No. 763,198. PATENTED JUNE 21, 1904.

L. S. MORROW.

HORSE DETACHER.

APPLICATION FILED MAR. 4, 1904.

NO MODEL.

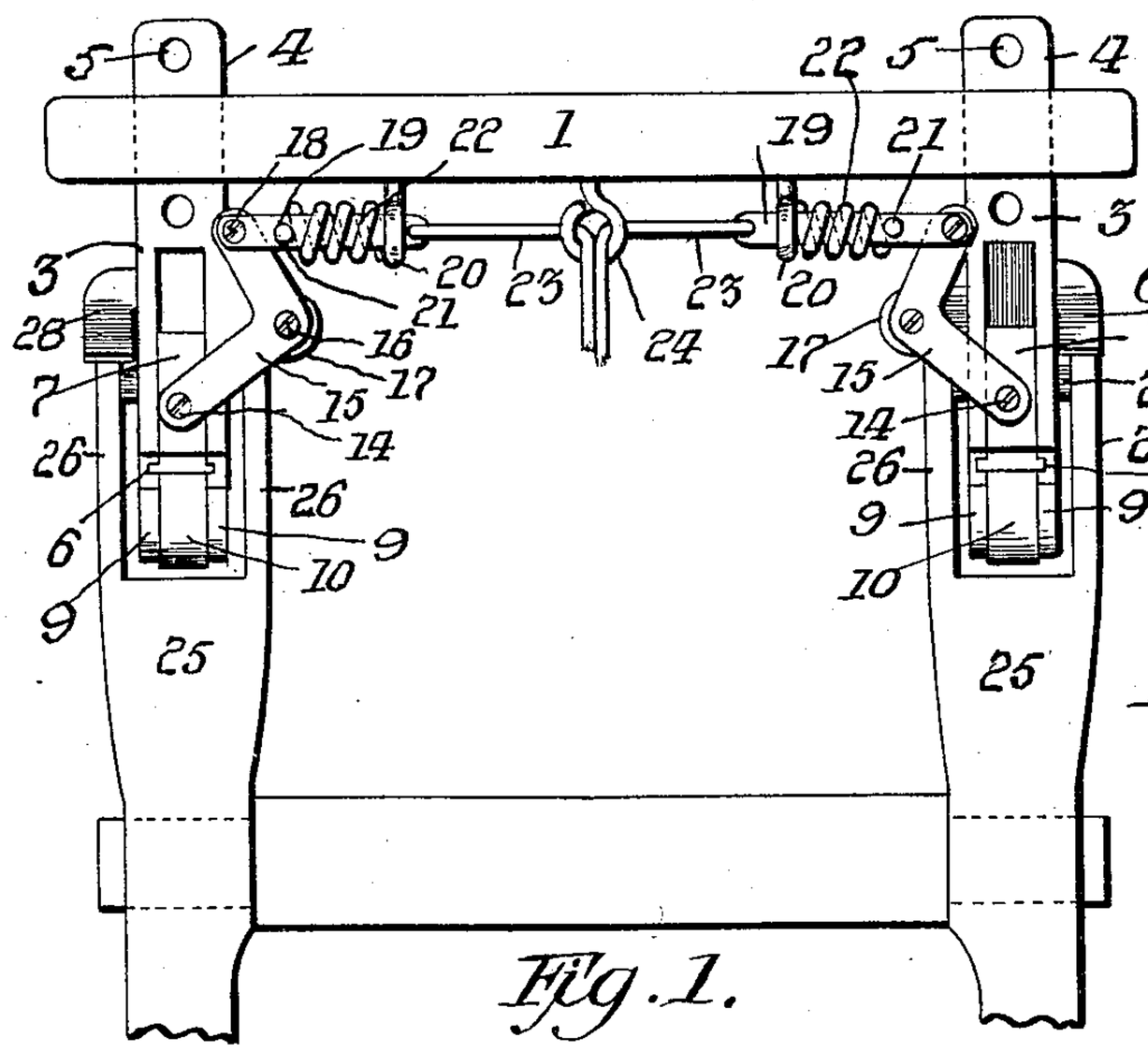

Fig. 1.

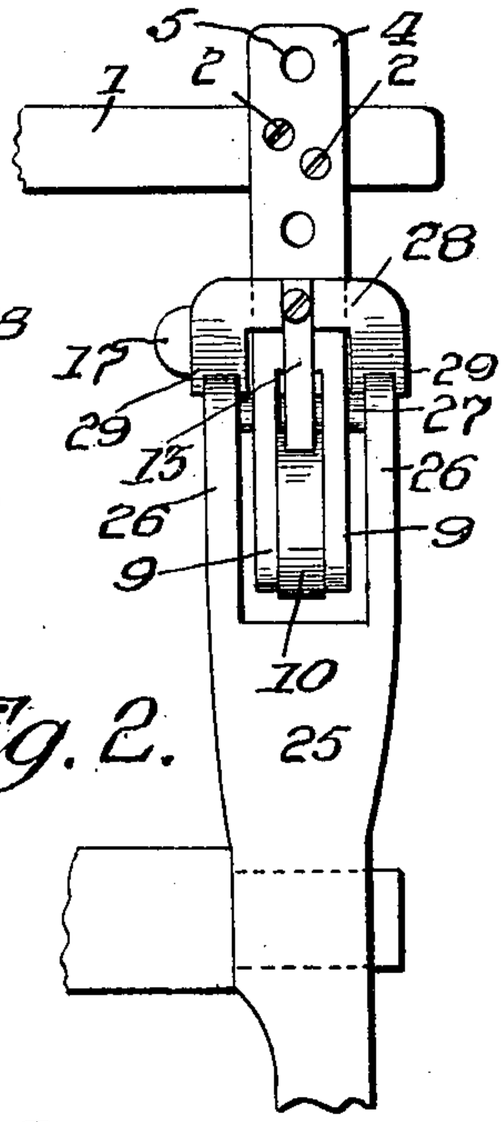

Fig. 2.

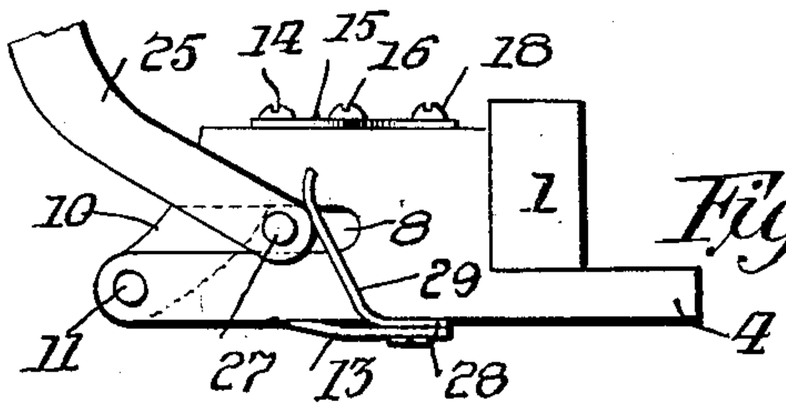

Fig. 3.

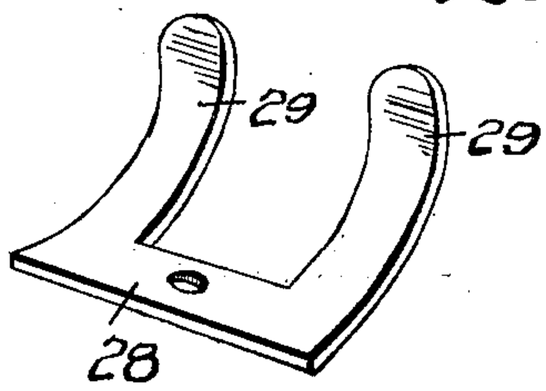

Fig. 6.

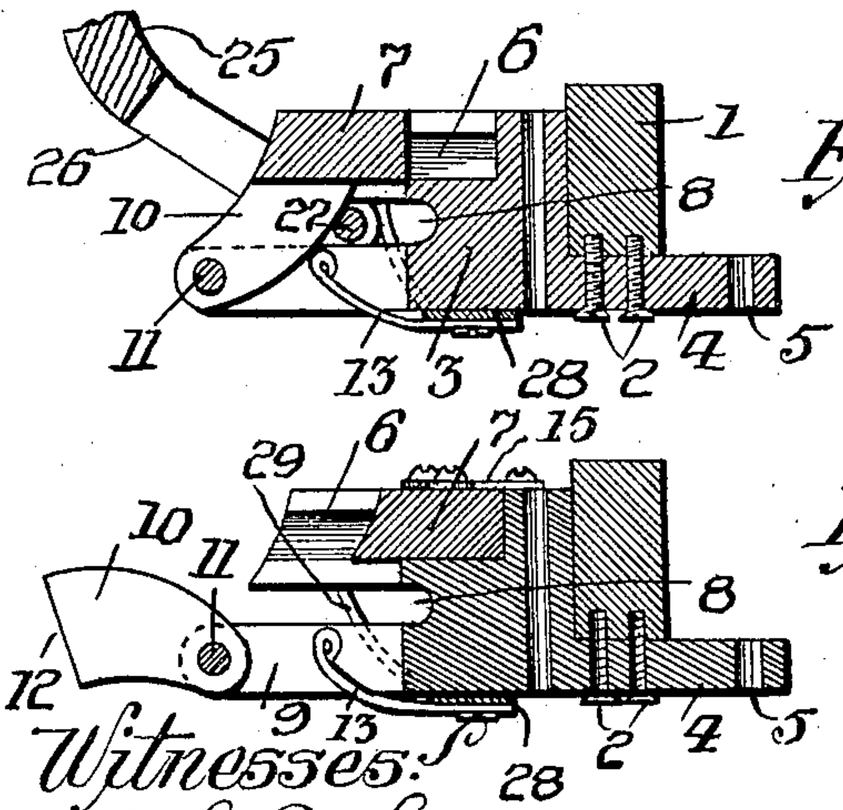

Fig. 4.

Fig. 5.

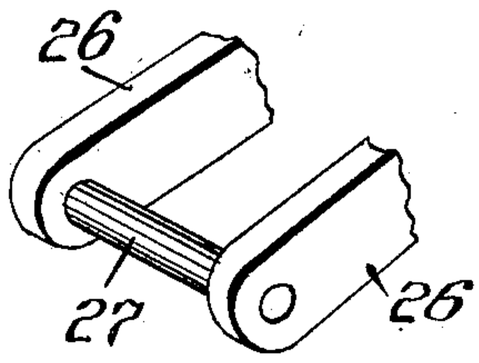

Fig. 7.

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UNITED STATES PATENT OFFICE.

LLOYD S. MORROW, OF MONESSEN, PENNSYLVANIA.

HORSE-DETACHER.

SPECIFICATION forming part of Letters Patent No. 763,198, dated June 21, 1904.

Application filed March 4, 1904. Serial No. 196,574. (No model.)

To all whom it may concern:

Be it known that I, LLOYD S. MORROW, a citizen of the United States of America, residing at Monessen, in the county of Westmoreland and State of Pennsylvania, have invented certain new and useful Improvements in Horse-Detachers, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention has relation to horse-detachers, and relates in particular to that class of these devices in which the shafts of a vehicle are detachable by the driver while sitting in the vehicle.

This invention has for its object the provision of a novel means for detaching shafts from vehicles by a single movement of the driver's arm and so constructed and arranged that when the shaft is in engagement with the detaching mechanism it will be securely held and accidental displacement will be avoided.

My invention has for its further object the provision of novel means for detachably connecting shafts to vehicles which will be strong, serviceable, and simple in construction and by means of which the shafts may be easily attached to and instantly detached from a vehicle, as the case requires.

My invention consists in the novel construction, combination, and arrangement of parts hereinafter described and claimed.

In the accompanying drawings, Figure 1 is a plan view of my improved shaft-detacher. Fig. 2 is a bottom plan view of one side of the same. Fig. 3 is a side elevation of the same. Fig. 4 is a vertical sectional view showing the shaft in position in the detaching device. Fig. 5 is a similar view to Fig. 4, the shaft being omitted and the detaching device being shown in its opened position. Fig. 6 and Fig. 7 are perspective views of parts of the device shown in the other figures.

The shaft-detaching devices are attached to any suitable portion of the running-gear—as, for instance, to the front axle—by means of clips or other attaching devices, and in my improvement the detaching devices are secured to a cross-bar 1 by bolts 2 at such position on the cross-bar as will bring the two members of the detaching devices that receive the ends of the shafts in alinement therewith. The two detaching members which I employ, one for each shaft, are composed each of a block of metal 3, formed with a rearwardly-extending arm 4, through which pass the bolts 2, by means of which the block is attached to the cross-bar 1, said rearwardly-extending arm being pierced at 5 for the passage of the bolts of the clips by means of which the detaching device is attached to the vehicle. The block 3 is formed with a rabbet 6, which extends horizontally from near the rear of the block to the front end thereof, and in said rabbet is fitted a sliding plate 7. The forward end of the block 3 is bifurcated, and a horizontal open-ended slot 8 is formed in each leg of the bifurcated end. The latch 10 is arranged between the legs 9 9 and swings on a pivot 11, and the upper end 12 of the latch is so formed that when in its closed position said upper end will be alined with the lower side of the rabbet 6. A spring 13 is attached to the bottom of block 3, which spring serves to press the latch tightly up against the bottom of the sliding plate 7 when the latch is in its closed position and serves also to throw the latch over into the position shown in Fig. 5 when the detaching device is operated to release the shafts.

Each of the sliding plates 7 is pivotally connected at 14 to a bell-crank lever 15, pivoted at 16 to a lug 17 on the inner side of the block 3, and said bell-crank lever is pivoted at 18 to a sliding rod 19, that is guided in an eye 20 on the cross-bar 1. The bar 19 is provided with a pin 21, and a spiral spring 22 surrounds the bar between said pin and the eye 20. The bars 19 of each member of the detached device have attached to their inner ends a flexible connection 23, which may be a rope, chain, wire, or cable, the two flexible connections passing through an eye 24 on the cross-bar 1 and extending up to a point within reach of the driver of the vehicle. The shafts 25, which I employ in connection with my shaft-detaching device, have their inner ends bifurcated, forming legs 26, which embrace the sides of the block 3, the legs 26 of each shaft carrying near their ends a cross-

pin 27, which when the shafts are in position in the detaching device lie in the slots 8 of the blocks 3. A U-shaped spring 28, which has upwardly-turned arms 29 29, is secured to the bottom of each block 3, and arms 29 bear against the ends of the legs 26 and serve to press the shafts forwardly and cause the pins 8 to bear tightly against the latches 10.

The operation of my invention is as follows: When the shafts are to be attached, the parts are in the position shown in Fig. 5. The pins 27 are inserted in the slots 8, the sliding plates 7 being pulled backwardly by pulling the flexible connections 23. The latches 10 are then swung backwardly until their upper ends 12 are below the bottom of the sliding plates 7. The flexible connections 23 are then released, and the springs 22 impel the rods 19 outwardly and move through the bell-crank levers 15, and through the movement of the bell-crank levers 15 the sliding plates 7 are pushed forwardly over the latches 10 and serve to maintain the same in the closed position (Shown in Fig. 4.)

When it is desired to detach the shafts, it is only necessary to simultaneously pull the flexible connections 23, whereupon the sliding plates 7 will be drawn back to the position shown in Fig. 5, and the springs 13 will draw the latches 10 forward, thus releasing the shafts and permitting the same to be drawn freely out of engagement with the members of the detaching device.

Having described my invention, I claim—

1. In a device of the character described, the combination of a cross-bar, blocks secured thereto each having bifurcated ends, a horizontal slot and a rabbet parallel to said slot, a latch pivoted between the bifurcated ends, a sliding plate arranged in said rabbet and adapted to engage said latch, with a shaft having a pin adapted to enter said slot and means for withdrawing the sliding plate from engagement with the latch.

2. In a device of the character described, the combination with a cross-bar and two shaft-detaching members secured thereto, each consisting of a block having a slot adapted to receive a pin on the end of a shaft, a latch adapted to engage said pin, a sliding plate adapted to engage and release said latch, a bell-crank lever pivoted to said sliding plate and to the block and connection leading from said bell-crank lever to a point within reach of the driver.

3. In a device of the character described, the combination of a cross-bar, blocks secured thereto each having a horizontal slot adapted to receive a pin on the end of a shaft, a latch arranged at the forward end of said slot, a sliding plate adapted to engage said latch, a spring engaging said latch when in its closed position, a spring adapted to engage the end of the shaft, a bell-crank lever attached to said sliding plate, a rod connected to said bell-crank lever, a spring arranged to move the bell-crank lever and force the sliding plate over the latch and a flexible connection attached to said rod.

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

LLOYD S. MORROW.

Witnesses:
W. P. LAMONT,
FRANK BUMER.