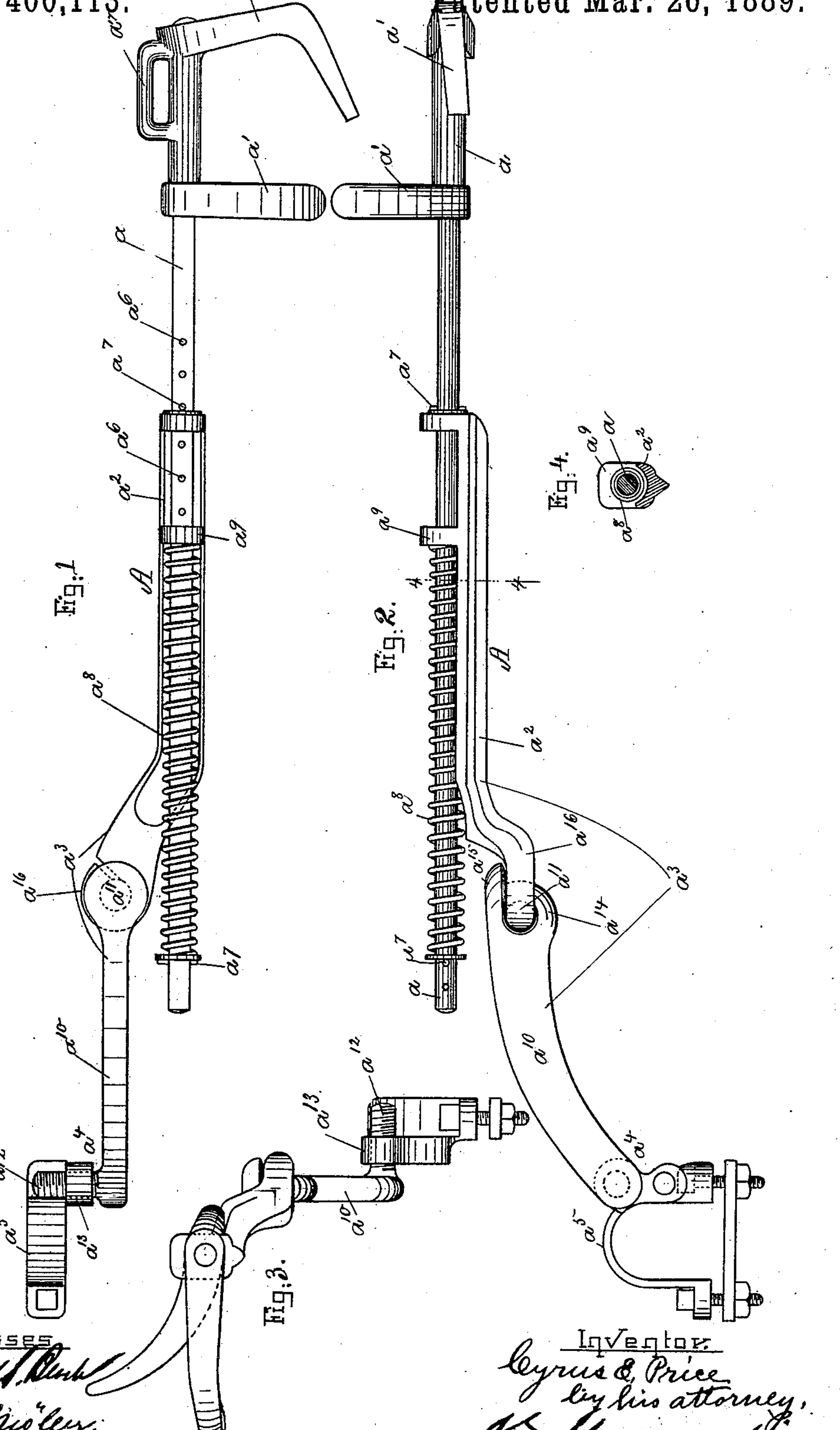
(No Model.) 3 Sheets—Sheet 1.

C. E. PRICE.

HITCHING DEVICE FOR VEHICLES.

No. 400,113. Patented Mar. 26, 1889.



Witnesses
Edward S. Dunk
L. M. Nicoler.

Inventor.
Cyrus E. Price
by his attorney,
J. E. Maynadier

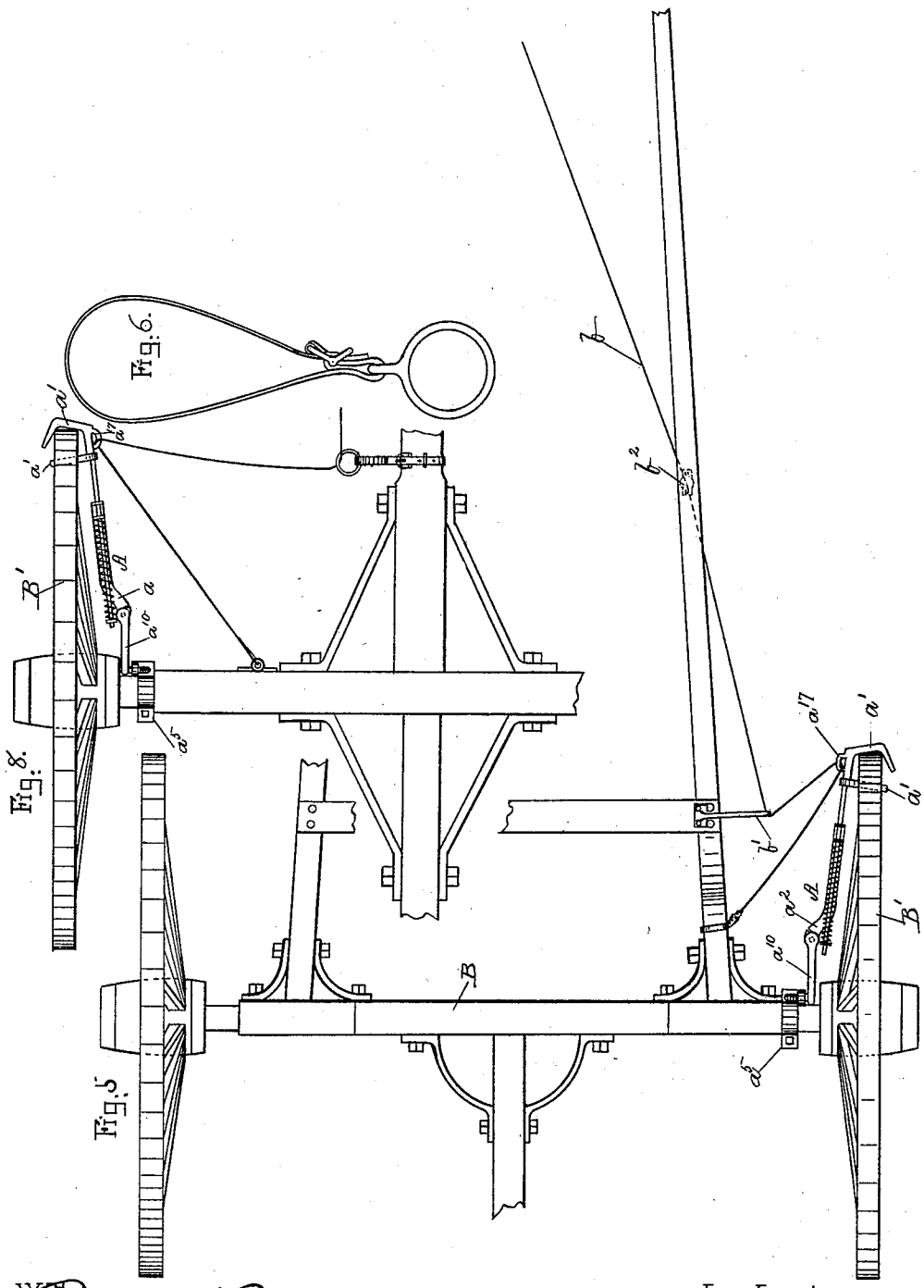
N. PETERS, Photo-Lithographer, Washington, D. C.

(No Model.) 3 Sheets—Sheet 2.

C. E. PRICE.

HITCHING DEVICE FOR VEHICLES.

No. 400,113. Patented Mar. 26, 1889.



Witnesses:
Edward S. Roach
L. M. Moulton

Inventor
Cyrus E. Price
by his atty.
J. E. Maynadier

(No Model.) 3 Sheets—Sheet 3.

C. E. PRICE.

HITCHING DEVICE FOR VEHICLES.

No. 400,113. Patented Mar. 26, 1889.

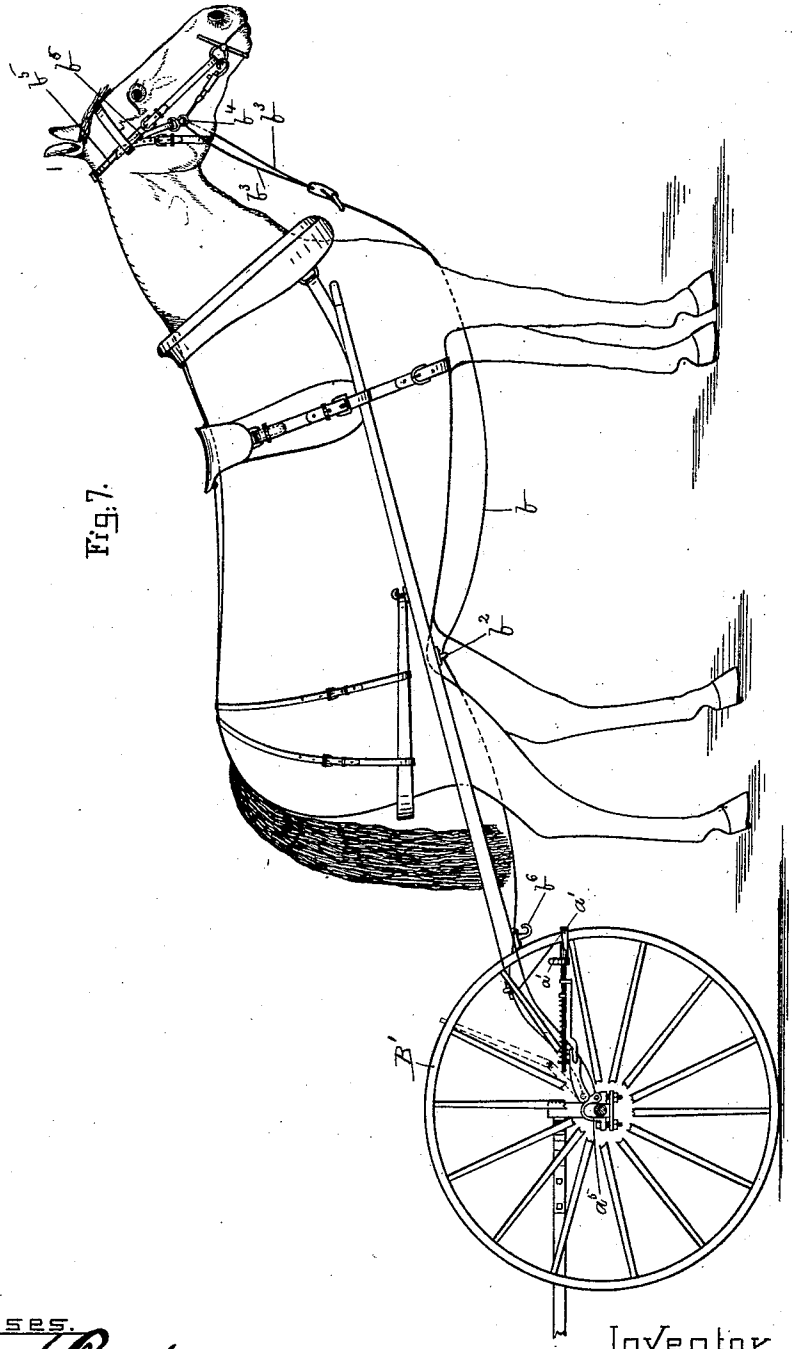


Fig. 7.

Witnesses.
Edward A. Rood
L. N. Moles.

Inventor.
Cyrus E. Price
by his attorney.
J. E. Mayo Radier

UNITED STATES PATENT OFFICE.

CYRUS E. PRICE, OF STONEHAM, MASSACHUSETTS.

HITCHING DEVICE FOR VEHICLES.

SPECIFICATION forming part of Letters Patent No. 400,113, dated March 26, 1889.

Application filed July 16, 1888. Serial No. 280,099. (No model.)

To all whom it may concern:

Be it known that I, CYRUS E. PRICE, of Stoneham, in the county of Middlesex and State of Massachusetts, have invented a new and useful Improvement in Hitching Devices for Vehicles, of which the following is a specification, reference being had to the accompanying drawings, in which—

Figures 1 and 2 are different views showing portions of my device. Fig. 3 is an end view of what is shown in Figs. 1 and 2. Fig. 4 is a section on line 4 4 of Fig. 2. Fig. 5 shows a portion of my device in place. Fig. 6 shows a strap and ring which are conveniently used with my device when it is applied to a vehicle having a pole instead of shafts; and Fig. 7 shows my device in use on a vehicle provided with shafts. Fig. 8 is a diagrammatic view showing my device in use with a vehicle provided with a pole.

My invention is an improvement on hitching devices of the character of that shown in Munger's patent, No. 316,996, dated May 5, 1885, and my device is made up of a wheel-grip and suitable means for connecting it to the bridle-bit.

My invention consists, first, in the combination of an adjustable grip with a clamp for securing the grip to the axle of the vehicle; secondly, in the combination of the grip with the clamp for connecting the grip to the axle by means of a jointed connecting bar or rod.

Another feature of my invention lies in the combination of the grip with the clamp, the grip and the clamp being pivoted together.

Another feature of my invention lies in the combination of the grip with the clamp by means of a jointed connecting bar or rod, the members of the jointed connecting-rod being so constructed, as hereinafter explained, that when the grip is moved far enough in one direction the members of the connecting-bar will move together.

Another feature of my invention consists in the combination of a wheel-grip with the bits of the bridle by means of suitable connecting devices, the bridle being provided with an auxiliary strap or the like having a support through which straps connecting the bits with the grip pass, as more fully explained hereinafter.

Another important feature of my invention is the combination of the bridle-bit with a grip so constructed that when the horse backs the grip becomes inoperative and the bits are pulled on.

Other features of my invention will be pointed out hereinafter.

In the drawings, which show my invention embodied in the best way now-known to me, wheel-grip A is made up of a rod or bar, a, provided at its outer end with suitable claws, a', for engaging the felly and spokes of wheel. Rod a is mounted in a member, a^2, of the bar a^3, pivoted at a^4 to clamp a^5, by means of which the grip is secured to the axle, as will be readily understood from the drawings. Bar a is made adjustable in member a^2 of connecting-rod a^3 by means, for example, of a series of holes, a^6, which receive a pin, a^7, which engages the bar a^2. Bar a is provided with spring a^8, one end of which is preferably supported by a projection a^9 on bar a, and the spring is held in place between this projection and the inner end of the bar by any suitable means—say by a pin, a^7, through holes in the bar. Bar a is made adjustable in connecting-rod a^3, in order that the grip A may be readily used with wheels varying in diameter, and this is a matter of great practical importance, and is a feature of my invention. Connecting-bar a^3 is made up of two members, a^2 and a^{10}, jointed together at a^{11}, and member a^{10} is preferably provided with a screw, a^{12}, at right angles to it, the screw being secured in a threaded hole in ear a^{13} in clamp a^5, thereby forming the preferred pivotal connection at a^4. The member a^{10} is so constructed that a portion of connecting-rod a^3 moves in a plane at right angles to the axle, and this is new with me and is a feature of my invention, the object of this construction being to prevent the grip from striking the hub of the vehicle in its movement.

In order to cause the members a^2 a^{10} of the preferred form of connecting-rod a^3 to move together in case the wheel is turned backward when the grip is in place, the members of connecting-rod a^3 are so formed that they will move together when the wheel is turned backward, and the best way now known to me of constructing a jointed connecting-

rod so that the members will move together is to form one end of member a^{10} with an eye, a^{14}, and an ear, a^{15}, the eye being interlocked with an eye, a^{16}, in the adjacent end of member a^2, the eye a^{16} being overlapped by ear a^{15}, so that when the member a^2 is moved upward the ear a^{15} engages the member a^2 and the members move together, as will be readily understood from the drawings. The object of this is to allow the wheel to be turned backward when the grip is in place without an outer claw, a', binding on the tire, as would be the case if the members were simply linked or pivoted together, as will be best understood by the dotted lines in Fig. 7, which show diagrammatically the position the members would take if it were not for the fact that they are so constructed as to move together when the wheel is backed and the outer end of the grip is carried upward. This is a very important feature of my invention, inasmuch as it not only prevents the grip from unduly binding on the tire—that is, causes the claws of the grip to be thrown out of engagement with the wheel when the free end of the grip is moved some little distance upward—but also prevents the checkrein being pulled to back the horse when the grip is in this position.

The other features of my invention will be best understood from the following description of the operation of my device: The device shown in the figures on Sheet 1 of the drawings is secured to the axle B of the vehicle by means of the clamp a^5, and the grip is combined with the bits by any suitably-arranged straps or checkrein, and the best arrangement of such means is that shown where b is a strap secured at one end to the axle and passes through an eye, a^{17}, on grip A, thence through an eye or the like, b', preferably secured to the cross-bar of the shafts, thence through a guide, b^2, to straps b^3, fast to the bits. The straps are preferably passed through ring b^4 in a strap, b^5, which passes over the horse's head just back of the ears. When the device is to be used, the grip is swung on the pivot a^4, so that one of the claws a' engages the felly of the wheel B' and the other claw a' is in position to engage a spoke of the wheel. (See Fig. 7.) Should the horse start forward, the wheel will move the grip on its pivot a^4, and thereby take up the slack in the checkrein b and give a pull on the bit. It is important that the bit should not be pulled on if the horse backs, and it will be seen that in case of backward movement the slack in the checkrein is not taken up, and consequently the bit is not pulled on. In other words, the grip is inoperative if the wheel is turned backward. When the grip is not in use, it is conveniently caught on a hook or the like, b^6, fast to the shaft. (See Fig. 7.)

A feature of my invention lies in the combination of the grip with the bits by the straps b b^3 and an auxiliary strap, b^5; and the utility of this combination lies in the fact that when the strap b is pulled on by the forward movement of the horse the bits are moved farther back into the horse's mouth, so that the horse cannot hold the bits in his teeth. This is particularly desirable for strong-mouthed horses.

When the grip is to be used on a vehicle having a pole, the checkrein is best arranged as indicated in Fig. 8.

What I claim is—

1. In a hitching device for vehicles, the combination, with sliding rod a, provided with one or more claws, a', of carrier a^2 and clamp a^5, sliding rod a being adjustable in carrier a^2, all arranged and operating substantially as and for the purpose set forth.

2. In a hitching device for vehicles, the combination of a rod, a, provided with claws a' and clamp a^5, with rod a^3, connecting rod a and clamp a^5, the connecting-rod being pivoted to the clamp, all arranged and operating substantially as and for the purpose set forth.

3. In a hitching device for vehicles, the combination of rod a, provided with one or more claws, a', clamp a^5, and connecting-rod a^3, a portion, a^{10}, of the connecting-rod a^3 being in a plane at right angles to the axle, all substantially as and for the purpose set forth.

4. In a hitching device for vehicles, the combination of rod a, having one or more claws, a', clamp a^5, and rod a^3, which connects rod a and clamp a^5, rod a^3 being pivoted to clamp a^5, and member a^{10} of connecting-rod a^3, having a lip, a^{15}, which overlaps portion a^{16} of member a^2 to cause the members a^{10} a^2 to move together, all substantially as and for the purpose set forth.

5. In a hitching device, the combination of the grip with the checkrein b and with bits of the bridle, the bridle being provided with the auxiliary strap b^5, having rings or the like through which pass straps connecting the grip and bits, all arranged and operating substantially as and for the purpose set forth.

6. In a hitching device, the combination, with the bits of a bridle provided with the auxiliary head-strap b^5, of a wheel-grip and checkrein connecting the bits and grip and supported by the auxiliary head-strap b^5, substantially as and for the purpose set forth.

7. In a hitching device for vehicles, the combination of rod a, having one or more claws, a', clamp a^5, and rod a^3, connecting rod a and clamp a^5, rod a^3 being pivoted to the clamp at a^4, all substantially as and for the purpose set forth.

CYRUS E. PRICE.

Witnesses:
H. C. YOUNG,
JOHN R. SNOW.