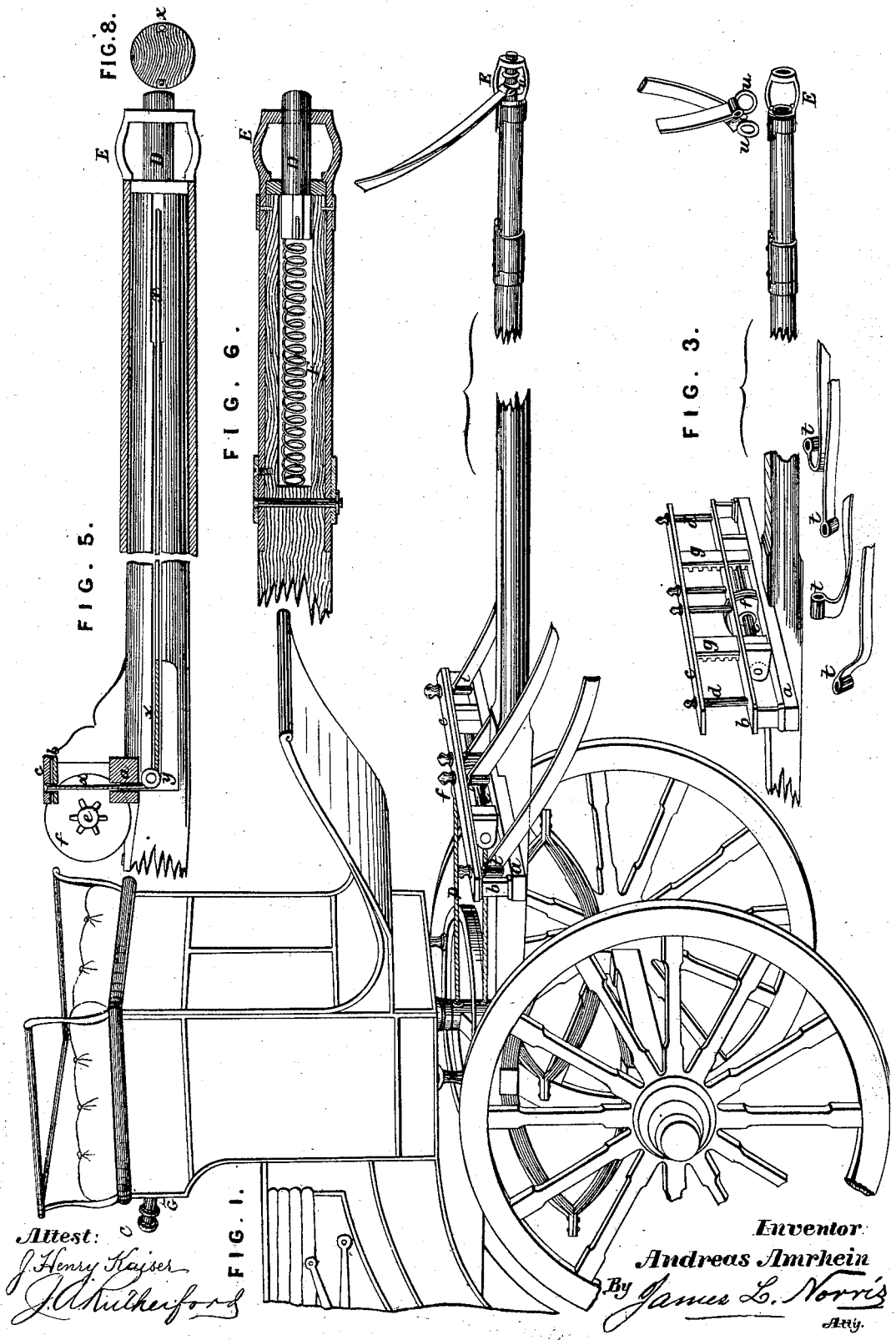
2 Sheets—Sheet 1.

A. AMRHEIN.

Horse Detaching Apparatus.

No. 221,012. Patented Oct. 28, 1879.



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2 Sheets—Sheet 2.

A. AMRHEIN.

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FIG. 2.

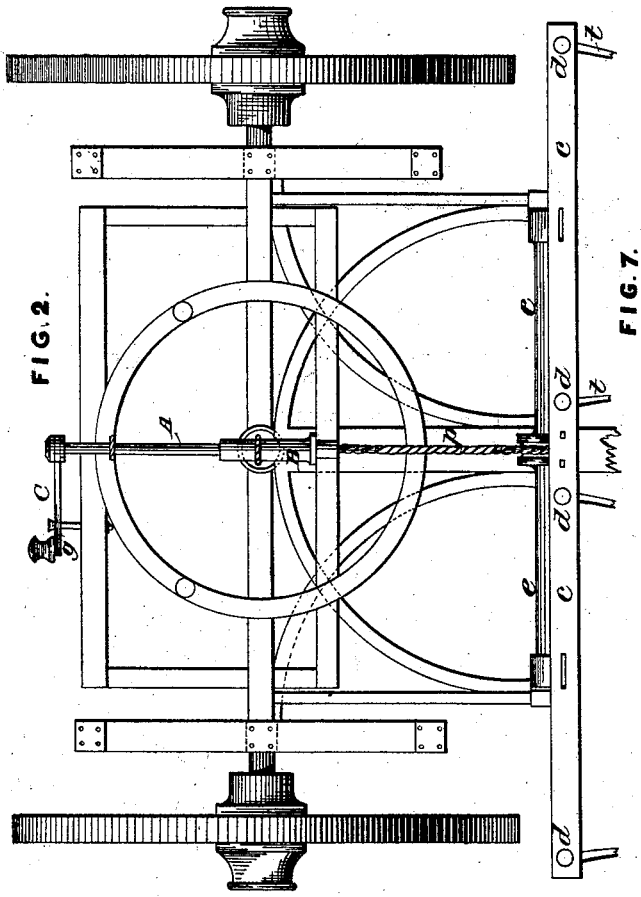

FIG. 7.

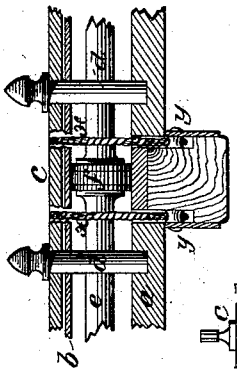

FIG. 4.

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UNITED STATES PATENT OFFICE.

ANDREAS AMRHEIN, OF MAREDSONS, BELGIUM.

IMPROVEMENT IN HORSE-DETACHING APPARATUS.

Specification forming part of Letters Patent No. **221,012**, dated October 28, 1879; application filed August 30, 1879.

To all whom it may concern:

Be it known that I, ANDREAS AMRHEIN, of Maredsons, in the Kingdom of Belgium, member of the Holy Order of St. Benedicti, have invented an Improved Means or Apparatus for Detaching Restive or Runaway Horses from Carriages and other Vehicles; and I do hereby declare that the following description, taken in connection with the accompanying drawings, hereinafter referred to, forms a full and exact specification of the same, wherein I have set forth the nature and principles of my said improvement, by which my invention may be distinguished from others of a similar class, together with such parts as I claim and desire to secure by Letters Patent—that is to say:

When two horses are harnessed to a vehicle, one on each side of a pole, they are connected to the vehicle by the traces looped to the splinter-bar, and by the collar chains or straps looped to the front end of the pole.

The object of my invention is to provide means for simultaneously releasing those attachments, so that the horses, when they are restive or tend to run away, may be permitted to escape, leaving the vehicle at rest.

I will describe the apparatus which I employ for this purpose, referring to the accompanying drawings.

Figure 1 is a perspective view of the front part of the carriage, showing portions of the traces as they are attached at the place usually occupied by the splinter-bar, and showing, also, the butt and front ends of the pole, with portions of the collar-straps attached at the front end thereof. Fig. 2 is a plan of the front part of the carriage, showing portions of the traces attached. Fig. 3 is a perspective view of the part where the traces are attached and of the front end of the pole, showing the traces and collar-straps released. Fig. 4 is a vertical section through the driver's seat, showing the connections for releasing the harness. Fig. 5 is a side elevation of the pole; Fig. 6, a longitudinal section of its front part; Fig. 7, a transverse section through its butt and the splinter-bar, and Fig. 8 a transverse section taken about the middle of the pole.

In these figures the same letters are used to indicate corresponding parts.

Immediately under the driver's seat is mounted a horizontal shaft, A, which can be turned partly round by a winch-handle, C, that usually rests on a stop-pin, G.

On the shaft A is fixed a barrel, B, to which are attached the ends of a cord or chain, *p*, that is led over guide-pulleys to a pulley, *f*, and fixed to the periphery thereof. This pulley *f* is fixed on a horizontal shaft, *e*, mounted in bearings at the side of the splinter-bar.

The splinter-bar, instead of being of the usual construction, consists of two parts—a lower part, *a*, and an upper part, *b*—separated by struts, so as to leave between them a space of sufficient depth to receive the loops of the traces *t t*. Above the upper part, *b*, there is a plate, *c*, from which four pins, *d d d d*, project downward, passing through holes in the upper part, *b*, of the splinter-bar, and into holes in the lower part, *a*, passing each through a loop of one of the traces *t*.

To the plate *c* are attached two racks, *g g*, that gear with pinions on the shaft *e* of the pulley *f*. There are also attached to the plate *c* two cords, *x x*, which are led over guide-pulleys *y y*, along recesses formed on the two sides of the pole, (which recesses are covered with metal plate, leather, or other suitable thin material,) and have their ends attached to the cross-head of a bolt, D. This bolt is fitted to slide through a hole in a plate covering the front end of the pole, and also through a hole in a bridle-piece, E, attached to the end of the pole. It is pressed forward by a spring, F, contained in the hollow of the pole, and when it is so pressed forward it passes through the rings or loops *u u* of the collar chains or straps, which are within the opening of the bridle-piece E.

In the condition of the apparatus when the plate *c* is down and the bolt B in its forward position, the pins *d d* passing through the loops *t* of the traces and the bolt B passing through the rings or loops *u* of the collar chains or straps, the horses are harnessed to the vehicle. Should they become restive or tend to run away, the driver, by moving the winch-handle C, partly turns the shaft A and its barrel B, thereby winding on one end and winding off the other end of the cord or chain *p*, and so giving a partial rota-

tion to the pulley *f*, its axis *e*, and the pinions thereon, and these, acting on the racks *g*, cause the plate *c* to be raised, as shown in Fig. 3, withdrawing the pins *d d* from the loops of the traces *t*, which are thus left quite free. At the same time the ascent of the plate *c*, by drawing the cords *x x*, pulls the bolt D out of the bridle-piece E, and out of the rings or loops *u* of the collar chains or straps and back to the end of the pole, thus leaving the collar chains or straps quite free. Thus the horses are completely detached from the vehicle, and may be permitted to escape while the vehicle remains at rest.

Although I have described my invention as applied to a carriage drawn by a pair of horses, yet it is evident that it is equally applicable, as far as the device for detaching the traces is concerned, to carriages or vehicles with single harness.

Having thus described the nature of my said invention, and the best means I know of putting it in practical operation, I claim—

1. The splinter-bar consisting of two parts, *a* and *b*, strutted apart, in combination with the movable plate *c*, carrying the pins *d d*, substantially as and for the purpose herein set forth.

2. The sliding bolt D fitted in the front end of the pole, in combination with the bridle-piece E and spring F, substantially as and for the purpose herein set forth.

3. The connection of the movable plate *c* of the splinter-bar with the sliding bolt D of the pole by means of the cords *x*, substantially as and for the purposes herein set forth.

4. In combination with the racks *g* on the movable plate *c*, the pinions on the shaft *e*, the pulley *f*, the cords or chains *p*, the barrel B, shaft A, and winch-handle C, substantially as herein described.

5. The combination of the winch-handle C, shaft A, barrel B, cords or chains *p*, pulley *f*, its shaft *e*, with its pinions, the rack *g*, the rising-plate *c*, its pins *d*, the cords *x*, and sliding bolt D, with the loops of the traces *t* and the rings or loops of the collar chains or straps *u*, substantially as herein described.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 25th day of July, 1879.

ANDREAS AMRHEIN.

Witnesses:
B. KOBER,
K. STERN.