

W. G. REID & A. J. SMITH.
ICE SCRAPER AND BRUSH SWEEPING DEVICE.
APPLICATION FILED OCT. 14, 1908.

907,880.

Patented Dec. 29, 1908.

2 SHEETS—SHEET 1.

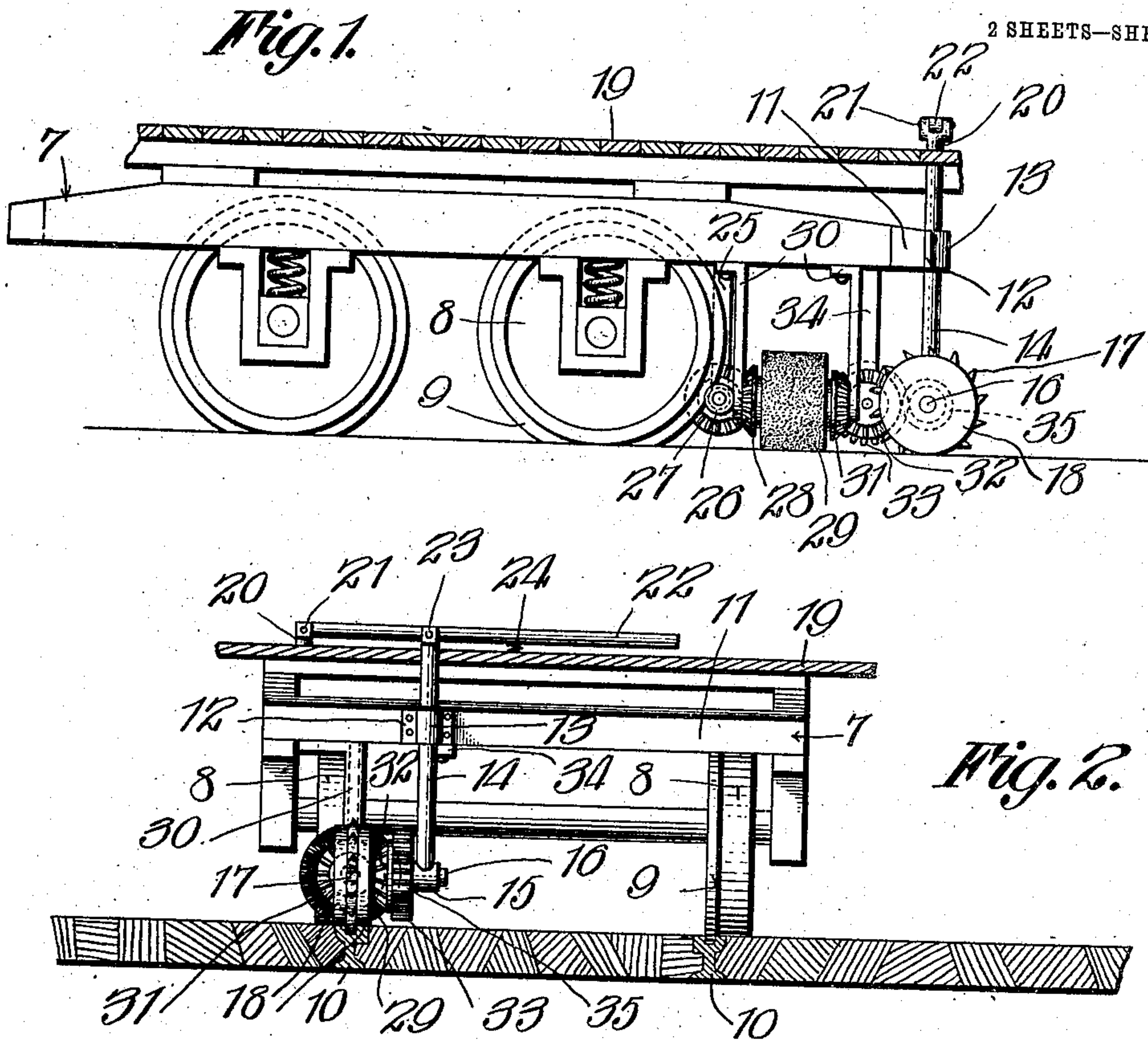
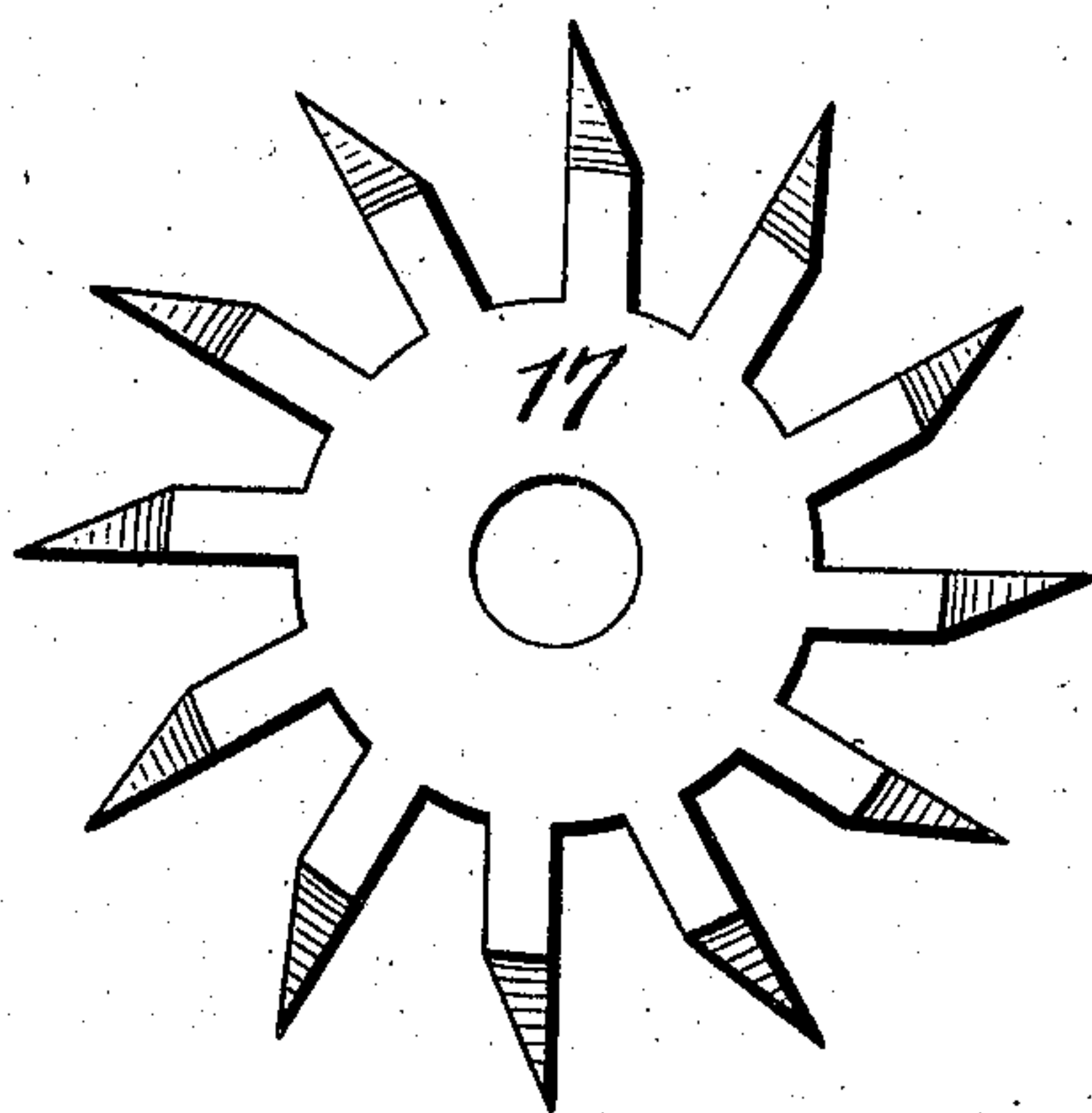


Fig. 5.



Witnesses

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2 SHEETS—SHEET 2.

Fig. 3.

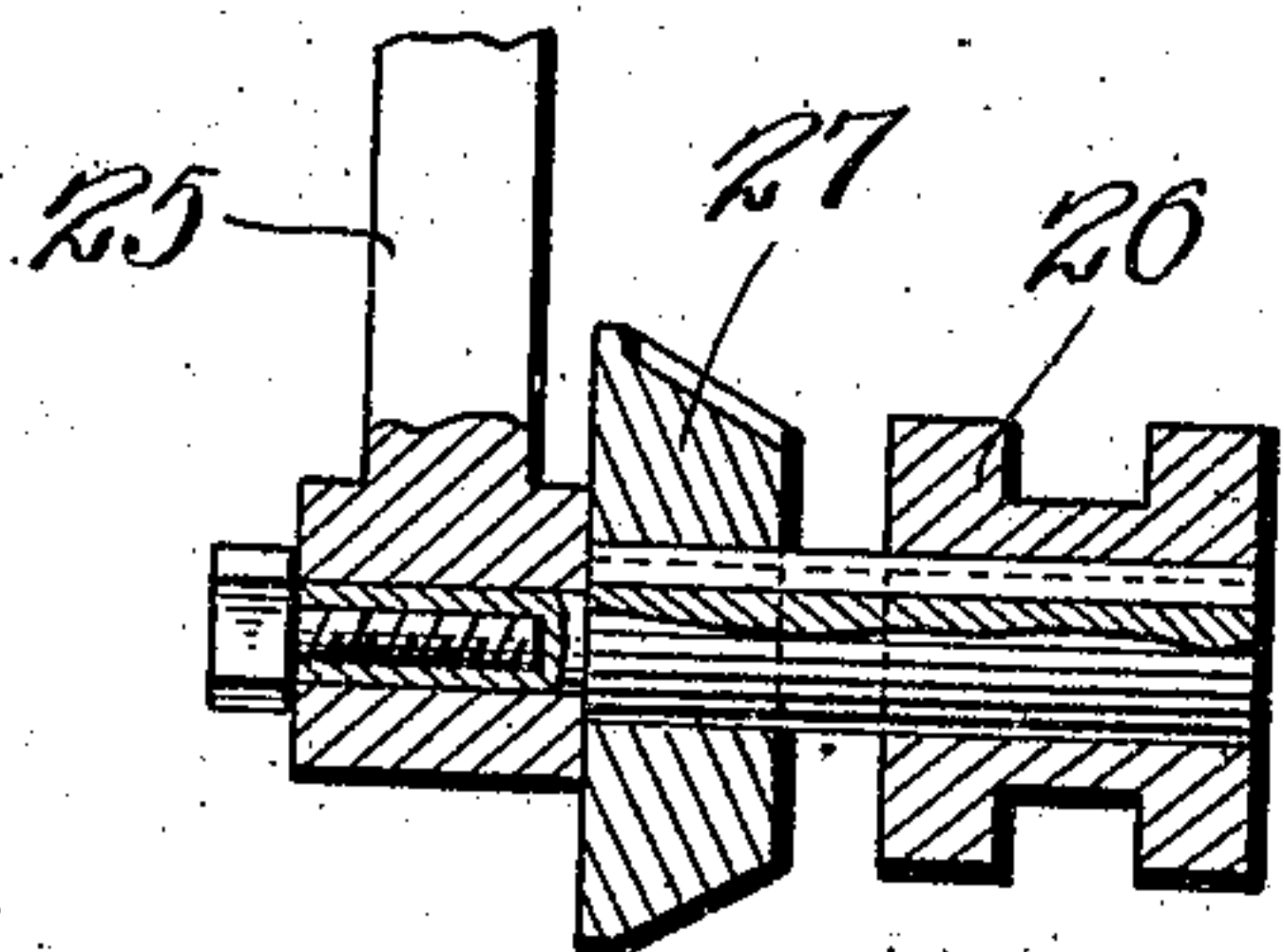
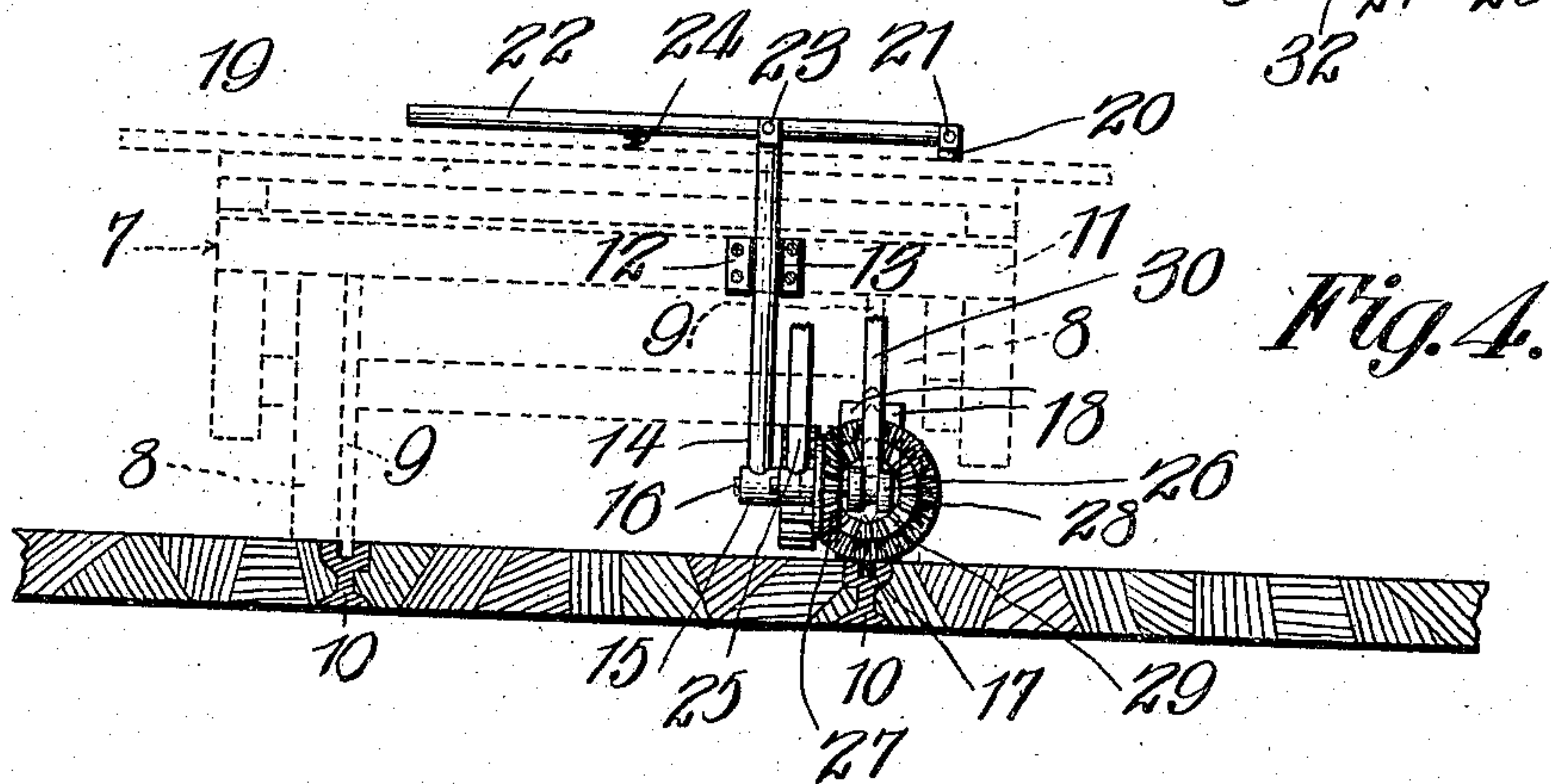
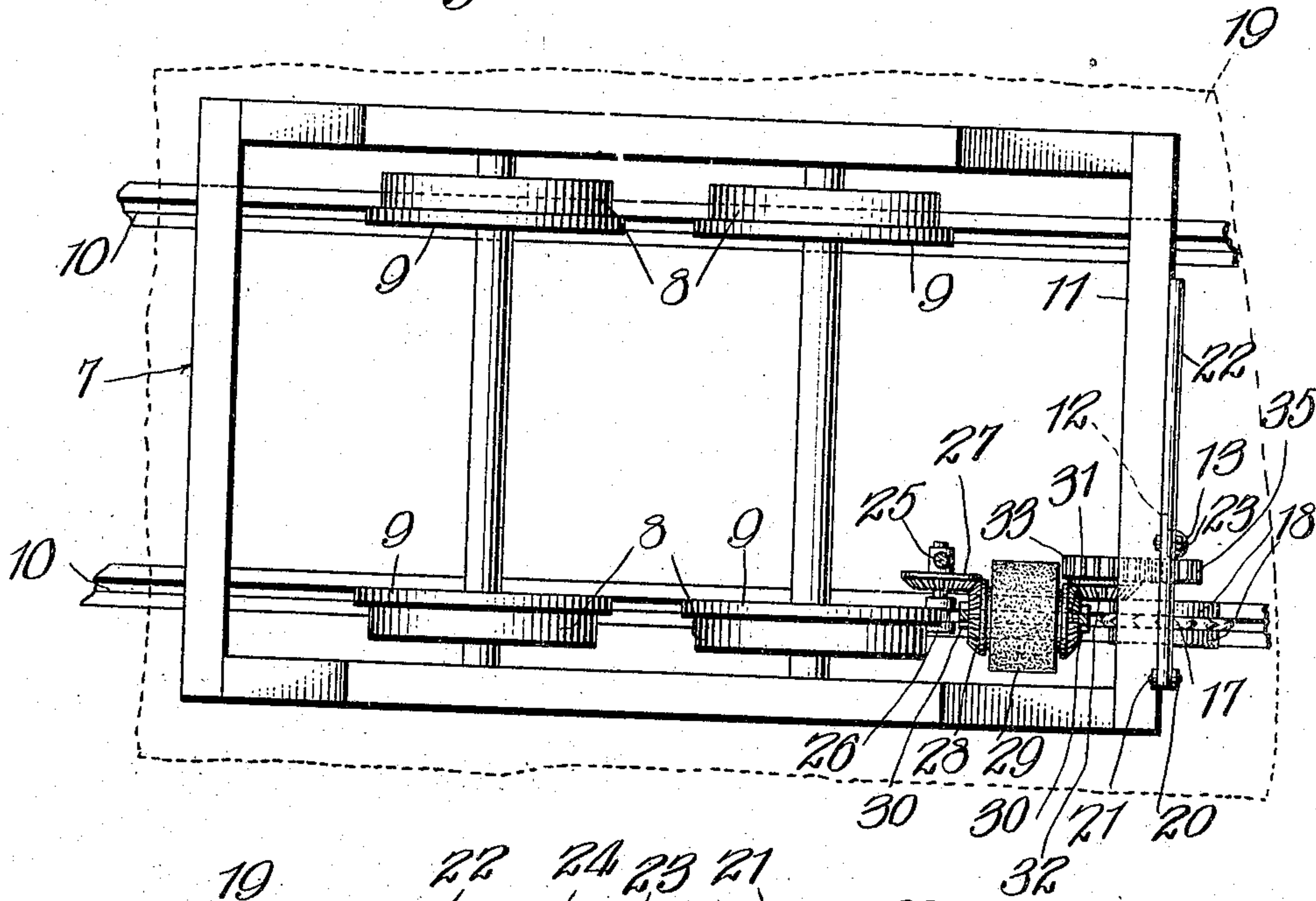


Fig. 6.

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UNITED STATES PATENT OFFICE.

WILLIAM G. REID AND ALEXANDER J. SMITH, OF COLD SPRING, NEW YORK.

ICE-SCRAPER AND BRUSH SWEEPING DEVICE.

No. 907,880.

Specification of Letters Patent.

Patented Dec. 29, 1908.

Application filed October 14, 1908. Serial No. 457,740.

To all whom it may concern:

Be it known that we, WILLIAM G. REID and ALEXANDER J. SMITH, citizens of the United States, residing at Cold Spring-on-Hudson, in the county of Putnam, State of New York, have invented certain new and useful Improvements in Ice-Scrapers and Brush Sweeping Devices; and we 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.

The invention relates to an ice scraper and brush sweeping device for street railways or the like.

The primary object of the invention is the provision of an ice scraper and brush sweeping device adapted to be mounted upon a car truck and arranged in advance of the front car wheels, the ice scraper having means frictionally engaging a car rail to limit the downward movement of said scraper during the travel of the car, and the brush sweeper and scraper adapted to be driven by the car wheel through suitable gearing, and foot means to bring the ice scraper into operative position so that ice, sleet or the like will be cut from the rail groove and be cleaned from the rail by the brush sweeper.

Another object of the invention is the provision of an ice scraper and brush sweeping device for street railways and adapted to be mounted upon the car truck, the said sweeper receiving its motion from the car wheel and the ice scraper being under the control of a motorman or person operating the car, the said ice scraper and brush sweeper being arranged in advance of the front car wheel or wheels to cut the ice or sleet formed on the rail and to sweep the same therefrom.

With these and other objects in view the invention for example consists in the construction, combination and arrangement of parts as will be hereinafter more fully described and as illustrated in the accompanying drawings which disclose the preferred form of embodiment of the invention. However, it is to be understood that changes, variations and modifications may be resorted to such as come properly within the scope of the claims hereunto appended without departing from the spirit of the invention.

In the drawings: Figure 1 is a side elevation of a railway car truck and rail with the invention applied in position on the truck. Fig. 2 is a front view of the car truck. Fig.

3 is a plan view of a car truck with the invention applied thereto. Fig. 4 is a rear end view of a car truck looking toward the front with the ice scraper mounted on the front cross beam thereof and the foot operating lever connected to operate the ice scraper. Fig. 5 is a detail view of the ice scraper. Fig. 6 is a sectional view of the frictional wheel and its gear.

Similar reference characters indicate corresponding parts throughout the several views in the drawings.

In the drawings, there is shown the ice scraper and brush sweeping device as applied to a railway car truck in advance of one front car wheel; however, it is to be understood that the same may be duplicated on the opposite side of the car truck. Supported by the car truck 7 near the front thereof are the usual car wheels 8 having peripheral flanges 9 to engage in a groove rail 10, the latter being of the conventional form as used in street railroad construction. To the front cross beam 11 of the car truck is mounted a bearing plate 12 forming a sleeve 13 in which is slidably mounted a vertical stem 14, the latter having a lower bearing end 15 supporting a transverse rotatable axle 16 having fixed thereto an ice scraper 17 the latter adapted to engage in the rail groove so as to cut ice therefrom upon the advancement or forward travel of the car truck. At opposite ends of the said axle 16 outside of the lower bearing end 15 are loose frictional wheels or rollers 18 which latter are adapted to engage the tread portion of the rail 10 to limit the downward movement of the ice scraper during the forward travel of the car truck.

Projecting upwardly from the floor 19 above the car truck is a split lug 20 having pivoted thereto as at 21 one end of a depressible foot lever 22 the latter pivoted as at 23 to the upper end of the stem 14 carrying the ice scraper. Between the floor 19 and the foot lever 22 near the free end thereof is a coiled extension spring 24 the latter adapted to normally hold the said foot lever slightly elevated so as to maintain the ice scraper out of engagement or contact in the groove of the rail.

Depending from the car truck is a bracket 25 in which is journaled a grooved friction wheel 26 the latter in engagement with a flange 9 of the car wheel and having mounted on the same journal supporting the friction

wheel 26, a beveled gear 27 the latter enmesh with a beveled gear 28 fixed to one end of a brush sweeper 29 the latter journaled in a bracket 30 and having fixed to its opposite
 5 end a beveled gear 31 the latter enmesh with a beveled pinion 32 having integral therewith a gear 33 the same being supported or journaled upon a bracket arm 34 depending from the front cross piece of the car truck.
 10 The said axle 16 has fixed thereto a gear 35 adapted to be brought into mesh with the gear 33 so as to impart positive movement or rotation to the ice scraper when brought into operative position by an operator depressing
 15 the foot lever 22 to lower the stem 14 in the sleeve 13 fixed to the cross beam of the car truck. It is obvious the brush sweeper acts upon the tread of the rail in its rotation and throws the ice and snow to one side of the
 20 latter thus cleaning the track during the forward travel of the car truck. In other words the brush sweeper rotates transversely on the longitudinal extent of the rail.

What is claimed is—

25 1. The combination with a car truck and its car wheels of a brush sweeper, mechanism actuated by the car wheels to impart rotary movement to the brush sweeper, an ice
 30 scraper arranged in advance of the brush sweeper, friction means adapted to engage the

tread of a rail to limit the downward movement of the ice scraper, a foot lever operating upon said ice scraper to bring the frictional means into engagement with a rail, and gear connection between the sweeper 35 and ice scraper.

2. The combination with a wheeled car truck, of a brush sweeper arranged in advance of the wheels of the car truck, a frictional wheel contacting with the wheel of the car truck, gearing actuated by the frictional wheel to impart rotary motion to the brush
 40 sweeper, a vertically slidable stem mounted on the car truck and having a forked lower end, an ice scraper journaled in the forked end of said stem, frictional wheels cooperative with the ice scraper and adapted to contact with the rail to limit movement to the ice
 45 scraper, a spring controlled depressible foot lever connected with the stem and normally holding the ice scraper in an elevated position, and gear connection between the sweeper and
 50 ice scraper to actuate the latter.

In testimony whereof, we affix our signatures, in presence of two witnesses. 55

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Witnesses:

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