H. B. ROWLAND & W. S. GAYDE.

JACKS FOR VEHICLES

No. 195,171. Patented Sept. 11, 1877.

Fig. 1.

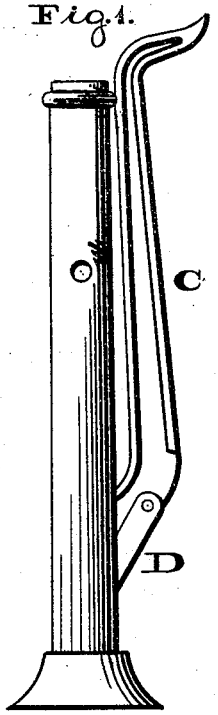

Fig. 5.

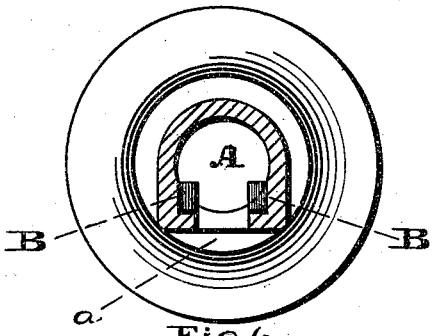

Fig. 2.

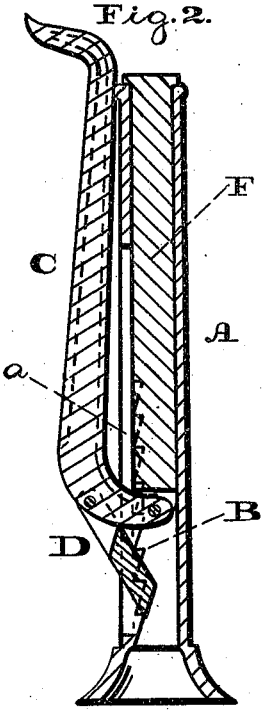

Fig. 6

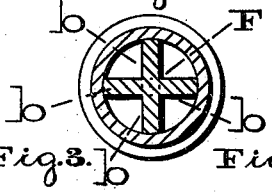

Fig. 3.

Fig. 4.

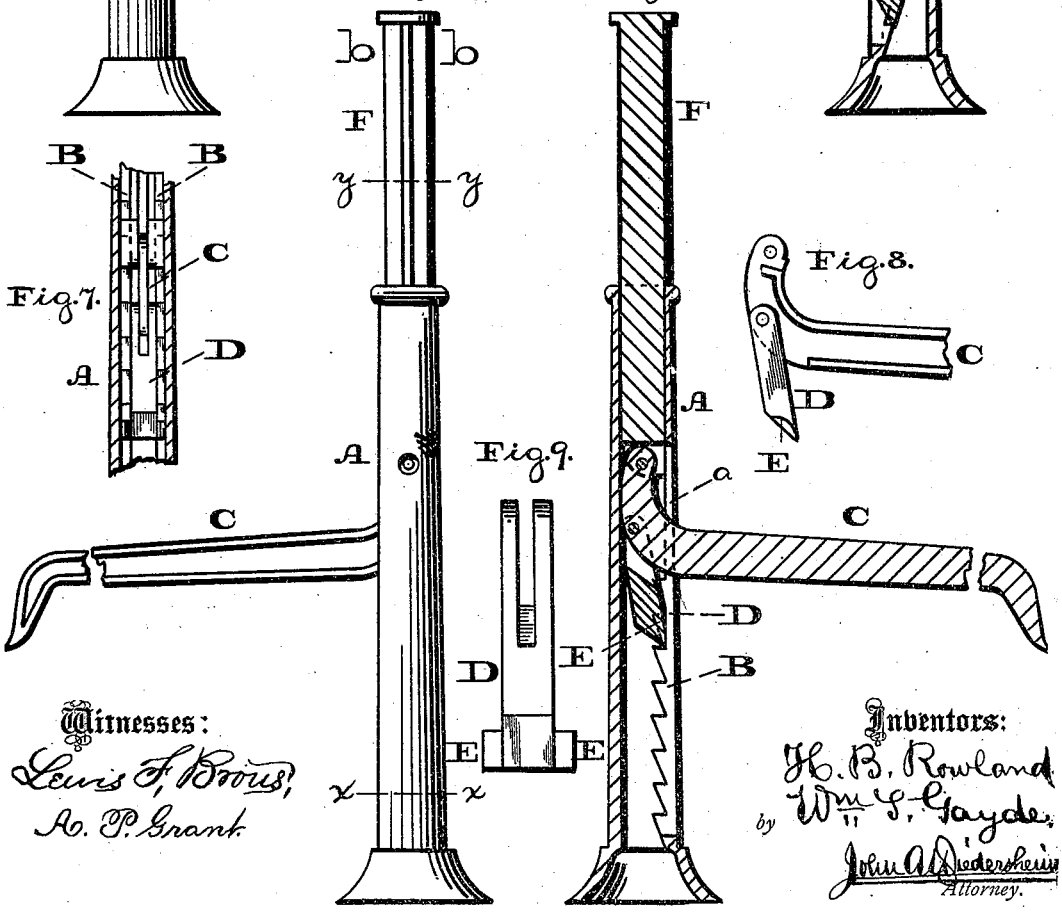

Fig. 7.

Fig. 8.

Fig. 9.

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UNITED STATES PATENT OFFICE.

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IMPROVEMENT IN JACKS FOR VEHICLES.

Specification forming part of Letters Patent No. **195,171**, dated September 11, 1877; application filed May 14, 1877.

To all whom it may concern:

Be it known that we, HORACE B. ROWLAND and WILLIAM S. GAYDE, both of Cheltenham, in the county of Montgomery and State of Pennsylvania, have invented a new and useful Improvement in Jacks, which improvement is fully set forth in the following specification and accompanying drawings, in which—

Figures 1 and 3 are side elevations of the jack embodying our invention. Figs. 2 and 4 are central vertical sections thereof. Fig. 5 is a horizontal section, enlarged, in line *x x*, Fig. 3. Fig. 6 is a similar section in line *y y*. Fig. 7 is a vertical section of a detached portion. Figs. 8 and 9 are side views of detached portions.

Similar letters of reference indicate corresponding parts in the several figures.

Our invention consists of a hollow standard, having on its inner face a ratchet or ratchets for engagement of a shifting-dog, which is pivoted to the lever of the lifting or elevating bar, whereby the standard possesses great strength, its exterior surface is without projections excepting the operating-lever, the jack may be adjusted to axles and vehicles of different altitudes, and the lever will remain in position without fastenings. The standard and the internal ratchet or ratchets are cast of one piece of metal, whereby the structure is strong and durable, and the ratchet or ratchets will not loosen or detach from the standard consequent to the great strain thereon when in service.

It also consists of means for introducing through the standard the connecting-pivot of the elevating-bar and operating-lever.

It also consists of the lifting-bar made of or having radial ribs, whereby strength and lightness are combined.

Referring to the drawings, A represents a standard, which is of the form of a tube or hollow structure, and on its inner face there is a ratchet, B, or a series of teeth, which occupy a position for a portion of the length of the tube, (in the present case two ratchets being employed,) and they occupy positions on the sides of the longitudinal opening *a*, through which the inner end of a lever, C, will be introduced into the hollow of the standard.

It will here be noticed that the tubular standard A and internal ratchets B are cast of one piece of metal, whereby the structure will be strong and durable, and the ratchets will not loosen, or be disconnected during service of the implement.

D represents a dog, which is pivoted to the lever C, near the inner end thereof, so as to be suspended from said lever within the standard. The bottom of the dog is formed with teeth E, which are adapted to engage with the ratchet or ratchets B.

To the inner end of the lever C there is also pivoted the elevating or lifting bar F, which is fitted on the standard A; and it consists of radial ribs *b b*, or a bar formed with radial ribs *b*, whereby the bar will be light, and withal possesses great strength.

When the parts are in their normal position, as in Figs. 1 and 2, the dog D will rest in one set of the teeth of the ratchets B, and it protrudes through the opening *a*, so that its point of junction with the lever C is outside of the standard A, and the lever C stands upright, whereby, as said point of junction is out of center, the lever cannot lower, but it remains upright against the standard without fastenings.

The bar F will be adjusted to the altitude of the axle of the wheel or vehicle to be elevated. To accomplish this the finger of the operator may be inserted in the opening *a*, so as to handle the dog D, and move it, the lever, and bar up or down until the top of the bar will come under the axle in contact therewith. Then the dog will be made to engage with the teeth of the ratchet adjacent to the teeth E of the dog. Now, lower the lever C, and the dog D acts as a fulcrum, whereby the bar F is lifted or elevated, and the vehicle or article on the bar will be correspondingly lifted or elevated.

It will be seen that as the lever is lowered the dog D enters through the opening *a* into the standard A, and it moves and rests against the side or portion of the wall of the standard

opposite to the ratchet or ratchets B, and is out of center, whereby the bar F, with its superimposed weight, is prevented from lowering, the bar requiring no fastening therefor.

It is evident that the jack may be adjusted to any altitude within the compass of the length thereof, by means that are easily operated and reliable in execution.

It will also be noticed that the standard A is a strong structure, and, excepting the lever C, there are no projecting parts, and, as the lever may be folded close to the standard, we produce a simple, convenient, compact, and reliable implement for the purpose intended.

Owing to the standard being cast of one piece of metal, the pivot of the lower end of the elevating-bar F and inner end of the lever C require to be applied when said ends of the bar and lever are within the standard. For this purpose we form in the sides of the standard an opening, through which the aforesaid pivot may be introduced. We then adjust the bar F and lever C, so that the pivot, passing the opening of the side of the standard, may enter the respective opening of the bar F and lever C, and then, by properly tightening the pivot, the bar and lever will be securely connected and pivoted.

It will further be observed that all parts of the jack, including the base of the standard, are formed of metal, thus simplifying, strengthening, and cheapening the construction of the implement.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. The hollow standard, with an internal ratchet or ratchets, cast of one piece of metal, in combination with a metallic base, metallic elevating-bar, metallic lever, and metallic shifting-dog, substantially as and for the purpose set forth.

2. The elevating-bar and the operating-lever pivoted thereto, in combination with the cast metallic standard, having an opening in its side, substantially as and for the purpose set forth.

3. The jack having a metallic elevating-bar, F, formed of or with radial ribs *b b*, substantially as and for the purpose set forth.

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