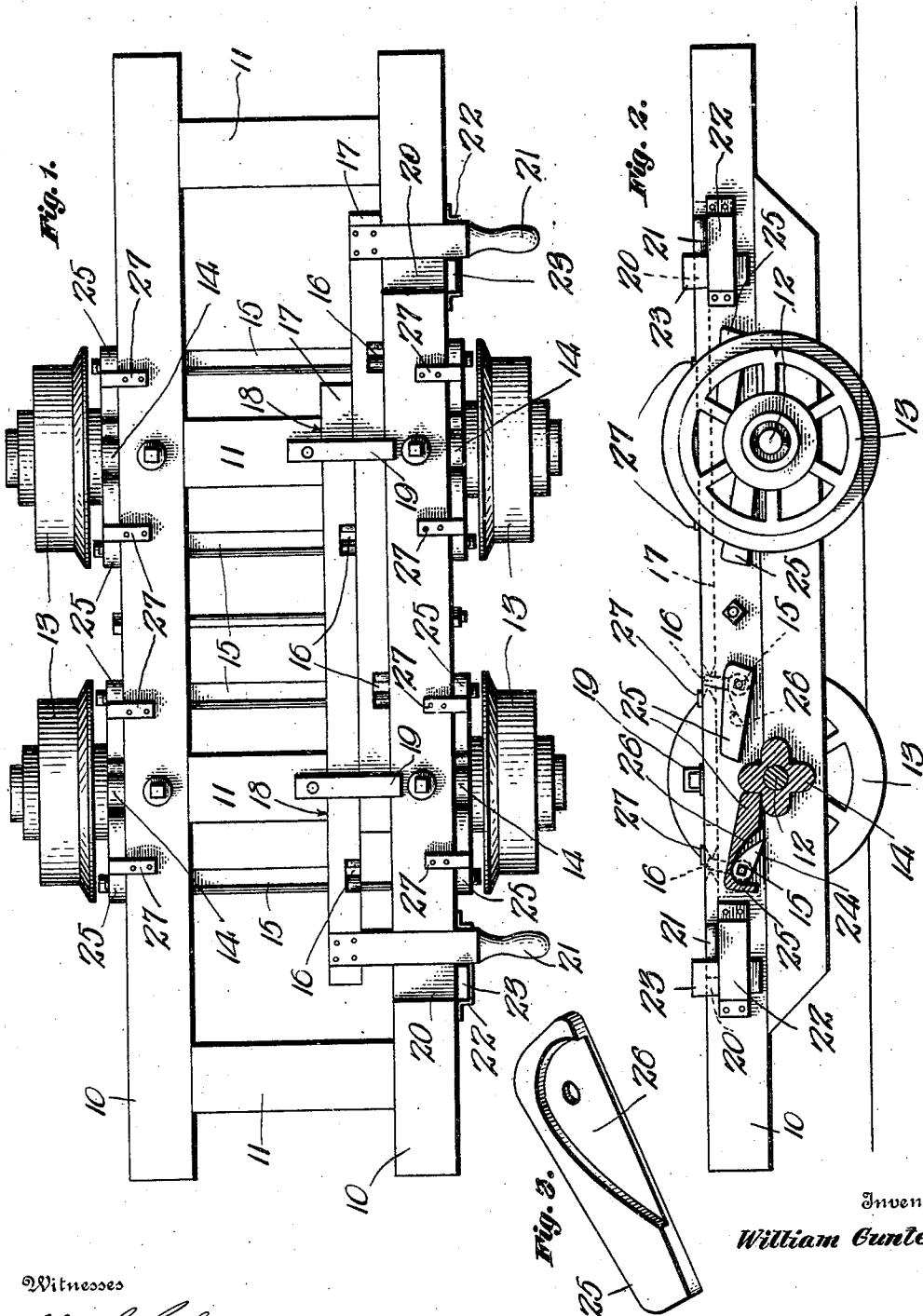


W. GUNTER.
SAFETY STOP FOR CARS.
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934,166.

Patented Sept. 14, 1909.



Witnesses

Charles Richardson.
W. H. Miller.

By

Wm. A. Randle
Wm. A. Randle

Inventor

William Gunter,

Attorneys

UNITED STATES PATENT OFFICE.

WILLIAM GUNTER, OF FROSTBURG, MARYLAND.

SAFETY-STOP FOR CARS.

934,166.

Specification of Letters Patent. Patented Sept. 14, 1909.

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To all whom it may concern:

Be it known that I, WILLIAM GUNTER, a citizen of the United States, residing at Frostburg, in the county of Allegany, State of Maryland, have invented certain new and useful Improvements in Safety-Stops for Cars; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to cars and especially to an improved form of safety stop therefor.

The principal object of the invention is to provide a safety stop for cars which will prevent the rotation of the wheels in either or both directions as may be desired.

Another object of the invention is to provide an improved form of safety stop which will automatically lock to prevent a car running backward down a hill.

With the above and other objects in view as will be hereinafter apparent, the invention consists in general of a car frame and wheels supporting same provided with a novel pawl and ratchet mechanism forming a safety stop of the character described.

The invention further consists in certain novel details of construction and combinations of parts hereinafter fully described, illustrated in the accompanying drawings and specifically set forth in the claims.

In the accompanying drawings like characters of reference indicate like parts in the several views, and; Figure 1 is a top plan view of a car frame equipped with this invention. Fig. 2 is a side elevation thereof with one of the wheels and one of the pawls in section. Fig. 3 is a rear view of one of the pawls.

In the application of this invention there is shown a car frame comprising longitudinal members 10 and transverse members 11. This frame serves to support the usual axles 12 whereon are mounted wheels 13. Each of the wheels 13 is provided with a ratchet 14 on the inside of the hub and this ratchet is so arranged as to be engaged by pawls located on either side thereof, there being shown in the present instance four substantially square teeth provided with rounded corners.

Upon the frame members 10 are supported a plurality of rock shafts 15, there being two of these rock shafts for each pair of wheels.

Each of the rock shafts 15 is provided with a rock arm 16 and these rock arms are connected by reach rods 17, there being two of these reach rods, one of which is connected to the rock arm of all of those shafts lying on one side of their respective wheels, while the other reach rods connects the shafts lying on the opposite sides. These reach rods move in guide notches 18 formed in the transverse members 11, adjacent the wheels, and the rods are held in these notches by means of cover plates 19. Guide notches 20 are formed in one of the longitudinal members and each of the reach rods is provided with an operating handle 21 projecting outward through one of the guide notches 20. Adjacent each of the guide notches and lying just below the path of the operating handle 21 is a U-plate 22 arranged to receive a locking wedge 23 so that when the operating handle 21 is held in desired position it may be locked by the introduction of the wedge 23 under the U-plate 22.

The ends of the rock shaft 15 project through the members 10 and operating levers 24 are mounted thereon to rotate therewith. Pawls 25 are mounted to rotate on the rock shafts 15, exterior of the levers 24 which are arranged to lie in recesses 26 formed on the inside or rear face of each of the pawls. The pawls for each wheel as well as the levers 24 are arranged in opposite direction so that one pawl lies on each side of the wheel and points toward the other. In order to prevent the pawls from rising too high and being thrown entirely out of engagement there are provided on the members 10 stops 27 which extend out over the pawls.

In order to understand the operation of the device let it be supposed that it is desired to prevent the car from moving toward the left of Fig. 1 or Fig. 2. When this is to be done the wedge 23 is removed from the right hand side of the operating handle 21 and the handle moved toward the right. This causes the rock arms of those shafts lying toward the left of the respective wheels to rotate toward the right and permits the pawls 25 lying toward the left to drop upon their respective ratchet 14. If now, the car moves toward the right the pawls will rise and fall over the ratchet teeth, being permitted this movement by the lost motion mechanism on the ends of the respective rock shafts. If however, the car tends to move toward the

left the pawls 25 which are in contact with the ratchets 14 will lock thereon and prevent such motion. In like manner the car may be prevented from moving toward the right, it being observed that either set of pawls may be moved to engage the ratchet independently of the other set. When it is desired to disengage either set of pawls the operating handle 21 belonging to that set is moved in the opposite direction to that which engages it and this will cause the respective rock shafts to turn, rotate the operating levers 24 and lift the pawls 25 out of engagement. There has thus been provided a simple and efficient device of the character described and for the purpose specified.

It is obvious that changes may be made in the invention disclosed and it is therefore wished to include all modifications that come within the scope of the appended claims.

Having thus described the invention what is claimed as new is:—

1. In a safety stop for cars, the combination with a car frame and axles thereon; of wheels carried by said axles ratchets mounted on said wheels, pawls mounted in pairs, one of each pair lying on one side and the other on the opposite side of each wheel and independent means to lift the pawls on either side of said wheels.

2. In a safety stop for cars, the combination with a car frame and axles thereon; of wheels carried by said axles ratchets mounted on said wheels, pawls mounted in pairs, one of each pair lying on one side and the other on the opposite side of each wheel and adapted to engage the ratchet on said wheel, and independent means simultaneously to lift all of the pawls on either

side of said wheels out of engagement with their respective ratchets.

3. In a safety stop for cars, the combination with a car frame and axles thereon; of wheels carried by said axles ratchets mounted on said wheels, pawls mounted in pairs, one of each pair lying on one side and the other on the opposite side of each wheel and adapted to engage the ratchet on said wheel, independent means simultaneously to lift all of the pawls on either side of said wheels out of engagement with their respective ratchets, and other means to positively hold the first mentioned means in desired position.

4. In a safety stop for cars, the combination with a car frame and axles thereon; of wheels carried by said axles ratchets mounted on said wheels, pawls mounted in pairs, one of each pair lying on one side and the other on the opposite side of each wheel and adapted to engage the ratchet on said wheel, and independent means simultaneously to lift all of the pawls on either side of said wheels out of engagement with their respective ratchets, said means comprising rock shafts supported in said frame and carrying said pawls, operating levers fixed on said rock shafts to provide a loose connection between each pawl and its respective rock shaft, rock arms on said rock shaft, and reach rods each connecting all those rock arms lying on the respective sides of the several wheels.

In testimony whereof, I affix my signature, in presence of two witnesses.

WILLIAM GUNTER.

Witnesses:

PHILIP F. LARNER,
GEO. H. CHANDLEE.