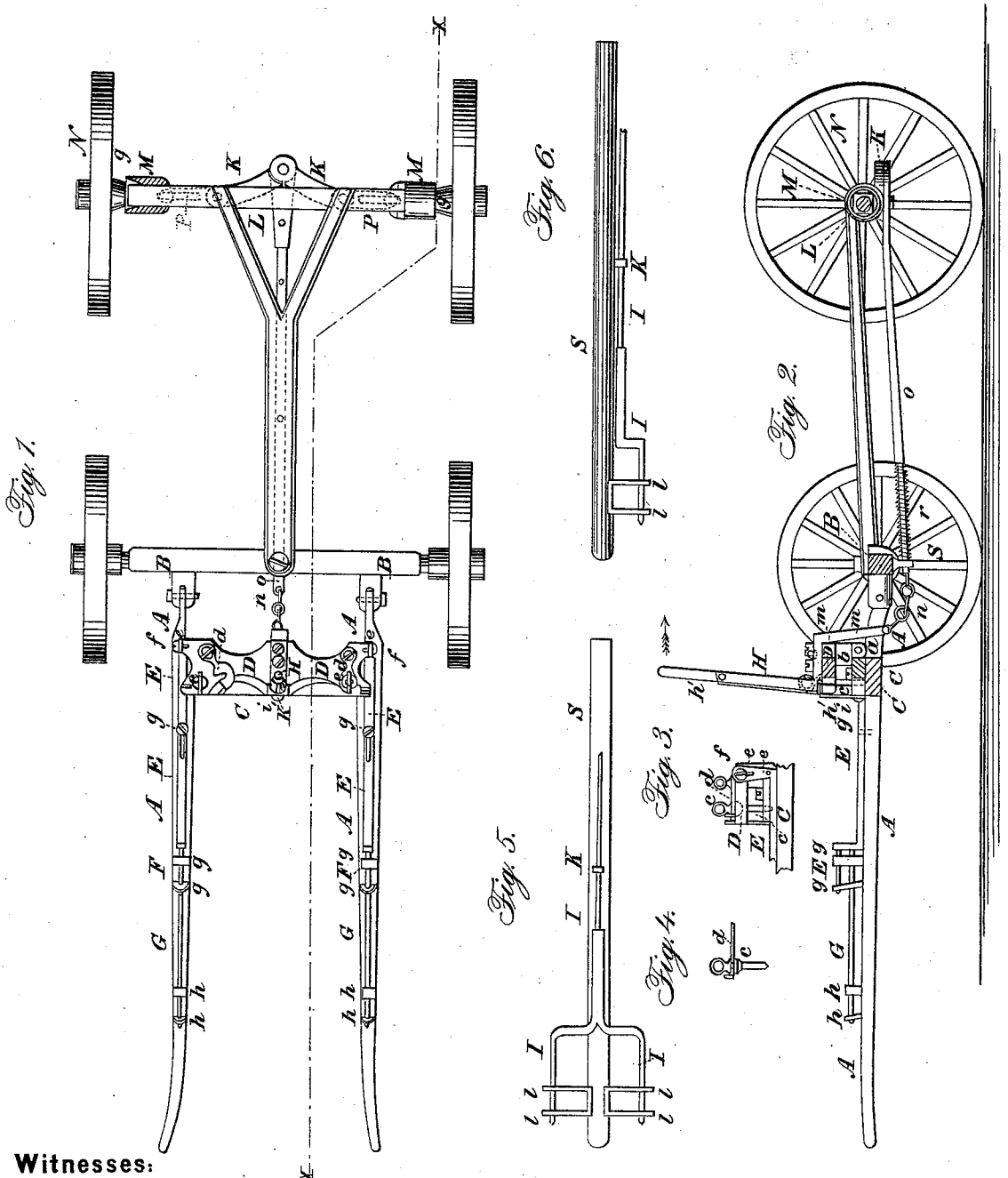
C. DUCRUX.

Detaching Horses.

No. 60,705.

Patented Jan. 1, 1867.



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Letters Patent No. 60,705, *dated January* 1, 1867.

IMPROVEMENT IN SAFETY ATTACHMENT TO CARRIAGES.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, CLAUDE DUCRUX, of the city, county, and State of New York, have invented a new and improved Safety Attachment to Carriages; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification.

This invention relates to a new device, whereby a wagon can be instantaneously stopped and the horse detached therefrom, in case the latter should try to run away. The invention consists in combining with the detaching apparatus a brake, which is applied at the same time that the horse is detached. The detaching apparatus consists of an oscillating cross-bar, which is arranged directly over the common cross-bar which is operated from the driver's seat by a vertical lever or handle. The traces or tugs of the harness are secured to pins, which are attached to the oscillating cross-bar, and the saddle and hold-back straps in a one-horse wagon are held by horizontal sliding-bars between uprights which are attached to the thills. By pulling the aforesaid lever back, the pins which hold the traces are raised out of their sockets in the stationary cross-bar and the traces are released, while the horizontal sliding-bars are also pulled back by the same movement, thus releasing the hold-back and saddle straps, and thereby completely detaching the horse from the wagon. A downward extension of the vertical lever is connected with a brake on the hind wheels, which is also operated by the same movement of the lever which disengages the horse. In two-horse wagons the whiffletrees are disengaged from the pins on the oscillating cross-bar, instead of the traces or tugs in one-horse wagons. The pole-straps in two-horse wagons are secured to and released by a similar horizontal sliding-rod as the saddle and hold-back straps on one-horse wagons; all other parts are the same in two-horse as they are in one-horse wagons.

In the accompanying drawings my invention is completely illustrated—

Figure 1 being a plan or top view of a one-horse wagon, which is provided with my improved detaching apparatus and brake.

Figure 2 is a vertical longitudinal section of the same, taken on the line *x x*, fig. 1.

Figure 3 is a portion of a side view of the disengaging apparatus.

Figure 4 is a side view of the pins by which the traces or whiffletrees are held to the wagon.

Figure 5 is a plan or top view of the forward end of a pole of a two-horse wagon; and

Figure 6, a side view.

Similar letters of reference indicate like parts.

The thills A are secured to the front axle, B, of the wagon in the usual manner. They are also connected by a cross-bar, C, as usual. To the centre of this cross-bar is pivoted, by a pin, *a*, the arm *b*, which is attached to another cross-bar, D. The latter is arranged exactly on top of the lower cross-bar C. To the cross-bar D are secured pins, *c*, which are held by plates, *d*, fitting each into a groove around the upper portion of the pin, as seen in figs. 1, 3, and 4. The plates *d* are pivoted to the bar D, as seen in fig. 1, so that they can be thrown out of the grooves around the pins, whereby the latter are released and may be removed. These pins *c*, when in place, and when the cross-bar D is down, fit into corresponding sockets in the lower cross-bar C. The bar D is also connected to the horizontal sliding-bars, E, which are arranged on top of the thills A. A slotted upright arm, *e*, which is secured to the rear end of each sliding-bar, E, is connected to either end of the cross-bar D by a pin, *f*, as seen in fig. 3. The bars E are guided by pins, *g*, attached to the thills and working in slots in the bars E, as seen in fig. 1. The bars E connect each with two horizontal bars, F and G, which pass through holes in the uprights *g g* and *h h*, respectively the latter are firmly secured to the thills. A lever, H, is secured to the cross-bar D, and extends up, so as to be in convenient reach of the driver. The upper end or handle, *h'*, of this lever is pivoted to the lower part, as seen, and extends down below the pivoting point. A spring, *i*, presses against this lower end, as seen in fig. 2, and thereby locks the lever H and cross-bar D. By pulling the lever in the direction of the arrow, shown in fig. 2, the lower end of the handle *h'* will be disengaged from the spring *i*, and the cross-bar D will be swung back on the pivot *a*. Thereby the pins *c* will be released from the sockets, and will let go the ends of the harness straps, which they had held, while the bars F and G will be pulled back far enough so as to clear the space between the uprights *g g* and *h h*, respectively, thereby releasing the saddle and hold-back straps which were attached to them. In two-horse wagons the whiffletrees instead of the braces are held by and disengaged from the pins *c*, while the bars E F and G, on the thills, fall away altogether. In

their place a single sliding-bar, I, which is operated in a manner similar to the bars E, and which is guided within staples, K, on the upper or lower side of the pole, engages the pole straps between arms *l l*, which are secured to the pole S. There may be two sets of these arms *l l*, as shown in fig. 5. In that case the front end of the bar I is bifurcated, as seen, passing through each pair of the arms *l l*, so as to hold each pole strap separately. If both pole straps are to be held between one single pair of arms *l l*, the bar I passes through them, as shown in fig. 6. An arm, *m*, which is secured to and extends below the cross-bar D, is connected by means of a chain, *n*, and bar, *o*, to two plates, K, which are pivoted to the rear axle L, as shown by dotted lines in fig. 1. These plates K are secured each to a slotted bar, *p*, each of which is attached to one end of the said axle L. The brakes, M, which consist of hollow blocks, sliding on the axle L, and fitting over the conical hub, *q*, of the rear wheels, N, are secured to the bar *p*, as seen in fig. 1. A spiral spring, *r*, which is held between a staple, *s*, on the front axle B, and a shoulder on the bar *o*, as seen in fig. 2, has the tendency to press the bar *o* back, thereby releasing the brakes M, from the hubs *q*. As soon as the lever H is pulled back the bar *o* is pulled forward and the brakes are applied.

Thus it is seen that by simply pulling the lever H back, the horse or horses will be instantaneously disengaged from the wagon, while at the same time the brake is applied to the hind wheels and the wagon stopped. The detaching apparatus as well as the brakes may be constructed on a different plan from those herein described, and in respect to the combination of the two with each other, I do not wish to confine myself to a particular construction of either. The lever or upright bar H can be erected upon the outside or inside of the vehicles, or at the sides thereof, and in joints or otherwise, as may be desired.

Having thus described my invention, I claim as new, and desire to secure by Letters Patent—

1. The combination of a detaching apparatus with the brakes of a vehicle, substantially as herein shown and described.

2. I claim the combination of the pins *e* with the oscillating cross-bar D, substantially as and for the purpose herein shown and described.

3. The manner of securing the pins *e*, to the swinging cross-bar D, by means of plates *d*, substantially as and for the purpose herein shown and described.

4. I claim the combination of the brake draw-rod O, and the strap-rods F G or I, with the oscillating cross-bar D, substantially as and for the purpose herein shown and described.

5. The combination of the lever H, with the cross-bar D, pins *e*, and sliding-bars E F G, substantially as and for the purpose herein shown and described.

6. The combination of the sliding-bar I, with the tongue S, and the oscillating lever D, substantially as and for the purpose herein shown and described.

7. The bars F and G, and upright arms *g g h h*, or the bar I, and arms *l l*, combined and operating substantially as and for the purpose herein shown and described.

8. The manner of operating the sliding-bars E, by means of slotted upright arms *e*, and pins *f*, substantially as herein shown and described.

9. The combination of the spring fastening *i*, with the swinging-bar D, substantially as and for the purpose herein shown and described.

10. The construction of the disengaging apparatus, substantially as herein shown and described, so that by the movement of the lever the braces and all the harness straps are simultaneously released, as set forth.

11. The construction of the brakes M, substantially as described, so as to act upon the hubs of the wheels, as set forth.

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Witnesses:

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