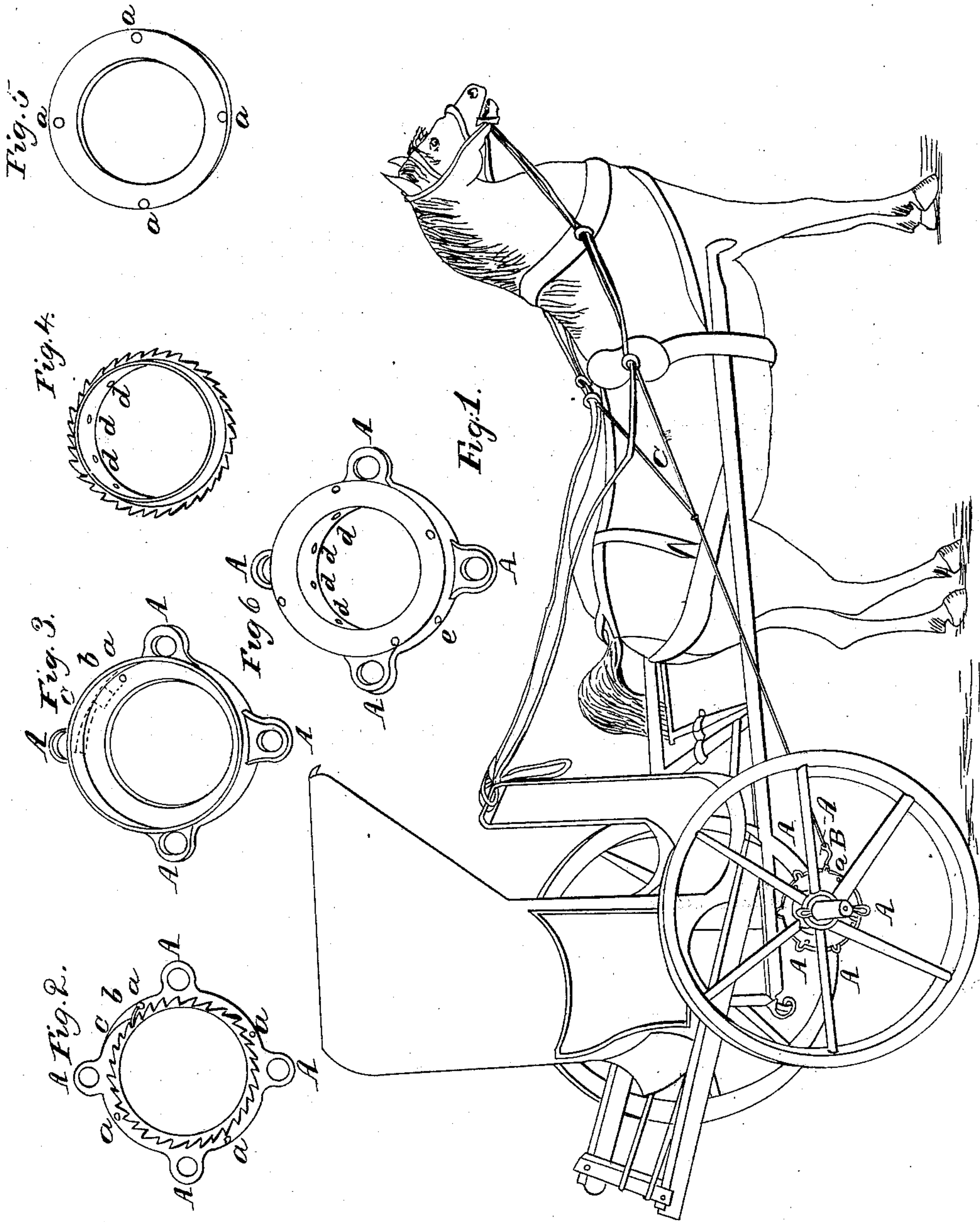


J. BOLTON.
Detaching Horses.

No. 16,312

Patented Dec, 23, 1856



Witnesses

Joseph Laidley
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UNITED STATES PATENT OFFICE.

JAS. BOLTON, OF RICHMOND, VIRGINIA.

HORSE-FASTENING.

Specification of Letters Patent No. 16,312, dated December 23, 1856.

To all whom it may concern:

Be it known that I, JAMES BOLTON, doctor of medicine, of the city of Richmond, in the county of Henrico and State of Virginia, have invented a new and useful Method of Fastening a Horse Harnessed to a Vehicle, entitled "Dr. Bolton's Horse-Fastening;" and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same.

The machine used for this purpose is well known by mechanics as the ratchet-wheel as will readily be perceived by reference to the annexed drawings making a part of this specification in which—

Figure 1 represents a horse and gig with the horse fastening attached to the inside part of the hub of the right wheel and connected with the horse's bit by means of a double rein becoming single at *c* and caught to one of the rings or eyes of the fastening at B by means of a spring-hook. Fig. 2 is a vertical section showing the eyes A A A A for attaching the tie-rein B, C (Fig. 1), *a a a a* holes through which pass screws with taps for holding together the two parts of the box formed by Figs. 3 and 5 inclosing Fig. 3. Fig. 3, one side of box revolving upon one flange of Fig. 4. A A A A eyes for fastening tie-rein. *b* dotted lines representing the catch; *c* dotted lines representing the spring. Fig. 4, toothed wheel to be attached to the hub of the carriage wheel by means of screws. It has a flange on each side of the teeth for the motion of Figs. 3 and 5. *d d d d* holes for screws passing through a flange into the hub. Fig. 5, plate forming a cover for Fig. 3 and together with it forming a box to inclose Fig. 4. Fig. 6, horse-fastening complete. Figs. 3 and 5 screwed together inclosing Fig. 4 and forming a box which revolves upon the flanges of Fig. 4. *e* hole (closed by a screw) for oiling the interior.

The ratchet-wheel may be made of any suitable metal such as iron or brass and the box should be made to fit snugly but not tightly upon the flanges of the toothed wheel. It should fit snugly in order to prevent a rattling noise when the carriage is in motion and to keep out dirt. It should work easily in order that it may not bear hard upon the horse's bit when he backs.

The operation of the machine is as follows: When the horse is to stand the tie rein C is attached to any one of the rings

A A A A (which may be in the most convenient position) by means of the spring hook B. If then the horse attempt to move forward the catch *b* pressing against one of the teeth carries the box Figs. 3 and 5 around with the hub of the wheels. By this means the tie-rein between B and C is wound around the hub of the wheel and quickly stops the horse. If the horse backs as soon as the rein begins to draw gently upon the eye A the box revolves forward keeping the rein constantly of the same length. This effect may be assisted by attaching a light weight to the hook B where by it will be prevented from rising and being carried backward. The tie-rein has an adjusting buckle at C for the purpose of making the rein from C to the left side of the bit longer than that from C to the right side of the bit in order that when the rein is drawn at B it may pull equally on both sides of the bit. There is another adjusting buckle at B for the purpose of making the tie-rein of precisely the right length so as to give very little play to the horse. When the tie-rein is unhitched from the fastening it may be hooked to a rod or ring at the top of the dash-board. Only one fastener is required and it should be attached to the inside of the hub of the right wheel. It may have a flange on the inside to keep the rein upon the fastener as upon a barrel or it should be attached close to the spokes and then the rein will be wound upon the hub. Its operation may be more perfectly understood by adverting to the fact that when the driving reins are fastened to the spoke of a wheel the horse is effectually prevented from moving forward but if he backs the reins are drawn tightly which causes him to endeavor to back still more, thus only increasing the difficulty until he is either thrown and injured probably with damage to the carriage or he is relieved by the breaking of the reins or by cutting them.

This contrivance must prove of extreme utility to physicians who have occasion to stop frequently and are unable to find convenient places for fastening their horses thus enabling them to dispense with a servant. It must prove useful for the same reason to hackney-coachmen and others especially in cities and may often prove the means of saving valuable property and even life itself.

What I claim as my invention and desire to secure by Letters Patent is—

The combination of a ratchet-wheel with the hub of a wheel of a vehicle and with a
5 tie rein capable of adjustment so as to bear equally upon both sides of the bit of a horse or other animal used for draft whereby the

rein is drawn and the animal is checked if he move forward and the rein is loosed if he move backward, as hereinbefore set forth.
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Witnesses:

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