H. C. GRAYBILL.

HARNESS SUSPENDING DEVICE.

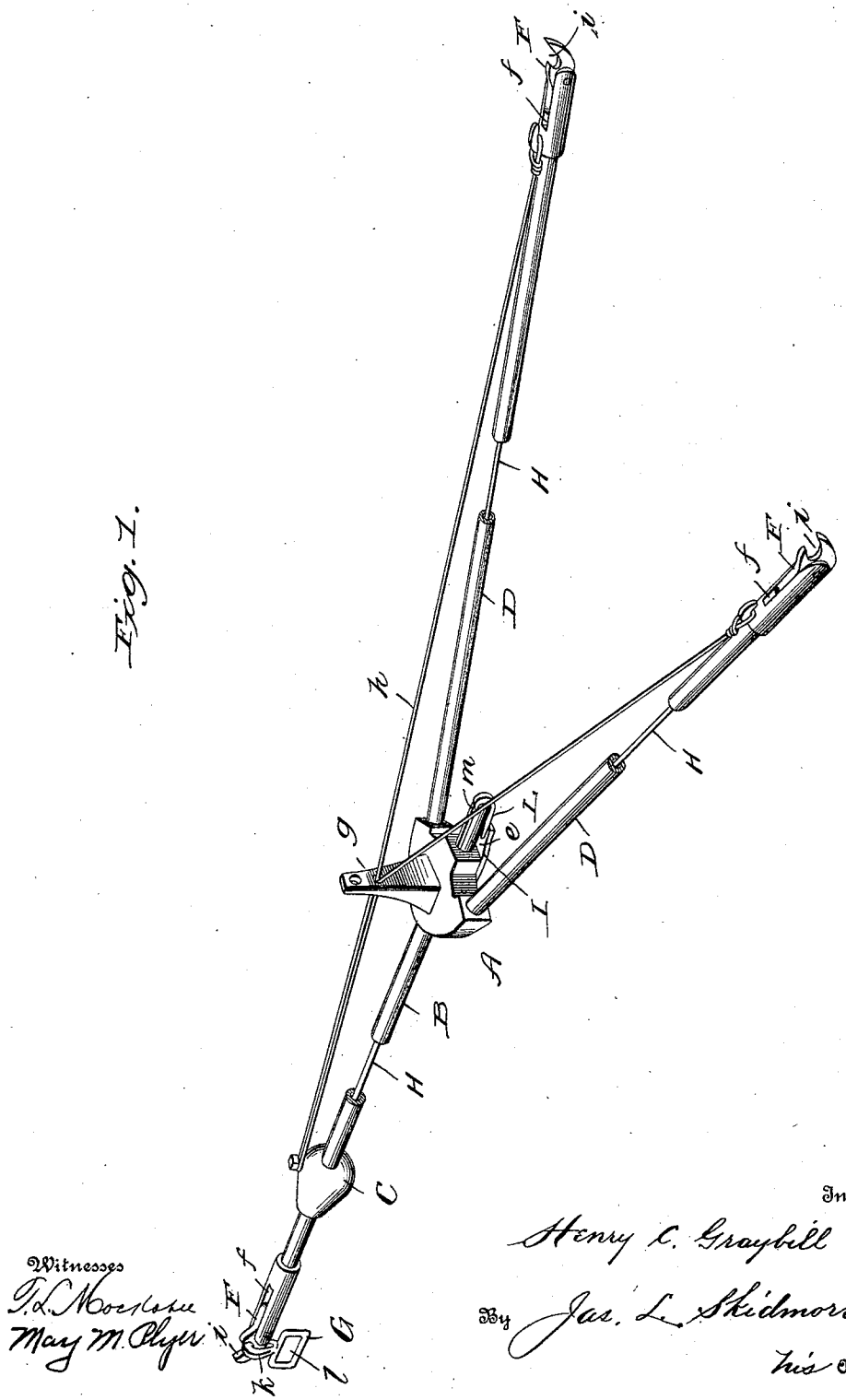
APPLICATION FILED JUNE 11, 1909.

987,980.

Patented Mar. 28, 1911.

2 SHEETS—SHEET 1.

Fig. 1.



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2 SHEETS—SHEET 2.

Fig. 2.

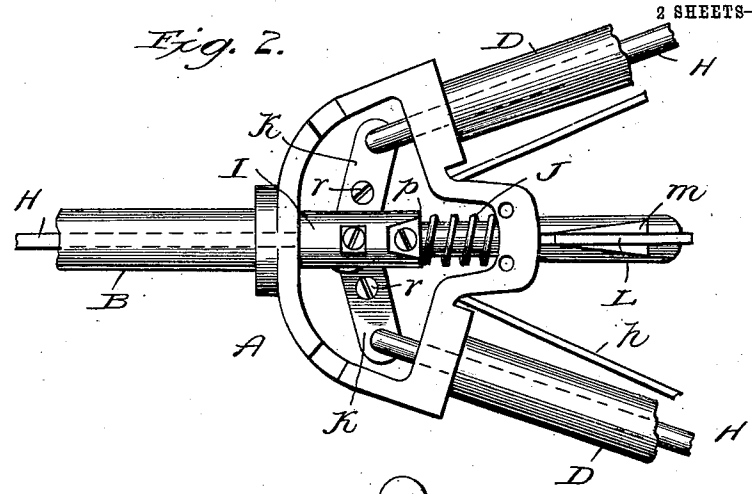


Fig. 3.

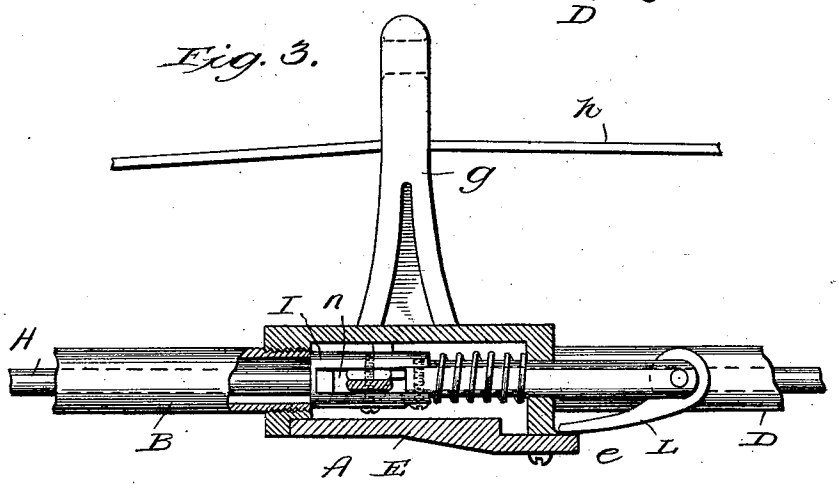


Fig. 4.

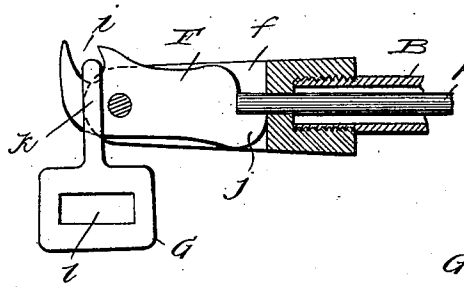
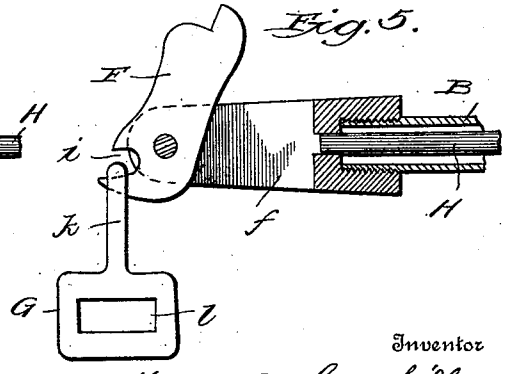


Fig. 5.



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UNITED STATES PATENT OFFICE.

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HARNESS-SUSPENDING DEVICE.

987,980. Specification of Letters Patent. Patented Mar. 28, 1911.

Application filed June 11, 1909. Serial No. 501,623.

To all whom it may concern:

Be it known that I, HENRY C. GRAYBILL, a citizen of the United States, residing at Altoona, in the county of Blair and State of Pennsylvania, have invented certain new and useful Improvements in Harness-Suspending Devices, of which the following is a specification.

My present invention has to do with the hanging of harness in fire engine houses and like places and the quick release thereof in proper position to fall upon the horses; and it contemplates the provision of a hanger for the purpose stated, which is, at once, reliable in operation, simple, compact and inexpensive in construction, and well adapted to withstand, without impairment, the rough handling to which devices of this character are ordinarily subjected.

The invention in all of its details will be fully understood from the following description and claims, when the same are read in connection with the drawings, accompanying and forming part of this specification, in which:

Figure 1 is a perspective view, partly broken away, showing in proper working position the hanger constituting the best practical embodiment of my invention of which I am cognizant. Fig. 2, an enlarged, inverted plan view showing the casing body of the device with its bottom plate removed, and also showing parts adjacent said body. Fig. 3, an enlarged, detail section, taken longitudinally through the casing body in a plane at one side of the longitudinal median line of the hanger and showing the parts in their normal positions—*i. e.*, the positions they occupy when a harness is held to the hanger. Fig. 4, a detail longitudinal section, taken through the extremity of the forwardly reaching casing arm and showing the tipping holder thereof and also showing the link I prefer to employ for effecting connection between the collar of a harness and said holder. Fig. 5, a similar view illustrative of the manner in which the holder operates to release the portion of harness suspended thereby.

Similar letters of reference designate corresponding parts in the several views of the drawings.

The supporting means of my novel harness hanger is preferably a casing made up of a body A, a tubular arm B, fixed with respect to and reaching forwardly from the body and equipped, by preference, with a fixed counterbalance weight C, and tubular arms D fixed to and reaching rearwardly in diverging fashion from the body. To the body A is detachably connected a bottom plate E having a rearwardly extending platform *e* for an important purpose hereinafter set forth, and in an enlargement on the outer end of each casing arm is formed a vertical bifurcation *f*. It will also be observed by reference to Fig. 1, that an apertured upright *g* is fixed on the center of the body A for the connection of the hanger to a suspending apparatus which I have not deemed it necessary to show inasmuch as it may be of any type consonant with the purpose of my invention, and that a cable *h* is extended through said upright *g* and between the same and the outer portions of the casing arms and is stretched taut with a view of preventing sagging of said portions when a heavy harness is hung from the same.

In the bifurcation *f* of each casing arm is pivoted a tipping or vertical swinging holder F which is provided in its outer portion with a mouth *i* and on its inner end with a projection *j*, and in combination with the holder of the forwardly-reaching casing arm I prefer to employ the link G shown in Fig. 1, the said link having an eye *k* for the engagement of the holder, and also having a rectangular loop *l* through which is to pass a strap (not shown) connected with the sectional collar usually comprised in drop harnesses.

Movable endwise in the tubular casing arms B and D are rods H, the outer ends of which normally rest over the tail projections *j* of the holders F to prevent tipping of the latter; and fixed to the inner end of the rod in the forwardly reaching casing arm B is an enlargement I, Figs. 2 and 3, which extends through the rear wall of the casing body A and has its rear portion bifurcated, as indicated by *m*, and also has its portion within the said body A horizontally slotted, as indicated by *n*. A coiled spring J surrounds the said enlargement I and is interposed between a shoulder *p* or other abutment thereon and the rear wall of the body, and hence it will be manifest that the rod H in casing arm B will be yieldingly maintained in and returned to the position in which it is enabled by resting upon the tail projection of the forward holder F to pre-

vent tipping of said holder. It will also be observed by reference to Fig. 2 that horizontally swinging levers K are fulcrumed at *r* in the casing body A, and that the inner arms of said levers are arranged in the slot *n* of the enlargement I on the rod H in the casing arm B and are connected to said enlargement while the outer arms of said levers are connected to the inner ends of the rods H in the casing arms D. From this it follows that when the forward rod H is retracted against the action of the spring J, the rear rods H will, through the levers K, be synchronously retracted, and the several holders F will be permitted to simultaneously tip for the release of the harness connected therewith, also that when the enlargement I is released, the spring J will operate directly to force the forward rod H outwardly and, at the same time, will through the levers, force the rear rods H outwardly and in that way assure the rods resting in position to prevent tipping of their respective holders F when the harness is again connected with the latter.

Pivoted in the bifurcation *m* of the rod enlargement I and normally resting on the platform *e* of the bottom plate E is a swinging holder L, the office of which will be hereinafter pointed out.

In the practical use of my novel hanger the link G on the collar of the half of a double harness to be suspended is placed in the mouth of the forward holder F, and rings or buckles on suitable back portions of the harness are placed in the mouths of the rear holders F, when by reason of the endwise movable rods H resting above the tail projections of the holders, the latter will be securely held against tipping, and will be enabled to hold the harness in proper position. Also a ring or analogous device on the rein or driving line complementary to the half of harness mentioned is placed on the platform *e* of the bottom plate E in position to receive the swinging holder L. Thus it will be manifest that when a horse is positioned below the suspended harness, and the driver, located on the seat of the fire engine or other vehicle, draws rearwardly on the rein or driving line, the holder L and the enlargement I will be drawn rearwardly until said holder clears the platform *e*, when it will freely swing and release the ring on the rein or driving line. It will also be manifest that the rearward movement of the enlargement I against the action of the spring J will simultaneously retract the three endwise movable rods H and synchronously release the three holders F whereupon the same will tip and permit the half of harness to drop as a unit in proper position upon the horse.

It will be gathered from the foregoing that my novel hanger is simple, compact and inexpensive in construction, and that notwithstanding the facility with which it may be operated to release a harness, there is no liability of the harness or any part thereof accidentally falling from the hanger.

Having described my invention, what I claim and desire to secure by Letters Patent is:—

1. The combination in a harness hanger, of a suitable supporting means, tipping holders pivoted thereto, rods carried by said supporting means for normally preventing tipping of the holders, means for pressing said rods outwardly and yieldingly holding the same against inward movement, and means common to the several rods through which the same can be synchronously retracted.

2. The combination in a harness hanger, of a suitable supporting means, tipping holders pivoted thereto and having mouths in their outer arms and tail projections on their inner arms, rods carried by said supporting means and normally resting above said tail projections to prevent tipping of the holders, means for pressing said rods outwardly and yieldingly holding the same against inward movement, and means common to the several rods through which the same can be synchronously retracted.

3. The combination in a harness hanger, of a suitable supporting means, tipping holders pivoted thereto, rods carried by said supporting means for normally preventing tipping of the holders, a spring for pressing one of the rods outwardly and yieldingly holding the same against retraction, and means intermediate said rod and the other rod or rods for pressing the latter outwardly and holding the same against retraction.

4. The combination in a harness hanger, of a suitable supporting means provided with a platform, tipping holders pivoted to said means, rods carried by said means for normally preventing tipping of the holders, a spring for pressing one of the rods outwardly and yieldingly holding the same against retraction, a swinging holder pivoted to said rod and arranged to coöperate with the platform, and means intermediate said rod and the other rod or rods for pressing the latter outwardly and holding the same against retraction.

5. In a harness hanger, the combination with a casing comprising a body; a tubular arm reaching forwardly from said body, and diverging, tubular arms reaching rearwardly therefrom, of tipping arms pivoted in the extremities of the casing arms, a rod extending through the casing body and the forward casing arm and adapted in its foremost position to prevent tipping of the forward holder, a spring body in position to force said rod forwardly, rods extending

through the rear casing arms and adapted in their rearmost positions to prevent tipping of the rear holders, and levers fulcrumed in the casing body, and having their inner arms connected to the forward rod and their outer arms connected to the rear rods.

6. In a harness hanger, the combination with a casing comprising a body provided with a platform, a tubular arm reaching forwardly from said body, and diverging tubular arms reaching rearwardly therefrom, of tipping arms pivoted in the extremities of the casing arms, a rod extending through the casing body and the forward casing arm adapted in its foremost position to prevent tipping of the forward holder, a swinging holder pivoted to said rod in rear of the casing body, and adapted to coöperate with the platform on the body, a spring arranged in the casing body in position to force said rod forwardly, rods extending through the rear casing arms and adapted in their rearmost positions to prevent tipping of the rear holders, and levers fulcrumed in the casing body and having their inner arms connected to the forward rod and their outer arms connected to the rear rods.

HENRY C. GRAYBILL.

In presence of—
W. H. BLAKE,
FRED KLINK.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."