

(No Model.)

M. M. BENSTED.
HORSE DETACHER.

No. 528,410.

Patented Oct. 30, 1894.

Fig. 4.

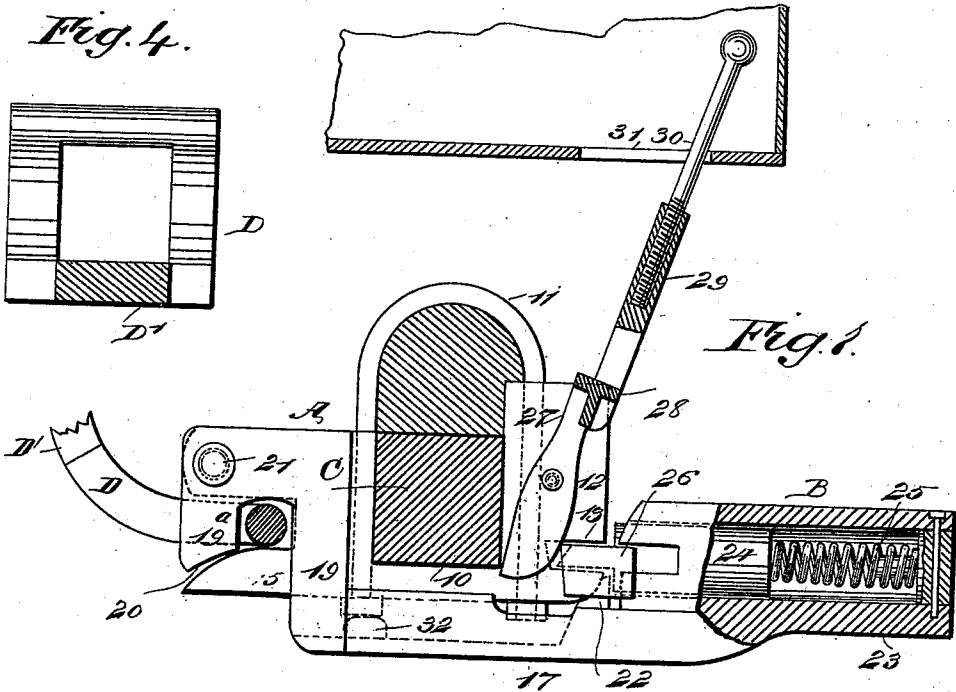
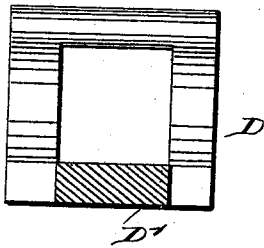
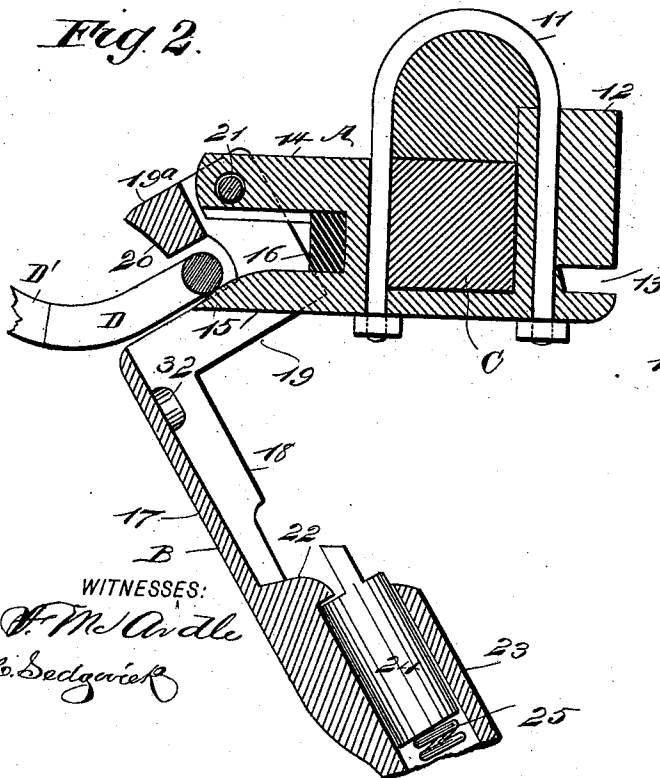
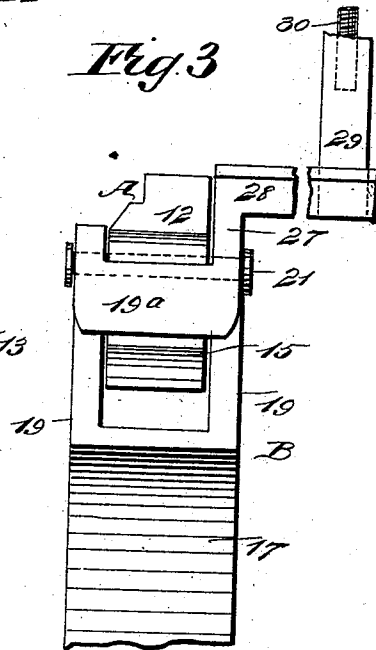


Fig. 2.



WITNESSES:
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Fig. 3.



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HORSE-DETACHER.

SPECIFICATION forming part of Letters Patent No. 528,410, dated October 30, 1894.

Application filed February 26, 1894. Serial No. 501,576. (No model.)

To all whom it may concern:

Be it known that I, MENZO M. BENSTER, of Gettysburg, in the county of Potter and State of South Dakota, have invented a new and
5 Improved Thill-Coupling, of which the following is a full, clear, and exact description.

My invention relates to an improvement in thill couplings, and it has for its object to construct a coupling which will be of exceedingly simple, durable and economic construction, and capable of being manipulated from the body of the wagon in such manner that the thills may be liberated from the coupling, and therefore in the event of a run-away the
15 vehicle and its contents may be preserved against injury.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth and pointed
20 out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures and letters of reference indicate corresponding parts in all the
25 views.

Figure 1 is a partial side elevation and partial sectional view of the improved thill coupling, the thills being shown in section in connection with the coupling, likewise a portion
30 of the body of a vehicle and a releasing bar which may be actuated from said body. Fig. 2 is a vertical longitudinal section through the thill coupling, illustrating the latter in open position or in position to release the
35 thills. Fig. 3 is a front elevation of the coupling when in the open position shown in Fig. 2, the thills having been removed; and Fig. 4 is a sectional view through a thill adjacent to the end adapted to enter the coupling.

The coupling consists of what may be termed a body A and a locking arm or section B. The body section A of the coupling is provided with a recess 10 in its upper edge, extending downward a predetermined distance
45 in direction of the under surface of the body, and said recess 10, is adapted to receive the axle C of the vehicle to which the coupling is to be applied, the axle and body of the coupling being connected through the medium of a clip 11, or the equivalent thereof,
50 the attachment being made without drilling or otherwise weakening the axle. The upper

rear portion of the body, or that portion just back of the recess 10, is reinforced at the top, said reinforcement being designated as 12, 55 and the additional thickness is provided in order that a sufficient bearing may be afforded for the rear portion of the clip, as illustrated in Fig. 2. At the lower rear portion of the body, a transverse recess or socket 13, is
60 produced, adapted to serve as a keeper for a latch upon the locking section B, to be hereinafter described.

The forward end of the body of the coupling is laterally bifurcated, forming thereby
65 two jaws, an upper jaw 14 and a lower jaw 15; and a packing 16 of an elastic or yielding material, such as rubber for example, is located at the rear of the space between the jaws, as is also shown in Fig. 2. The outer
70 face of the upper end of the lower jaw is inclined more or less, or is made more or less beveled in order to facilitate the entrance of the thill into the space between the body jaws 14 and 15, as the thill will occupy such a po-
75 sition when connected with the coupling.

The locking section B of the coupling consists of a plate 17, provided with side flanges 18, and at the forward end of this plate at each side an inverted-L-shaped standard 19, 8c is formed, the said standards being provided with downwardly-extending projections 19^a on the outer ends of their horizontal members, and the two standards 19, are connected only through the medium of the said
85 projections 19^a and a connecting bar uniting them, the under surface of which bar, as shown at 20 in Figs. 1 and 2, being beveled or curved from its outer edge in direction of the inner member of the standards. Therefore, an
90 uninterrupted space is provided between the inner vertical and horizontal members of the standards, the space being sufficient to freely receive the forward end of the body section A, to which section the standards are pivotally
95 connected by a pin 21, passed through the horizontal members of the standards and through the upper body jaw 14. The two connected standards form upon the plate member 17 of the locking section an angular
100 jaw adapted to co-operate with the two jaws on the body of the coupling.

The plate member 17 of the locking section is adapted to receive between its flanges 18

the lower portion of the body section A, and the said body section at its rear end below the keeper 13 is beveled or rounded off, being adapted to meet a correspondingly shaped rib 22, formed transversely upon the plate member 17 of the locking section. At the rear end of the plate 17 a housing 23, is constructed, and in this housing a bolt 24, has sliding movement, being normally pressed outward or forwardly through the medium of a spring 25, located within the housing and usually having bearing against a plug which closes the rear end of the housing, its forward end being open; and the said bolt 24 is adapted to enter the keeper 13 of the body section when the body section is seated upon the plate member of the locking section, and in this manner the two sections are held coupled or in locking engagement, and when the sections of the coupling are in such position the forward cross bar of the jaw on the locking section, made up of the standards 19, will substantially have a bearing against the lower jaw of the body, as shown in Fig. 1, thus closing the entrance to said jaws and maintaining in position whatever has been inserted between the jaws when the locking section was in the open position shown in Fig. 2, that is, in pivotal engagement with the jaws yet unable to leave them.

Although the bolt 24 may be manipulated by having a handle projected from it, preferably a block 26, is secured to one end of the bolt, which may be grasped by hand and pushed rearward to release the bolt from the body of the coupling when desired to change thill or pole; but in order that the coupling may be manipulated from the body of the vehicle, for example, two fingers 27, are located one at each end of the cross bar 28, which bar may be either an L- or T-shaped iron, or of any other cross sectional shape. The fingers are pivotally attached to the body of the coupling at the rear of the axle, the fingers being adapted for engagement with the block 26 on the bolts.

The cross bar 28 of the fingers is preferably provided with a socket 29, into which a handle 30 is screwed. By this means the handle may be lengthened or shortened according to the position of the body of the vehicle, since the said handle is adapted to enter an opening 31 in the vehicle body, and be within convenient reach of the driver. Thus by manipulating the handle in one direction the blocks 26 will be forced rearward and the locking section of the couplings will be free to drop downward to the position shown in Fig. 2, and the thills may then be withdrawn from the jaws of the couplings, or will drop therefrom of their own accord.

The coupling ends D of the thill irons D', are carried upward at an angle to the body of the irons, and are of substantially loop-formation, as shown in Figs. 1, 2 and 4; and when the thills are applied to the coupling, the coupling being in open position, the entrance to

the jaws of the couplings will be effected as shown in Fig. 2; and when the locking sections of the couplings are carried up to locking engagement with the body sections, the coupling end of the thills will be held between the jaws of the body, and firmly against the packing 16, and will be prevented from leaving said body jaws by the downward and forward extension of the jaw of the locking sections, while the thill is also rendered anti-rattling. The packing is so placed that when the thills are removed it cannot drop from the coupling.

It will be understood that the fingers 27, cross bar 28, and whatever device may be employed for manipulating the fingers, may be termed a trip device or devices. In order that the two sections of the coupling when brought together shall not rattle, a friction block 32 of a yielding material such as rubber, is generally secured to the plate portion 17 of the locking section of the coupling to engage with the bottom portion of the body section. Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. In a thill coupling, the combination, with a body section fitted to receive an axle and to be secured thereto, the said body section being provided with jaws at one end and a keeper at its opposite end, of a locking section provided with jaws at one end, pivotally connected with one of the jaws of the body section and adapted to act in conjunction with both jaws of the said body, the locking section being provided with a bed to receive a portion of the body section, and a spring-controlled lock the latch of which is adapted to enter the keeper in the body section, as and for the purpose set forth.

2. In a thill coupling, the combination, with a body section constructed to be secured to an axle and provided at its forward end with oppositely disposed jaws and with a keeper at its rear end, of a locking section, the same consisting of a bed or plate section adapted to receive a portion of the body section, an angular jaw located at the forward end of the body section, pivoted to the jaw portion of the body section and operating in conjunction with said jaws, a spring-controlled bolt located at the opposite end of the bed and adapted to enter the keeper in the body section of the coupling, and a trip mechanism, substantially as shown and described, whereby the bolt may be operated from a point above the coupling, as and for the purpose set forth.

3. In a thill coupling, the combination, with a body section constructed for attachment to an axle, and provided at its forward end with oppositely-disposed jaws and a keeper at its rear end, of a locking section the same consisting of a bed adapted to receive a portion of the bottom of the body section, an angular jaw located at the forward end of the bed, recessed to receive the jaw portion of the

body and pivotally connected with one of the jaws thereof, the jaw of the locking section being provided with a surface adapted substantially for engagement with the lower jaw of the body, and a spring-controlled lock located at the inner end of the bed, the bolt whereof is adapted for engagement with the keeper of the body, a trip finger pivoted upon the body portion of the coupling and adapted for engagement with the said bolt, and means, substantially as shown and described, for operating the finger from a point above the coupling, as and for the purpose set forth.

4. In a thill coupling, the combination, with a body section constructed for attachment to an axle, and provided at its forward end with oppositely-disposed jaws and a keeper at its rear end, of a locking section, the same consisting of a bed adapted to receive a portion of the bottom of the body section, an angular jaw located at the forward end of the bed,

recessed to receive the jaw section of the body, the jaw of the locking section being provided with a surface adapted substantially for engagement with the lower jaw of the body, and a spring-controlled lock located at the inner end of the bed, the bolt whereof is adapted for engagement with the keeper of the body, a trip finger pivoted upon the body portion of the coupling and adapted for engagement with the said bolt, means, substantially as shown and described, for operating the finger from a point above the coupling, and a thill iron terminating in an upturned loop, which loop is adapted to be received between the jaws of the body section and to be confined by the jaw of the locking section of the coupling, as and for the purpose specified.

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Witnesses:

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