

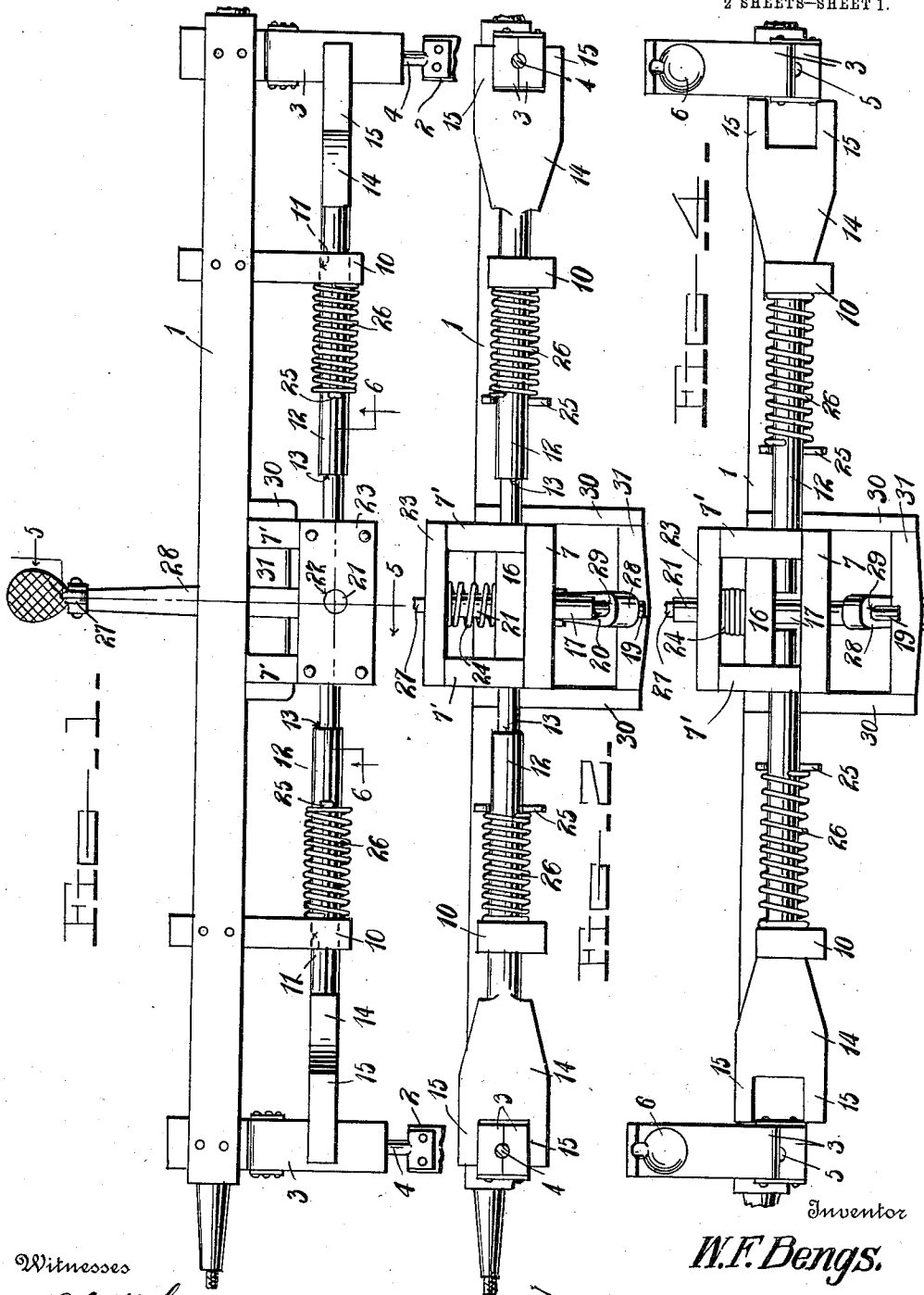
W. F. BENGS.
HORSE DETACHER.

APPLICATION FILED AUG. 25, 1911.

1,034,569.

Patented Aug. 6, 1912.

2 SHEETS—SHEET 1.



Witnesses

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W. H. Woodman

Inventor

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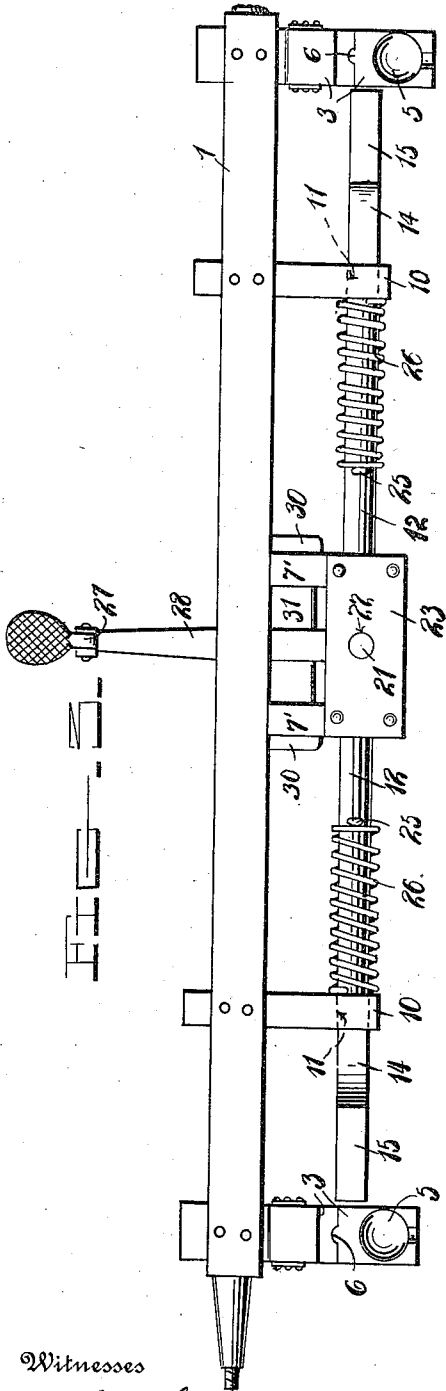
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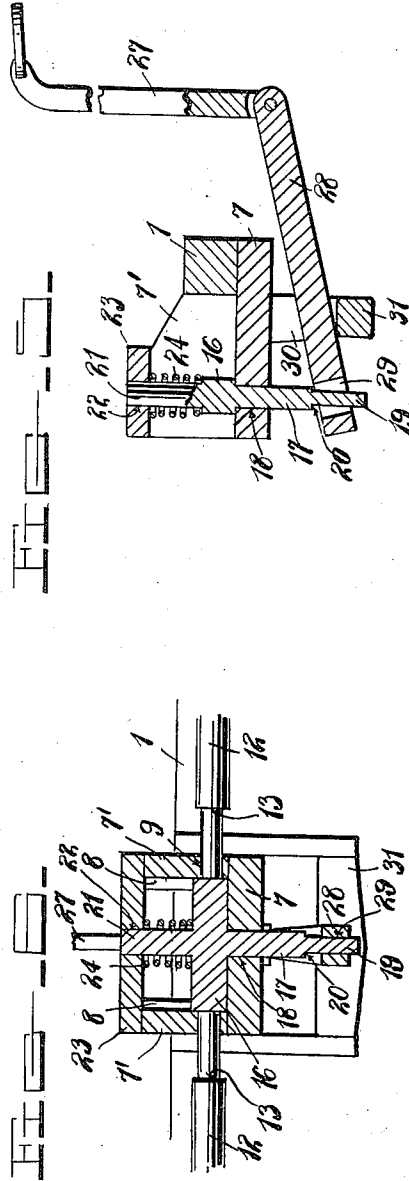
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UNITED STATES PATENT OFFICE.

WILLIAM F. BENGS, OF ABERDEEN, SOUTH DAKOTA.

HORSE-DETACHER.

1,034,569.

Specification of Letters Patent.

Patented Aug. 6, 1912.

Application filed August 25, 1911. Serial No. 645,965.

To all whom it may concern:

Be it known that I, WILLIAM F. BENGS, a citizen of the United States, residing at Aberdeen, in the county of Brown, State of South Dakota, have invented certain new and useful Improvements in Horse-Detachers; and I 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.

My invention relates to new and useful improvements in horse detachers and more especially to that type adapted to detach the shafts from the vehicle and the object of my invention is to improve the construction and increase the efficiency of detachers of the above described character.

A further object of my invention is to provide a detacher adapted for use with vehicles having shafts, the thill irons of which terminate in ball members adapted to be clamped in sockets carried by the axle.

A further object of my invention is to provide a spring actuated detaching mechanism the trip of which may be thrown by pressure applied to a foot lever or treadle thus leaving both hands free.

With these and other objects in view, my invention will be more fully described, illustrated in the drawings which show a preferred embodiment of the horse detacher and then specifically pointed out in the claim which is attached to and forms a part of this application.

In the accompanying drawings, Figure 1 is a top plan view with the shafts attached. Fig. 2 is a front elevation the shafts being shown in section. Fig. 3 is a top plan view of the device in release position. Fig. 4 is a front elevation also in release position. Fig. 5 is a section on the line 5—5 of Fig. 1. Fig. 6 is a section on the line 6—6 of Fig. 1.

Referring more specifically to the drawings, in which similar reference numerals designate corresponding parts throughout, 1 designates the axle of the vehicle to which are attached shafts designated as a whole by the numeral 2, the attaching means in this case consisting of two part socket clamp members 3 adapted to engage with the ball terminals 4 of the thill irons. As shown, these socket clamp members each consist of a lower member secured by its rear end to the axle and provided at its

forward end with a hemispherical socket 5 which coacts with a similar socket 6 formed in the forward end of the upper member to form a socket or the ball terminal 4. This upper member is hinged to the lower member intermediate the length of the latter as shown, in such a manner that its forward end is free to swing upwardly and release the shaft iron.

The above described mechanism is practically identical with that of the customary ball and socket thill coupling and the object of my invention is to provide means for holding the members of the clamps together in position to retain the shaft which shall also be so constructed that they may be quickly and readily released by the driver.

With this object in view I have secured a plate 7 to the lower face of the central portion of the axle and this plate extends beyond the axle and is provided with upwardly directed side members 7' the inner faces of which are provided with the vertically extending channels or guideways 8, these sides being also provided with apertures formed in the lower portion of the channels, said apertures being designated by the numeral 9. I have also provided the axle intermediate between this plate and the shaft clips with forwardly extending arms 10 which are also provided with bores 11 which are in alinement with the apertures 9. Slidably mounted in the bores of each of these arms is a rod 12, the inner ends of these rods being reduced to form shoulders 13 and said reduced ends being passed through the apertures 9 of the sides 7'. The other or outer ends of these rods are provided with enlarged heads 14 the ends of which are bifurcated to form the spaced arms 15 which are adapted to pass over opposite faces of the clamps with one arm bearing against the lower face of the lower clamp member and the other arm against the upper face of the upper clamp member whereby the clamps are firmly secured together to retain the thill irons in place. As a means for maintaining these rods in extended position to hold the clamps I have provided a lock member 16 which as shown, is substantially rectangular in shape and is mounted for movement in the guides 8 and it will be seen that when this lock is in lowered position, that is when it is seated upon the plate 7 it will be posi-

tioned between the inner ends of the rods 12 and therefore serve to maintain them in extended position. This lock is provided upon its lower face with a downwardly directed stud 17 which passes through a suitable aperture 18 formed in the plate 7 and terminates in a reduced portion 19 forming a shoulder 20 the purpose of which will be hereinafter explained. The upper face of this lock is also provided with an upwardly directed stud 21 which passes through an aperture 22 formed in a plate 23 which is secured to the upper edges of the sides 7' and serves to prevent the bolt from being disengaged from its guides and surrounding this latter stem and bearing between the plate 23 and the bolt is a helical spring 24 which serves to normally maintain the bolt in active position.

Each of the rods 12 is provided intermediate its length with a perforation through which is passed a spring pin 25 and surrounding each of these rods is a helical spring 26 one end of which bears against one of the arms 10 while the other end bears against one of the pins. These pins are so positioned that when the rods are in extended position as shown in Figs. 1 and 2 of the drawings the springs are compressed and it will be seen that when the bolt is lifted out of its lowered or active position these springs will immediately force the rods toward each other and thus draw their terminal arms out of engagement with the clamp members whereby the latter are released and are free to swing open and thus release the shafts.

As a means for actuating or raising the bolt I have provided a foot treadle 27 one end of which extends upwardly through the floor of the vehicle to a point within easy reach of the driver while the other end is pivotally secured to a lever arm 28 the free end of which is slotted longitudinally as at 29 to pass over the reduced portion 19 of the stud 17 and to bear against the shoulder 20 formed thereby. Extending downwardly from the sides 7' are hanger arms 30 the lower ends of which are connected by a transversely extending bar 31 and as

shown, this bar is so positioned as to support the lever 28 in place and prevent its disengagement from the stud and also to act as a fulcrum for the lever when the treadle is pressed downwardly. As will be readily seen downward pressure upon the treadle will act through this lever to force the bolt upwardly against the pressure of the spring 24 and thus release the rods 12. From the foregoing description it will be apparent that I have provided a simple and efficient horse detacher and one especially adapted for use with shafts which are attached to the vehicle by means of ball and socket clips.

It will of course be understood that minor changes in details and constructions may be made if desired, without in any way departing from the spirit of my invention.

What I claim is:—

A horse detacher, comprising clamps secured to the axle and adapted to engage with the ball terminals of the thill irons, said clamps each consisting of a lower member and an upper member hinged to said lower member, a plate secured to said axle and having upwardly directed sides channeled to form guide ways, said sides being provided with apertures communicating with the lower ends of the guides, arms secured to said axle and provided with apertures in alinement with the apertures of the sides, rods slidably mounted in said arms and sides, the outer ends of said rods terminating in bifurcated head members forming arms adapted to engage with the clamps to hold them in closed position, a lock member slidable in said guides and adapted in active position to hold the rods in operative position, means for normally holding the lock in active position, means for throwing the lock out of active position, and means for drawing the rods out of engagement with the clamps when the lock is thrown out of active position.

In testimony whereof, I affix my signature in presence of two witnesses.

WILLIAM F. BENGIS.

Witnesses:

E. T. TAUBMAN,

K. S. MACKENZIE.