[22.]

L. M. LAWLESS.

Improvement in Carriage Shackles.

No. 118,729. Patented Sep. 5. 1871.

Fig. 1.

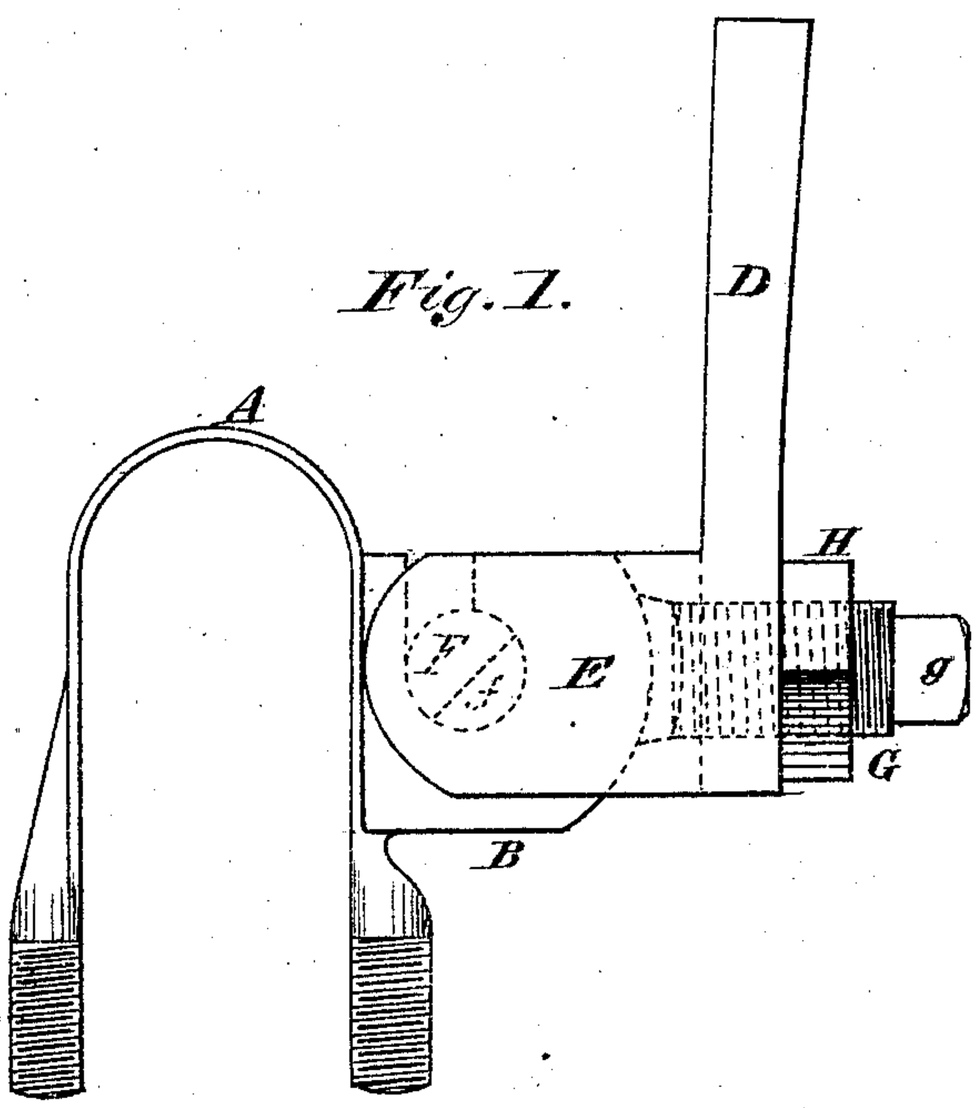


Fig. 2.

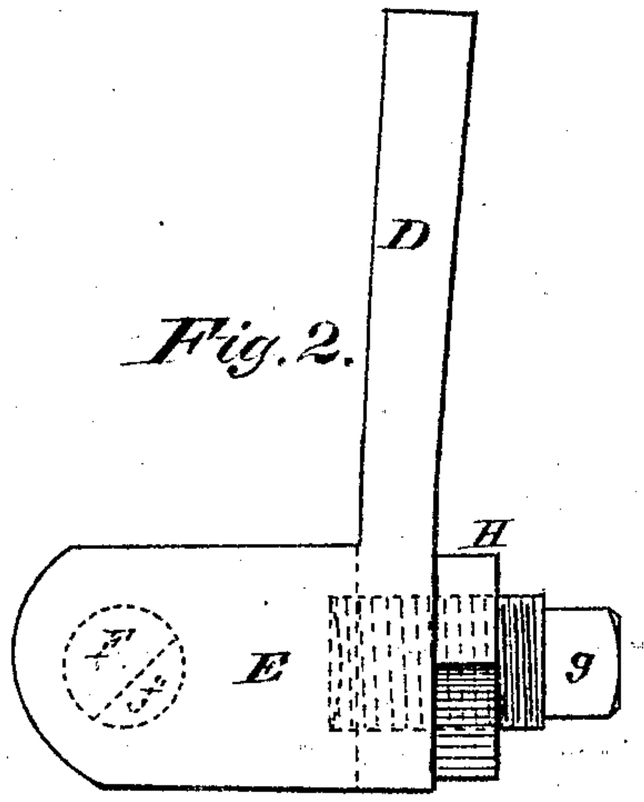


Fig. 3.

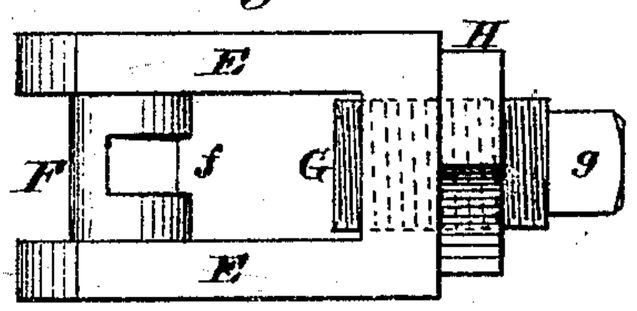


Fig. 5.

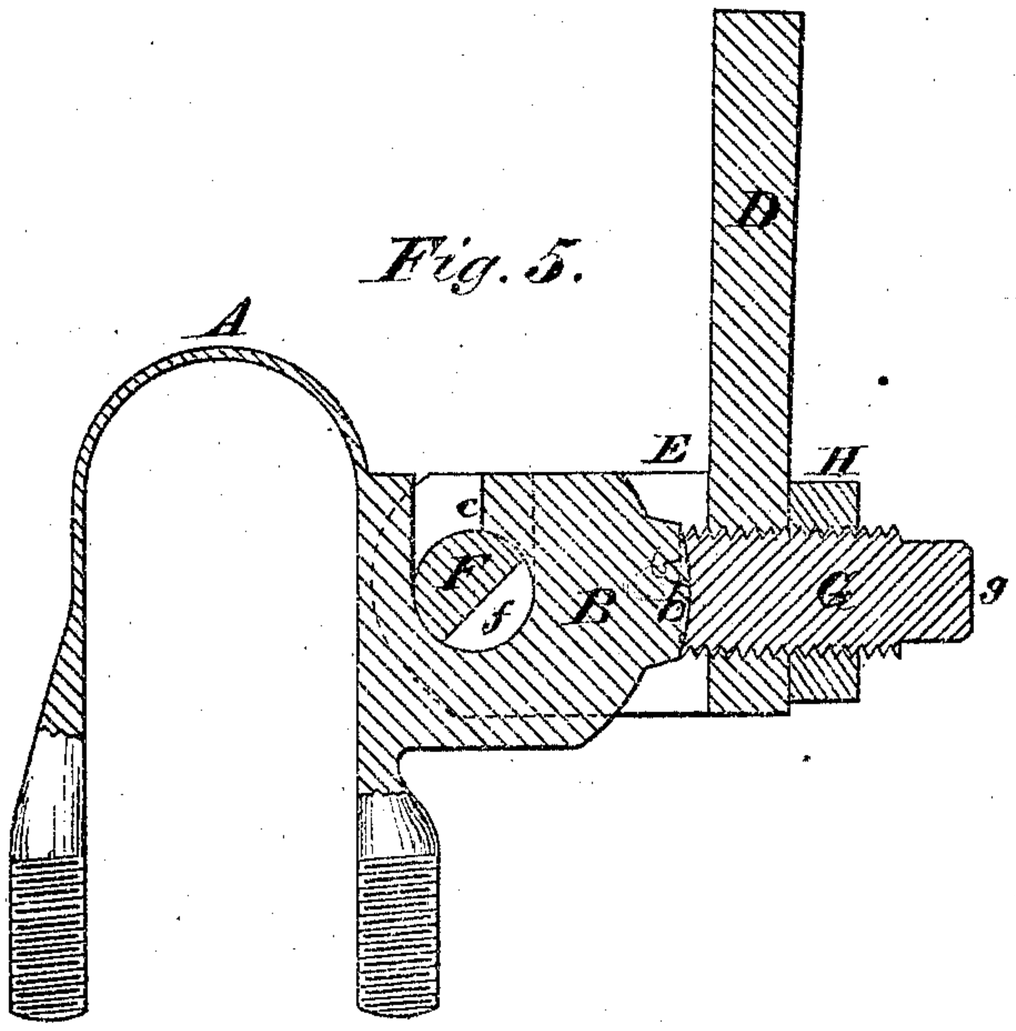
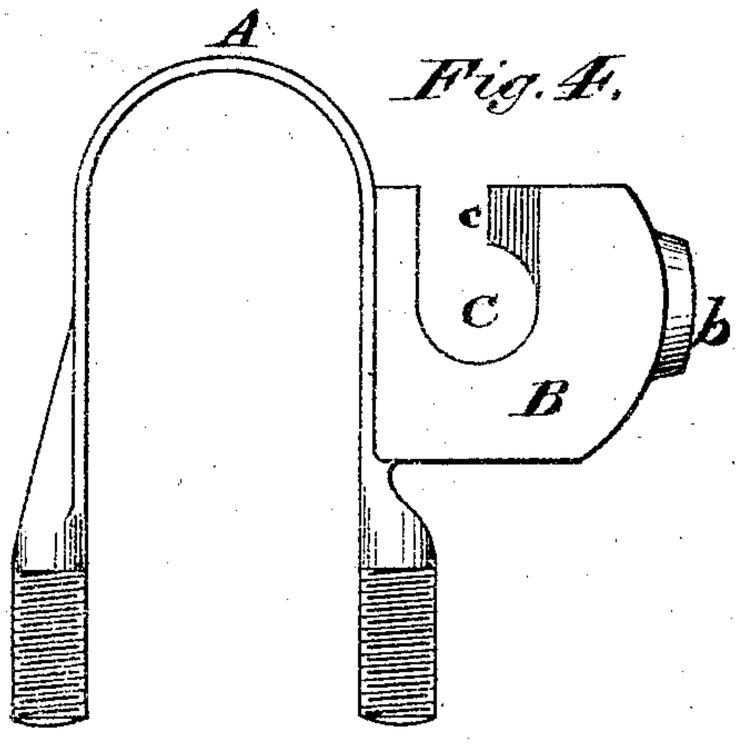


Fig. 4.



Witnesses:

T. C. Brecht.

C. H. Poole

Inventor:

L. M. Lawless, by

Prindle and Dyer,

his Attys.

A.M. PHOTO-LITHOGRAPHIC CO. N.Y. (OSBORNE'S PROCESS.)

UNITED STATES PATENT OFFICE.

LEVI M. LAWLESS, OF GENESEO, ILLINOIS.

IMPROVEMENT IN CARRIAGE-SHACKLES.

Specification forming part of Letters Patent No. 118,729, dated September 5, 1871.

To all whom it may concern:

Be it known that I, LEVI M. LAWLESS, of Geneseo, in the county of Henry and in the State of Illinois, have invented certain new and useful Improvements in Carriage-Shackles; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing making a part of this specification, in which—

Figure 1 is a side elevation of my improved device. Fig. 2 is a like view of the shaft portion of the shackle. Fig. 3 is a plan view of the lower side of the same. Fig. 4 is a side elevation of the clip portion of the device, and Fig. 5 is a vertical central section of the whole device on a line passing from front to rear.

Letters of like name and kind refer to like parts in each of the figures.

The object of my invention is the production of a carriage-shackle that shall be perfectly secure and free from rattling when the shafts are in their usual position, and shall be readily disconnected when said shafts are raised to or near a vertical position; and it consists, principally, in the peculiar construction of the axial pivot and of the lug or ear within which it has a bearing, substantially as and for the purpose hereinafter specified. It consists, further, in the means employed for holding said pivot firmly in place within its bearing, so as thereby to prevent the rattling of said parts, substantially as is hereinafter shown. It consists, finally, in the device as a whole, when constructed to operate substantially as and for the purpose hereinafter set forth.

In the annexed drawing, A represents the clip portion of the device, constructed in the usual manner, and provided with a lug or ear, B, which projects horizontally forward, and has cut within its body a circular opening, C, which has a line corresponding with that of the axle. The metal between the opening C and the upper side of the ear B is entirely removed upon a line vertically with the rear side of the former, and in a like manner upon the opposite or forward side of said opening for about one-fourth the thickness of said ear and from each side, leaving between said cuts a lug, *c*, that extends rearward nearly one-half the diameter of said opening, and has vertical parallel sides and a vertical front from the upper side of said lug downward until it intersects the circle of the opening. The shaft portion D of the device is provided with two ears, E, which extend rearward in parallel lines, and at a sufficient distance apart to furnish a space corresponding with and for the reception of the ear B. Passing horizontally through the ears E, near their outer ends, is a round pin, F, which corresponds in size with the opening C, and when in position fills the circular portion of the same. A right-angled groove, *f*, cut within the periphery of said pin, and corresponding in transverse dimensions to the lug *c*, receives the latter when said pin is adjusted to radial position and raised upward, so as thereby to permit the same to be removed from or inserted within said opening vertically. By so adjusting the pin F within its ears as to cause the groove *f* to coincide with the lug *c*, only when the shafts occupy a vertical position it will be impossible for said shafts to become accidentally disconnected from the axle while no portion of the shackle is broken, while at the same time said shafts may be quickly and easily detached when desired. In order to prevent the usual unpleasant rattling of the pin within its bearing a boss, *b*, is provided upon the front side of the ear B, which boss has a semi-spherical face formed upon a circle of which the center is coincident with the longitudinal and radial center of said pin. Passing inward through the shaft-iron D, in a line with and midway between the ears E, is a screw, G, provided upon its outer end with a squared head, *g*, and having its inner end cupped or recessed out so as to exactly correspond with the semi-spherical face of the boss *b*. A jam-nut, H, fitted upon said screw, and bearing against the outer face of the shaft-iron, completes the device, the operation of which is as follows:

The screw is turned inward until its concave end bears against the convex face of the boss with sufficient firmness to hold the pin or axial pivot F against the front side of its bearing to prevent rattling when the carriage is in motion, and when so adjusted said screw is secured in place by means of the jam-nut. The spherical form of the face of the boss and of the corresponding end of the screw permits the latter to move freely over the former so as to offer no obstruction to the free vertical movement of the shafts, and when after use the bearing wears loose the lost motion may be readily taken up by a slight turn of said screw.

Having thus fully set forth the nature and merits of my invention, what I claim as new is—

1. In combination with the ear B attached to

the clip A and provided with the vertical opening C and central lug *c*, the pin or axial pivot F provided with the central groove *f* and connected with the ears E and shaft-iron D, substantially as and for the purpose specified.

2. In combination with the ear B, the shaft-iron D, the ears E, and the pin or axial pivot F, the screw G provided with the semi-spherical end, and the boss *b* provided with a corresponding face, substantially as and for the purpose shown.

3. The clip A, the ear B provided with the boss *b*, the opening C, the lug *c*, the shaft-iron D, the ears E, the pin or axial pivot F provided with the groove *f*, the set-screw G, and the jam-nut H, when constructed and combined in the manner and for the purpose substantially as shown and described.

In testimony that I claim the foregoing I have hereunto set my hand this 11th day of July, 1871.

LEVI M. LAWLESS.

Witnesses:

GEO. A. BROWN,

HENRY BRUSH.