returned, and fastened upon itself by stitching or any other suitable known method,
80 or said strap ends may be riveted directly onto the body portion of said strap-head or in any of the usual methods of attaching leather to metal. If desired, a thin strip of metal may
85 also be inserted in each of said strap ends to render them less flexible. From the point of its bifurcation said tubular strap is lined throughout its remaining length with a helical coil of wire 15, which serves to keep the
90 tubular strap distended, while preserving its flexibility. At its rear end said strap is again bifurcated and the two members thereof stretched apart, forming the flaps 16 16, through
95 which are passed the bolts 17, armed with washers 18 for attaching said flaps to the side wall of the horse-stall in the usual manner, a hole being first made through said wall to permit the passage of the pull-cord 13
100 therethrough for the purpose hereinafter explained. We prefer to make this pull-cord of a twisted leather thong, as the surface thereof can be made smooth, so that it will render easily through said tubular strap when occasion requires; but it is obvious that it may

be formed of any other flexible material having sufficient strength to withstand the use described. In practice the rear end of this pull-cord is carried over a pulley and attached to a weight or spring held from action by any of the usual tripping mechanisms, which when released by any of the instrumentalities usually employed for such purpose will produce a quick and positive pull on said pull-cord.

In operation the said apparatus being set up and attached to the wall of the horse-stall, as described, with said tripping device attached thereto, the protruding end of the hook 3 is passed through a ring (preferably iron) attached to the throat-piece of the horse's head-stall and snapped thereon in the position shown by the dotted lines in Fig. 1. The horse is then held securely within his stall so long as said parts retain such position, the said releasing-strap remaining dependent from the horse's head and by reason of its flexibility permitting free movement within its limits. When an alarm is received and said tripping device actuated, the said weight or spring is put into action, thereby pulling the cord 13, which, through its attachment to said catch-bolt, retracts the spring 9 and withdraws the head 6 from contact with the rear end of the hook 3, which being free then to move turns upon its pivot 4 by reason of the depending weight of said strap-head, and the said head-stall ring being thereby detached from said strap the horse is free to move instantly to his place at the wagon-pole or thills, as the case may be, the said hitching-strap falling at once out of his way, but held by its attachment to the stall-wall, as described.

We do not wish to limit ourselves to the particular form of releasing hitching-strap above described, as it is obvious that particular parts thereof may be made in different shape without departing from the spirit of our invention—such, for instance, as the substitution of a bolt in place of the riveted pivot 4, a different form of spring in place of the helical spring 9, a different form of connection between the bolt 7 and cord 13 from that shown, or in the manner of attachment of strap to the stable-wall; but we prefer the form shown, as it can be readily manufactured by ordinary shop-tools, is strong in use and quick and effective in action, and not liable to be deranged by the movements of the horse or to get out of repair. It also may be found advantageous in some instances to leave the forward bifurcated ends of the strap very flexible and reduce the size of the rear end of the catch-bolt, so that it will enter the hollow formed by the coiled wire in the tubular strap, which form in action would permit the motion of the strap-head to be arrested against the end of the tubular strap with a sudden jerk, thereby insuring positive action of the catch-bolt to effect release of the head-stall ring should the horse be lying

down with the head-strap no longer dependent from said ring.

We are aware that releasing hitching-straps have been heretofore made to extend across the stall or stable and one end thereof run through a ring in the horse's headstall, so as to pull therethrough when released. We are also aware of the manufacture of releasing hitching-straps having a side release and to be operated by the pulling of the driving-rein. We therefore do not broadly claim the invention of all releasing devices for hitching-straps, nor do we claim the invention of the tripping device to actuate our releasing device; but

What we do claim, and desire to protect by Letters Patent, is—

1. In a hitching device, a strap-head carrying an abutment at its one end with a gravity-hook mounted in the strap-head beneath the abutment and having its ends playing on opposite sides of the abutment, and horizontally-movable means adapted for engagement with one end of said gravity-hook to secure the other end thereof in engagement with said abutment.

2. In a hitching device, a strap-head carrying an abutment and spring-pressed engaging means, a gravity-hook mounted intermediate of its length in the strap-head, one end of said hook playing between said abutment and spring-pressed means and adapted to be engaged by the latter, the other end of said hook playing on the opposite side of the abutment and adapted to form a locking engagement therewith.

3. In a hitching device, a strap-head comprising jaws and an abutment carried thereby, a gravity-hook mounted intermediate of its length between said jaws and adapted to have one of its ends engage said abutment, spring-pressed means mounted in the strap-head adapted for engagement with the opposite end of said hook, means carried by said means and operating through an opening provided therefor in the strap-head whereby the first-named means may be retracted, a hollow flexible connection secured at its one end to the strap-head and adapted to have its other end secured in the stall, and means operating through said connection and secured to said spring-pressed means whereby the said means may be automatically retracted.

4. In a hitching device, a strap-head carrying an abutment, and having a gravity-hook mounted therein intermediate of its length, with its ends extending beyond said abutment in opposite directions, spring-actuated means adapted for engagement with one of said ends of the hook whereby the opposite end thereof forms a locking engagement with said abutment, and a connection secured to the strap-head and carrying means for actuating said first-named means, substantially as described.

5. In a hitching device, a strap-head carry-

ing an abutment and having a gravity-hook
mounted intermediate of its length therein,
the ends of said gravity-hook being free and
extending on opposite sides of the abutment,
5 and sliding spring-pressed means adapted to
engage over one of said ends of the hook to
cause the other end thereof to form a locking
engagement with the outer face of the abut-
ment.

In testimony whereof we have hereunto ¹⁰
signed our names, at Ogdensburg, New York,
in the presence of two subscribing witnesses.

ARCHIBALD HOWARD.
GEORGE F. LUM.

Witnesses:

WILLIAM C. ALGIE,
LUCIA JAMES MADILL.