

No. 831,568.

PATENTED SEPT. 25, 1906.

A. H. PENCE.
WHEEL LOCK.

APPLICATION FILED FEB. 19, 1906.

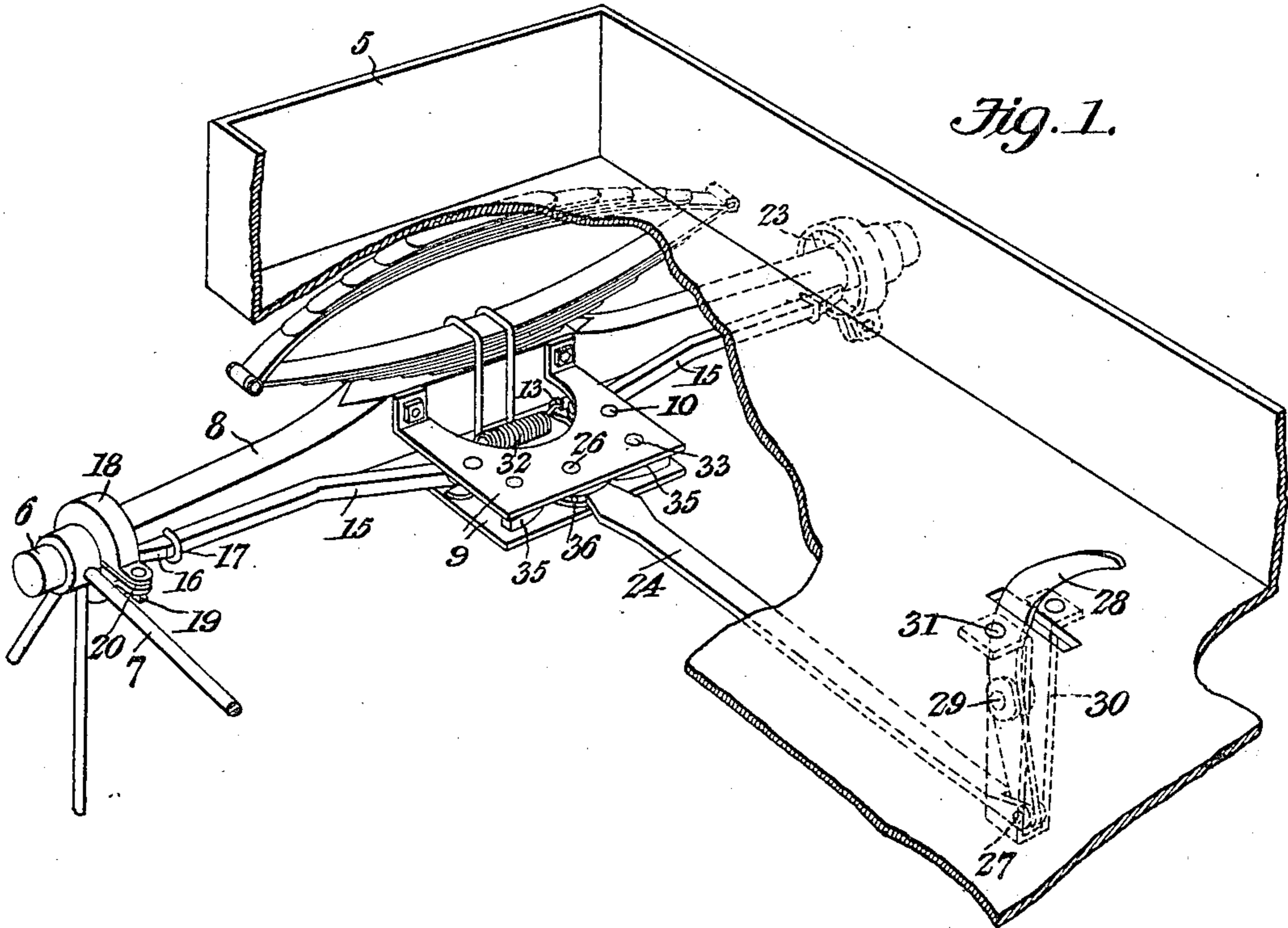


Fig. 2.

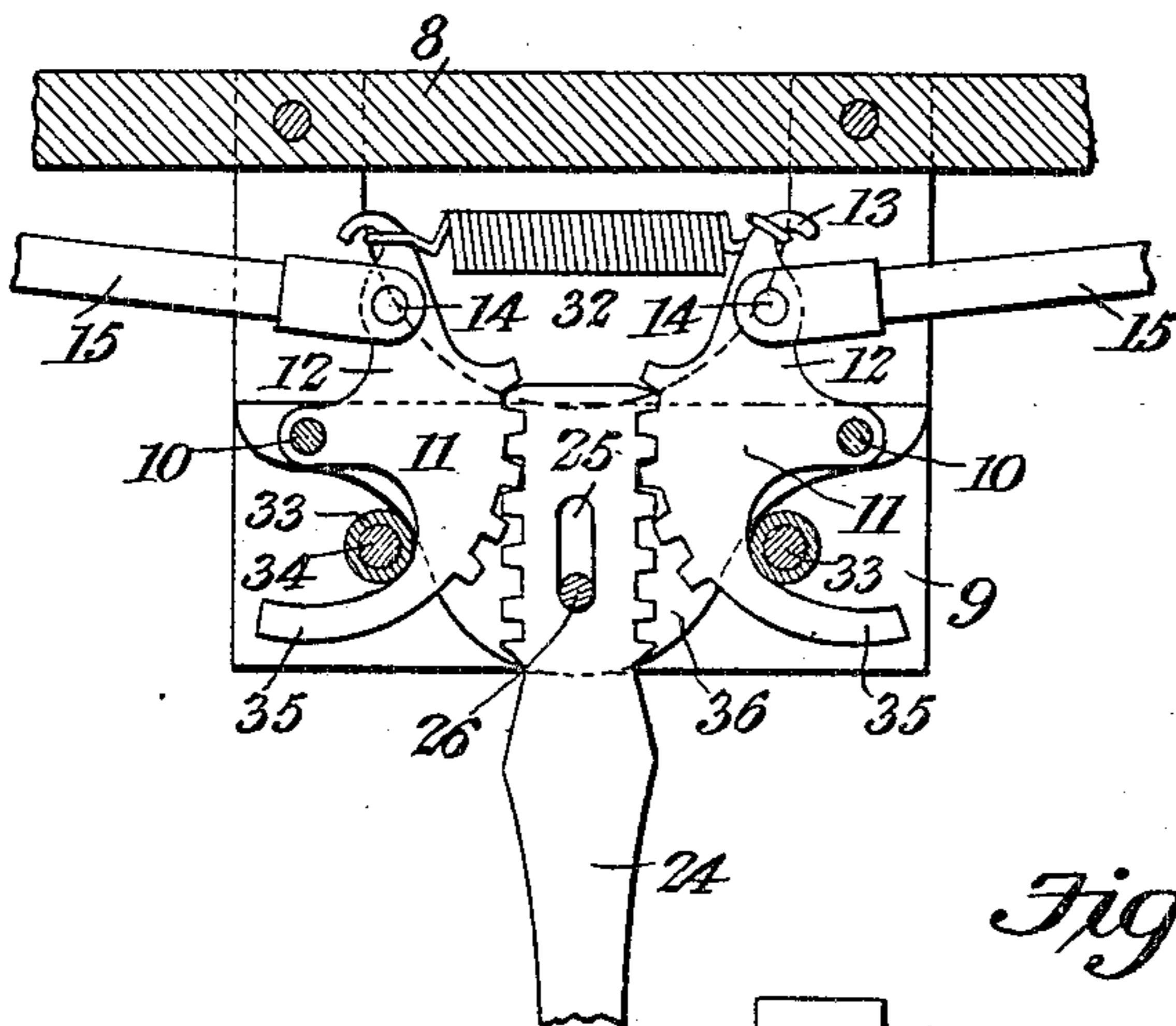


Fig. 4.

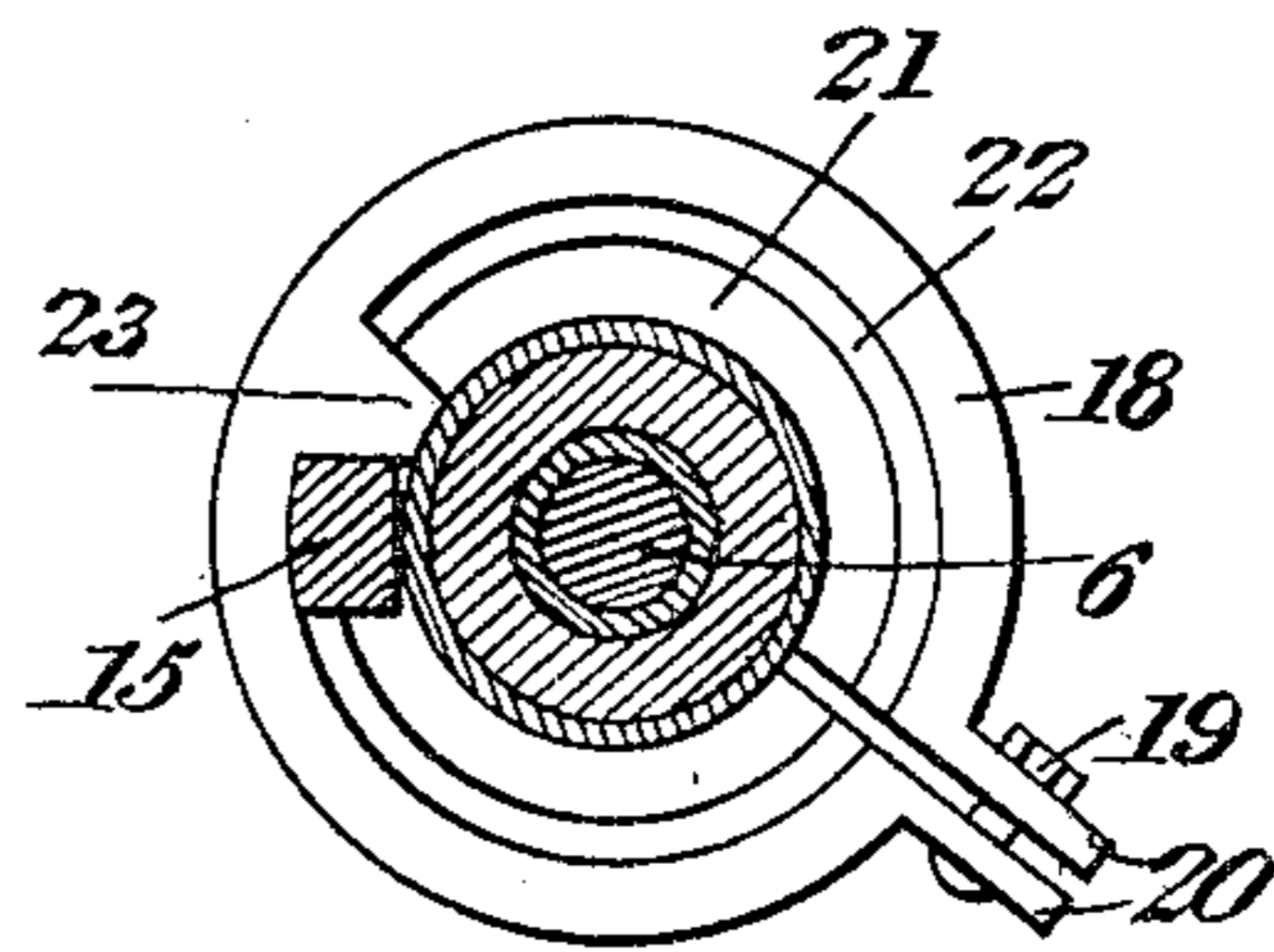
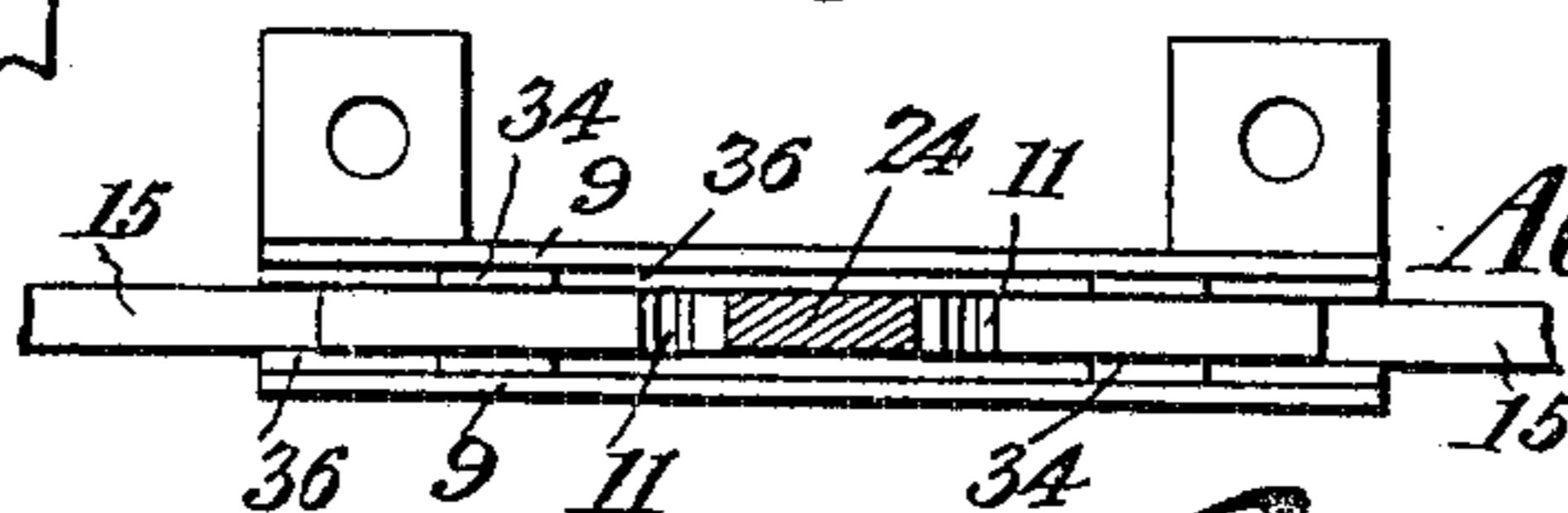


Fig. 3.



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WHEEL-LOCK.

No. 831,568.

Specification of Letters Patent.

Patented Sept. 25, 1906.

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To all whom it may concern:

Be it known that I, ALONZO H. PENCE, a citizen of the United States, residing at Somerville, in the county of Morgan and State of Alabama, have invented a new and useful Wheel-Lock, of which the following is a specification.

This invention relates to brakes for carriages, wagons, and similar vehicles, and has for its object to provide means for exerting a braking action on the vehicle-wheels, thereby to stop the carriage should the draft-animal become unruly or attempt to run away.

A further object of the invention is to provide a pair of brake-bars movable into and out of engagement with the vehicle-hub and operated through the medium of a foot-actuated lever.

A still further object of the invention is to generally improve this class of devices so as to add to their utility and durability as well as to reduce the cost of manufacture.

With these and other objects in view the invention consists in the construction and novel combination and arrangement of parts, as hereinafter fully described, and illustrated in the accompanying drawings, it being understood that various changes in form, proportions, and minor details of construction may be resorted to within the scope of the appended claims.

In the accompanying drawings, Figure 1 is a perspective view of a portion of a wagon, showing my improved brake. Fig. 2 is a top plan view with one of the supporting-brackets removed and showing the construction and arrangement of the operating mechanism. Fig. 3 is a transverse sectional view. Fig. 4 is a transverse sectional view of the clamping-band or keeper.

Similar numerals of reference indicate corresponding parts in all of the figures of the drawings.

The improved brake may be used on carriages, wagons, and similar vehicles and by way of illustration is shown applied to a wagon of the ordinary construction, in which 5 designates the body portion, 6 the axle, and 7 the wheels mounted for rotation thereon. Secured to the rear bolster 8 are spaced laterally-extending brackets 9, between which are mounted for rotation on pins 10 a pair of segmental gears 11. The segmental gears 11 are provided with reduced extensions 12, terminating in hooks 13. Pivoted at 14 to the reduced extensions 12 are longitudinally-mov-

able bars 15, the ends of which are inclined or beveled at 16 and slidably mounted in loops or eyes 17 for engagement with split clamping-bands or keepers 18. The bands 18 are clamped in position on the hubs of the wheels by means of bolts 19, engaging laterally-extended lugs 20, said bands being provided with annular recesses 21, the side walls of which are inclined or beveled at 22 and provided with inwardly-extended lugs 23, adapted to engage the reduced ends of the locking-bars when the latter are moved to operative position, and thereby prevent rotation of the wheels. The brake-bars 15 are movable to operative and inoperative position by means of a rack-bar 24, the teeth of which engage the teeth on the segmental gears 11, said bar being mounted for longitudinal movement between the supporting-brackets 9 and provided with a longitudinal slot 25 for the reception of a pin 26, adapted to engage the end walls of said slot, and thereby limit the longitudinal movement of the rack-bar. The rack-bar 24 is pivoted at 27 to a foot-operated lever 28, the free end of which extends through an opening in the wagon-bed and is curved laterally to permit the same to be conveniently depressed by the operator. The lever 28 is pivoted at 29 in a V-shaped hanger 30, depending from the bottom of the wagon-bed and secured thereto in any suitable manner, as by bolts or rivets 31. Interposed between the reduced extensions 12 of the segmental gears 11 and secured to the terminal hooks 13 of the latter is a coiled spring 32, the tendency of which is to withdraw the lock or brake-bars from engagement with keeper or clamping-bands 18, so that when the foot-operated lever is released the springs will move the locking-bars to inoperative position. The brackets 9 are spaced apart by vertical pins 33, upon which are mounted rollers 34, which bear against the curved ends 35 of the segmental gears 11 and serve as a means for guiding the latter when operated by the rack-bar 24. The brackets 9 are also reinforced and strengthened by plates 36, preferably secured to the brackets by means of the pins 10 and 26, as shown.

In applying the brake the lever 28 is depressed by the operator, which causes the teeth on the rack-bar to engage the gears 11 and rotate the latter to move the brake-bars into engagement with the recess of the clamping-bands or keepers. As vehicle-wheels ro-

tate, the lugs 23 engage the reduced ends of the locking-bars and exert a braking action on said wheels, thereby preventing further rotation of the latter. When the foot operating-lever is released, the spring 32 withdraws the locking bars or levers from engagement with the lugs 23, and thereby permits free rotation of the vehicle-wheels.

Attention is called to the fact that by having the side walls of the recess 21 inclined or beveled to correspond to the inclination of the reduced ends of the locking-bars said bars will be guided into and out of engagement with the keepers. The improved brake or lock may be used either at the front or rear end of the wagon, and the operating-lever may be secured to the sides of the wagon-body, if desired.

From the foregoing description it will be seen that there is provided an extremely simple and inexpensive device admirably adapted for the attainment of the ends in view.

Having thus described the invention, what is claimed is—

1. In a brake, the combination with a vehicle-body, of the wheels, clamping members secured to the wheels, spaced brackets secured to the vehicle-bolsters, segmental gears mounted for rotation between the brackets, brake-bars pivoted to the segmental gears and adapted to engage the clamping members, a rack-bar adapted to engage the gears, and a foot-lever for operating the rack-bar to move the brake-bars to operative and inoperative position.

2. In a brake, the combination with a vehicle-body, of the wheels, spaced brackets secured to the bolster, segmental gears mounted for rotation between the brackets, a spring interposed between the gears, brake-bars pivoted to said gears and adapted to engage the vehicle-wheels, and a rack-bar adapted to engage the gears for moving the brake-bars to operative and inoperative position.

3. In a brake, the combination with a vehicle-body, of the wheels, spaced brackets secured to the vehicle-bolster, segmental gears mounted for rotation between said brackets and provided with reduced extensions terminating in laterally-projecting hooks, brake-bars pivoted to the reduced extensions and adapted to engage the hub of the vehicle-wheel, a spring interposed between the segmental gears and engaging the terminal hooks, a rack-bar slidably mounted between the brackets and adapted to engage the segmental gears, and a foot operating-lever pivotally connected with the rack-bar.

4. In a brake, the combination with a vehicle-body, of the wheels, spaced brackets

spaced apart by vertical pins, segmental gears mounted for rotation between the brackets, and provided with curved portions adapted to engage said pins, brake-bars secured to the gears and adapted to engage the wheel-hubs, a spring connecting the gears, an operating-lever, a rack-bar one end of which is pivoted to the operating-lever and the opposite ends thereof mounted for sliding movement between the supporting-brackets and adapted to engage the gears, said rack-bar having a longitudinal slot formed in one end thereof, and a pin secured to the brackets and adapted to engage the walls of said slot for limiting the longitudinal movement of the rack-bar.

5. In a brake, the combination with a vehicle-body, of the wheels, brackets secured to the vehicle-bolsters, pins interposed between the brackets, rollers journaled on the pins, segmental gears mounted for rotation between said brackets and provided with curved portions adapted to bear against the rollers, said segmental gears being provided with reduced extensions terminating in laterally-projected hooks, a spring secured to said hooks, brake-bars pivoted to the segmental gears and adapted to engage the wheel-hubs, a rack-bar slidably mounted between the brackets and meshing with the teeth on the segmental gears, reinforcing-plates secured to the brackets and forming a housing for the segmental gears, and a foot-operated lever pivotally connected with the rack-bar.

6. In a brake, the combination with a vehicle-body, of the wheels, clamping members secured to the wheel-hubs and provided with annular recesses the walls of which are inclined or beveled and provided with laterally-extending lugs, supporting-brackets secured to the vehicle-bolster, segmental gears pivotally mounted between the brackets and provided with terminal hooks, springs interposed between the gears and engaging said hooks, brake-bars pivoted to the gears and having their free ends reduced and inclined for engagement with the locking-lugs of the clamping members, a foot-operated lever, one end of which is pivotally connected to the operating-lever and the opposite end thereof provided with an elongated slot, and a pin carried by the supporting-brackets and adapted to engage the slot in the rack-bar.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

ALONZO H. PENCE.

Witnesses:

S. L. SHERRILL,
S. E. SIMPSON.