

No. 815,308.

PATENTED MAR. 13, 1906.

W. H. PERRY.
ROTARY FENDER AND CLEANER FOR SURFACE RAILWAYS.

APPLICATION FILED OCT. 5, 1905.

3 SHEETS—SHEET 1.

Fig. 1.

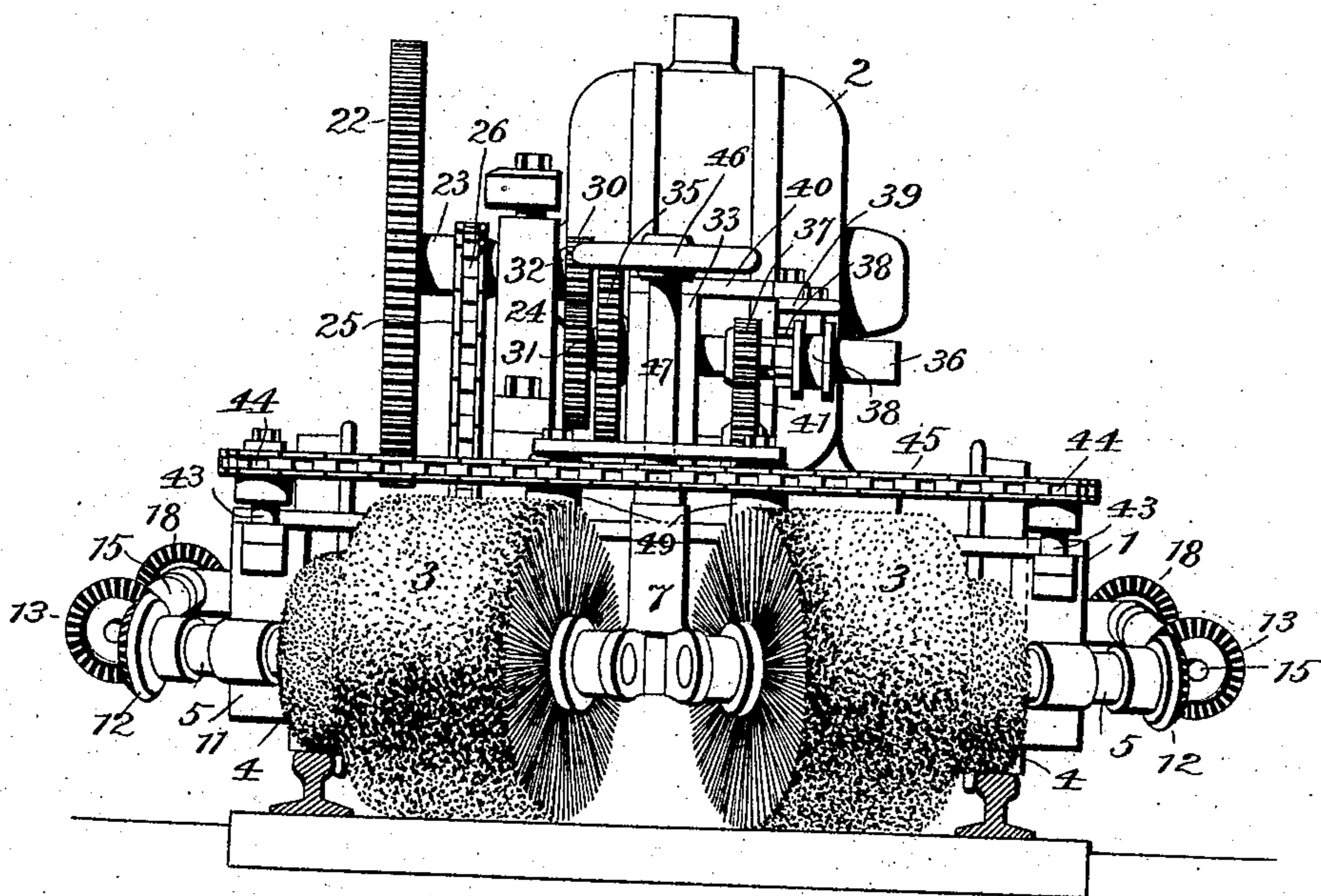
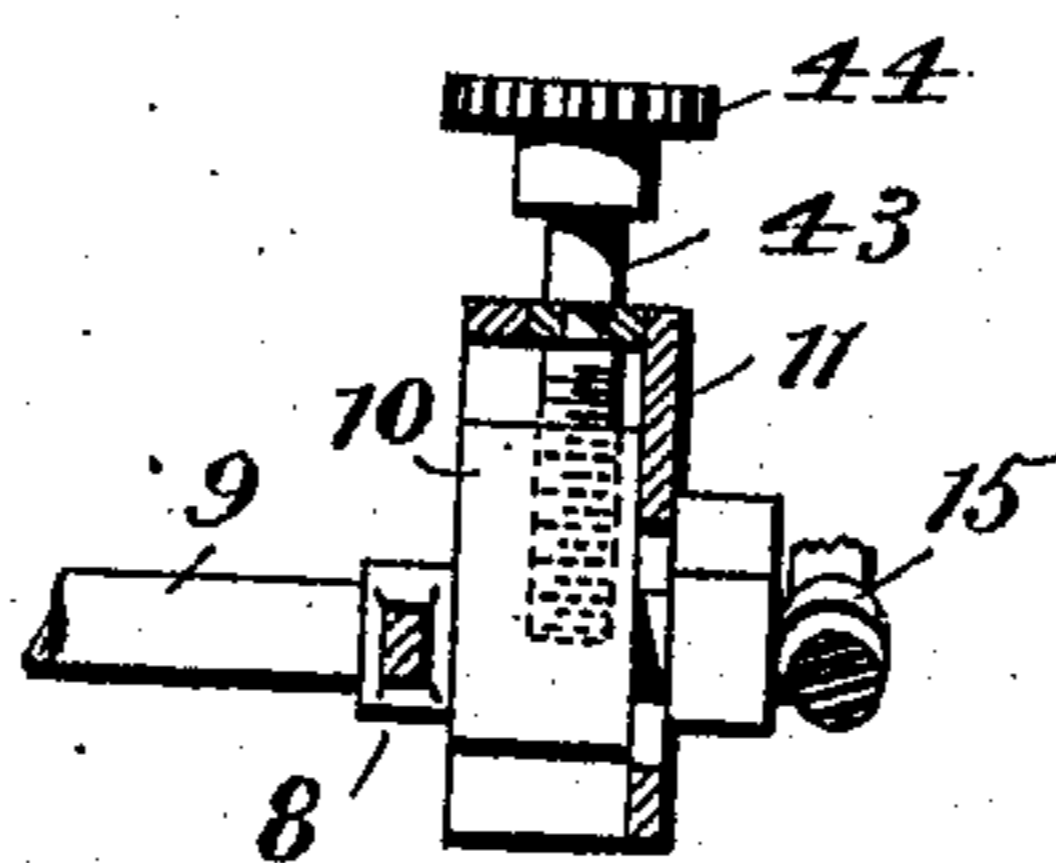


Fig. 4.



Witnesses
Jas. E. Hutchinson,
F. R. Dixon.

Inventor
William H. Perry
by *Hall Kronmuller*
Attorneys

No. 815,308.

PATENTED MAR. 13, 1906.

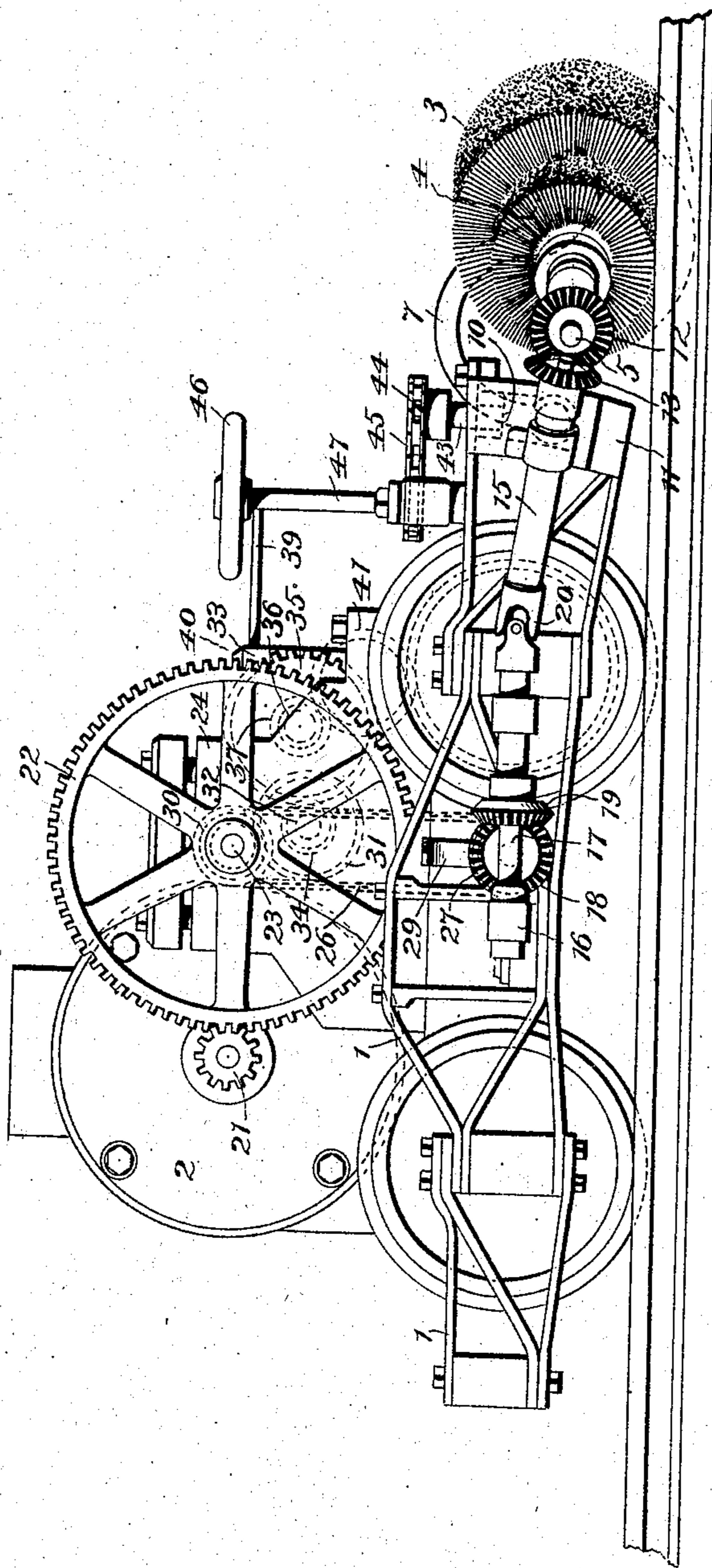
W. H. PERRY.

ROTARY FENDER AND CLEANER FOR SURFACE RAILWAYS.

APPLICATION FILED OCT. 5, 1905.

3 SHEETS—SHEET 2.

Fig. 2.



Witnesses:

Jas. H. Hutchinson.
F. R. Fitts

William H. Perry
by Hall & Cronwell

Inventor

Attorneys

No. 815,308.

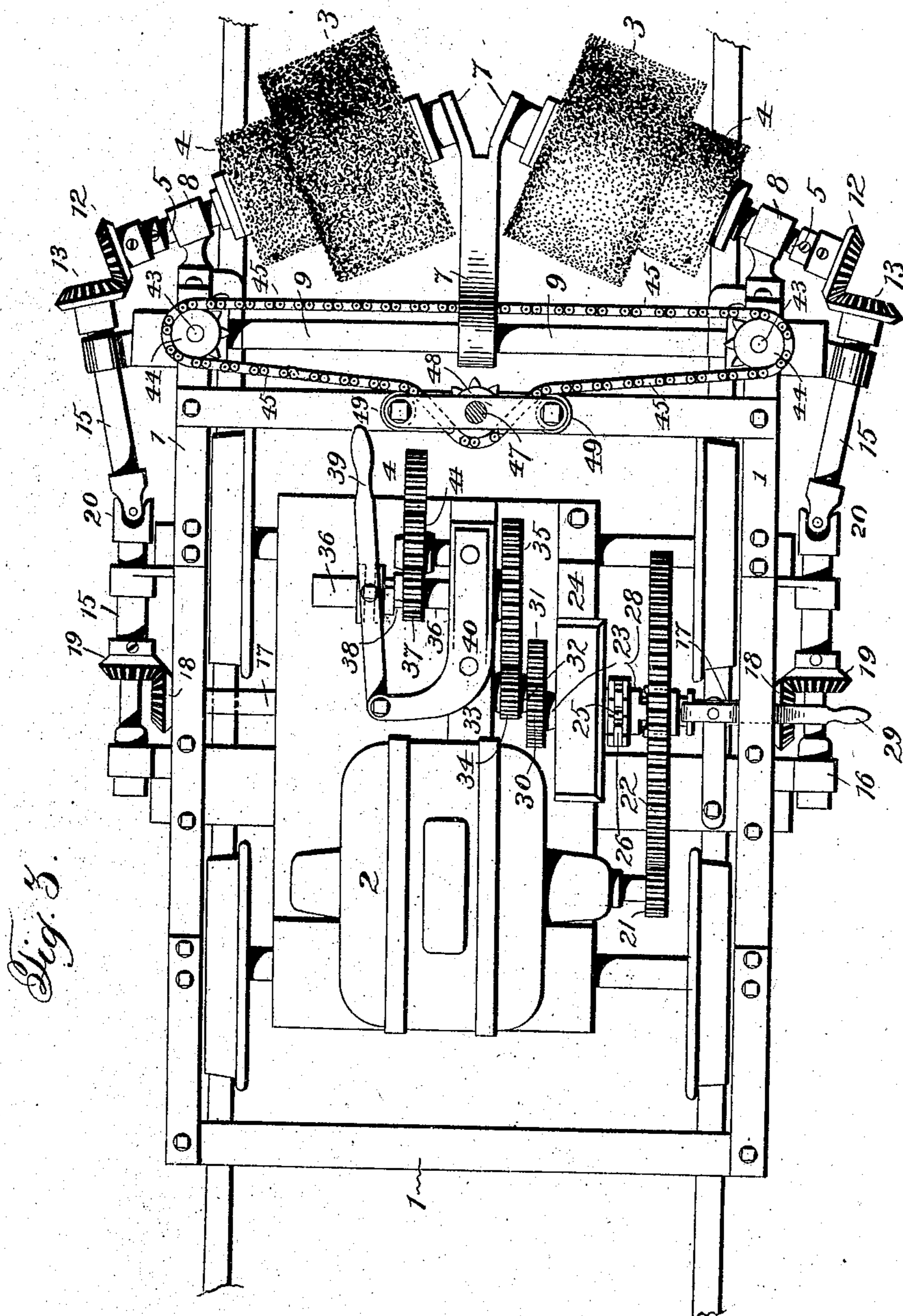
PATENTED MAR. 13, 1906.

W. H. PERRY.

ROTARY FENDER AND CLEANER FOR SURFACE RAILWAYS.

APPLICATION FILED OCT. 5, 1905.

3 SHEETS—SHEET 3.



Witnesses

Jas. Hutchinson
F. R. Filton

Inventor

William H. Perry
by Hall & Hornumel

Attorneys

UNITED STATES PATENT OFFICE.

WILLIAM H. PERRY, OF CONCORD, NEW HAMPSHIRE.

ROTARY FENDER AND CLEANER FOR SURFACE RAILWAYS.

No. 815,308.

Specification of Letters Patent.

Patented March 13, 1906.

Application filed October 5, 1905. Serial No. 281,431.

To all whom it may concern:

Be it known that I, WILLIAM H. PERRY, a citizen of the United States, and a resident of Concord, in the county of Merrimack and State of New Hampshire, have invented certain new and useful Improvements in Rotary Fenders and Cleaners for Surface Railways, of which the following is a specification.

My invention relates to machines for cleaning railway road-beds, and particularly machines for cleaning ice, snow, and the like from the rails and beds of surface railways.

The object of the invention is to provide a device for the purpose specified which is particularly simple and durable in construction and highly efficient and effective in use.

The invention includes the combination and arrangement of component parts to be hereinafter described, and particularly pointed out in the claims.

The invention is susceptible of various embodiments without departing from the spirit and scope thereof; but for the purpose of clearly explaining the same it has been deemed necessary to illustrate and describe but one exemplification thereof.

The invention is illustrated in the accompanying drawings, in which—

Figure 1 is a front elevation of one embodiment of the invention; Fig. 2, a side elevation of the same; Fig. 3, a plan view, and Fig. 4 a detail view.

The invention includes generally a truck-frame, means adjustably supported therefrom for cleaning the road-bed between the rails of a surface railway, other cleaning means coacting more directly with the rails, and means supported on the truck-frame for rotating the cleaning devices and for raising and lowering the same.

In the exemplification of my invention shown in the drawings the truck-frame is designated by 1 and is shown as supporting a suitable driving element, as a motor 2.

The means for cleaning the surface of the road-bed between the rails is shown herein as a rotary brush 3, the same being constructed of two parts or sections set at suitable angles to each other, and the cleaning means coacting more directly with the rails are shown as supplemental brushes 4, arranged in axial alinement with the brushes 3 and preferably mounted on the same shaft thereas. In this exemplification of my invention each brush-section 3 with its associated brush 4 is mount-

ed on an obliquely-extending shaft 5, the inner ends of which shafts find bearings in a bracket 7, while the outer ends of the same are supported in brackets 8, secured on a transverse shaft 9, which is journaled in blocks 10, which are adjustable vertically in guide-casings 11, constituting a part of the truck-frame and arranged at the corners thereof. The ends of the shafts 5 are connected to the drive-shaft of the motor 2 by interposed drive mechanism which includes beveled gears 12 on the outer ends of the shafts 5, said gears meshing with companion gears 13, mounted on the forward ends of shafts 15, the latter being suitably journaled in bearings 16, fixed to the truck-frame and being driven by transverse shaft 17, carrying beveled gears 18, which intermesh with similar gears 19. The shafts 15 are preferably formed in two sections in order that one part thereof may be fixed, except as to the rotary movement of the same, while the other part may have a vertical movement corresponding to the vertical adjustment given the cleaning-brushes, as will be hereinafter described. As illustrated in the accompanying drawings, the front section of the shaft 15 is connected to the rear fixed section by a flexible joint or coupling 20.

For driving the shaft 17 the driving-shaft of the motor 2, in the present instance the armature-shaft, is provided with a pinion 21, which meshes with a gear 22, having a relatively large diameter, thus materially reducing the speed of said gear in comparison to the speed of the pinion 21, and said gear 22 is carried by a shaft 23, journaled in a suitable support 22, securely fastened to the frame of the machine. The shaft 23 at a point between the gear 22 and the support 24 is also provided with a sprocket-gear 25, over which travels a sprocket-chain 26, which latter also engages and operates a sprocket-gear 27, carried by the shaft 17. The gear 27, however, is loosely mounted upon the shaft 17 and constitutes one member of a clutch 28, the other member of which is splined to the shaft 17 and operated through the medium of a shifting lever 29, pivoted to the machine-frame. Thus it will be seen that by suitably operating the lever 29 the shaft 17 may be controlled in its operation for either rotating the cleaning-brushes or causing their rotation to cease.

In addition to driving the cleaning-brushes the motor 2 is also intended to propel the ma-

chine. To the accomplishing of this end a pinion 30 is carried at the end of shaft 23 opposite to the gear-wheel 22, said pinion meshing with a gear 31, carried by a shaft 32, journaled in a support 33, also securely fastened to the machine-frame. Mounted upon said shaft 32 is a pinion 34, which meshes with a gear 35, carried by a shaft 36, the latter being journaled in and projecting through the support 33, as clearly seen. Loosely mounted upon the projecting end of shaft 36 is a pinion 37, said pinion serving as one member of a clutch 38, the other member of which is splined to the shaft 36 and controlled through the medium of a shifting lever 39, pivoted to a fastening-arm 40, carried by the support 33. The pinion 37 engages an idler-gear 41, journaled upon support 33, which idler also engages a gear 42, secured to one of the axles of the machine. Through the gearing described it is obvious that the machine will be effectually propelled and may be readily started or stopped by the clutch 38, controlled by the shifting lever 39.

The blocks 10, associated with the two guide-casings 11, are simultaneously adjusted to uniformly raise and lower the cleaning-brushes by means of shafts or pillars 43, mounted in the casings, the upper ends of which are provided with sprocket-wheels 44, over which runs a sprocket-chain 45, which is actuated from a hand-operated wheel 46. The latter is secured upon a staff 47, mounted in the truck-frame, and said staff is provided at its lower end with a sprocket-wheel 48, around which the chain is guided. The chain is held into engagement with the last-named sprocket-wheel by means of guide-rollers 49, mounted in the truck-frame upon each side of said sprocket-wheel closely adjacent to the latter.

The motor 2 having been started the machine will be propelled by simply shifting lever 39, thereby causing the clutch 38 to lock the pinion 37 in engagement with the shaft 36, whereupon the gears 41 and 42 will be brought into operative relation with the other members of the propelling-gears and the machine will be driven forwardly. When the shifting lever 29 has been suitably operated, the shaft 17 will be thrown into gear with the shaft 23 through the medium of the sprocket-chain and sprocket-gears, and consequently the brushes 3 will be caused to rotate under the influence of the motor. Obviously as the machine moves forwardly the brushes 3 will attack the ice or snow and effectually remove the same from the rails and bed of the track, the brushes 4 serving to clear the accumulations of ice or snow directly from the tracks. The brushes may be forced downwardly or drawn upwardly by operating the shafts 43 through the medium of the sprocket-wheels 44, the chain 45, and the hand-wheel 46, and thus it will be seen that

the position of said brushes may be readily changed in accordance with the conditions under which the machine is to work.

Having thus described the invention, what is claimed as new, and desired to be secured by Letters Patent, is—

1. In a cleaner for surface railways, and in combination, cleaning means for the road-bed between the rails of the surface railway, additional cleaning means coacting directly with the rails of the surface railway and in substantial alinement with the first-named cleaning means, and means for simultaneously raising and lowering both sets of cleaning means.

2. In a cleaner for surface railways, and in combination, a truck-frame, a driving element mounted thereon, cleaning means for the surface of the railway between the rails, additional means coacting more directly with the rails and rotating about coincident axis said additional means being of less diameter than the main cleaning means, and driving mechanism interposed between said driving element and the cleaning means for imparting a rotary movement to the latter.

3. In a cleaner for surface railways, and in combination, a truck-frame, guide-casings at the end thereof, a driving element associated with the truck-frame, cleaning mechanism coacting with the surface of the road-bed between the rails and with the rails, said mechanism including a shaft, gearing interposed between the shaft and said driving element on the truck-frame, and bearing-blocks for the shaft adjustably mounted in said guide-casings.

4. In a cleaner for surface railways, and in combination, a truck-frame having guide-casings at the end thereof, a driving element associated with the truck, cleaning mechanism coacting with the surface of the road-bed between the rails and with the rails, said mechanism including a shaft, gearing interposed between the shaft and said driving element on the truck, bearing-blocks for the shaft adjustably mounted in said guide-casings, and means for raising and lowering said blocks in the guide-casings, including a hand-operated wheel, pillars or shafts coacting with the blocks and carrying sprocket-wheels at their upper ends, a staff carrying the hand-wheel, a sprocket-wheel on the lower end thereof, and a sprocket-chain passing about the latter sprocket-wheel and the sprocket-wheel on said shafts or pillars.

5. In a cleaner for surface railways, and in combination, a truck-frame, a driving element associated therewith, cleaning mechanism rotated from said driving element through interposed gearing, and means for raising and lowering the cleaning mechanism including rotatable vertically-disposed shafts, sprocket-wheels mounted thereon, a hand-wheel, a staff supported in the truck-

frame carrying the same, a sprocket-wheel on the staff, a sprocket-chain passing about and coacting with said sprocket-wheels, and guide-rollers for said chain mounted on opposite sides and closely adjacent to the sprocket-wheel on the staff, substantially as described.

6. A self-contained cleaner for surface railways comprising a truck-frame, supporting-wheels therefor, a motor mounted on the frame, blocks vertically movable in the frame, a second frame supported from the blocks; brushes journaled in the second frame and drive mechanism interposed between the motor and the brushes.

7. A self-contained cleaner for surface

railways comprising a truck-frame, supporting-wheels therefor, a motor mounted on the frame, blocks vertically movable in the frame, a second frame supported from the blocks, brushes journaled in the second frame, drive mechanism interposed between the motor-brushes and means for simultaneously shifting the blocks.

In testimony whereof I have hereunto signed my name, in the presence of two attesting witnesses, at Concord, in the county of Merrimack and State of New Hampshire.

W. H. PERRY.

Witnesses:

JOSIE E. MCGUIRE.

LAWRENCE PERRY.