No. 693,859. Patented Feb. 25, 1902.

F. HEDLEY.

TRACK CLEANING DEVICE.

(Application filed Dec. 10, 1900.)

(No Model.)

Fig. 1.

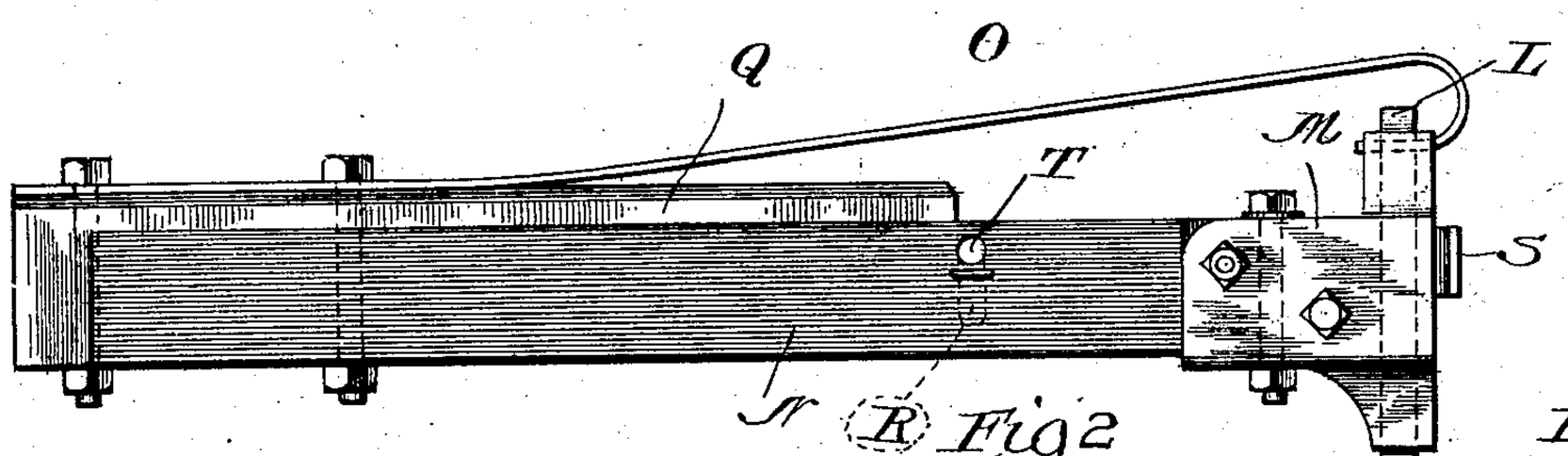


Fig 2

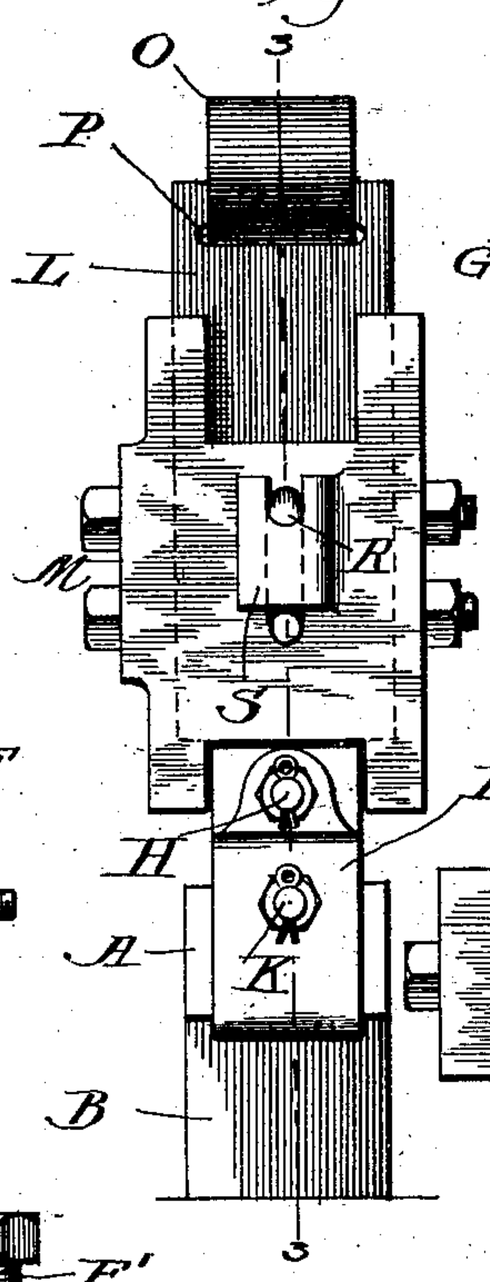


Fig 3

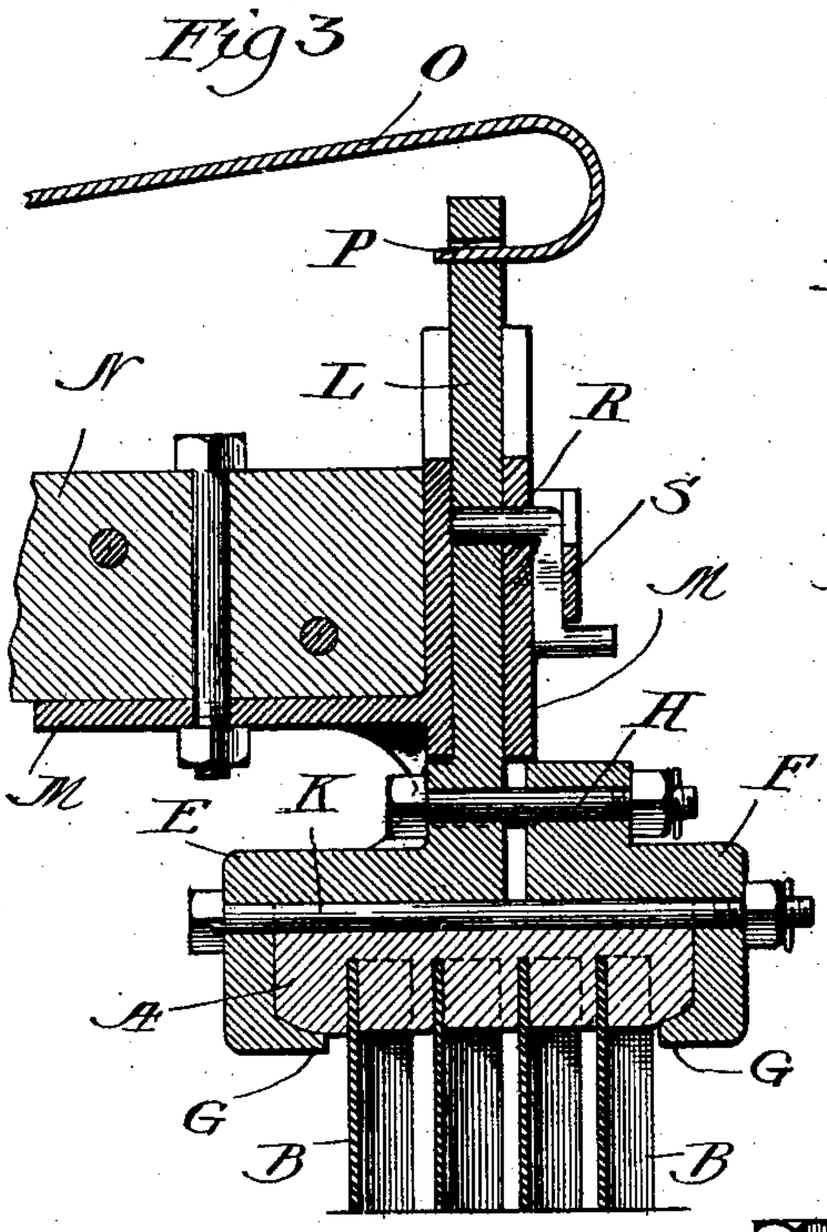


Fig. 4

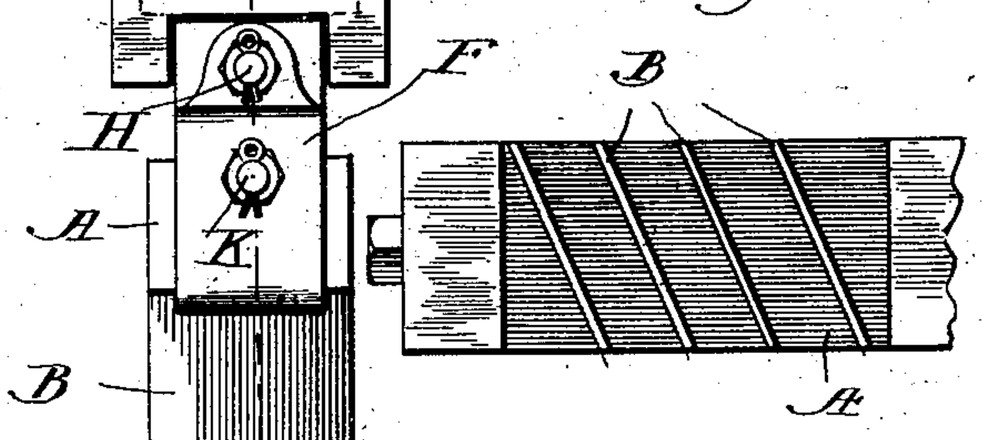


Fig. 5

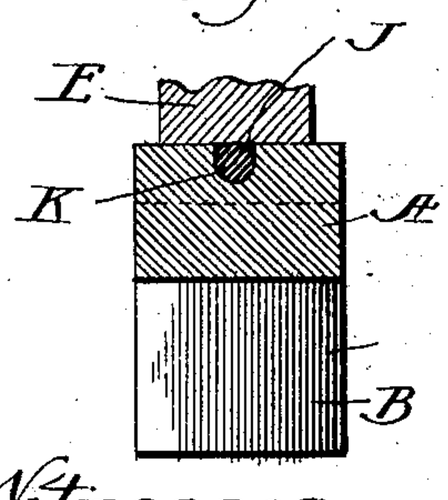
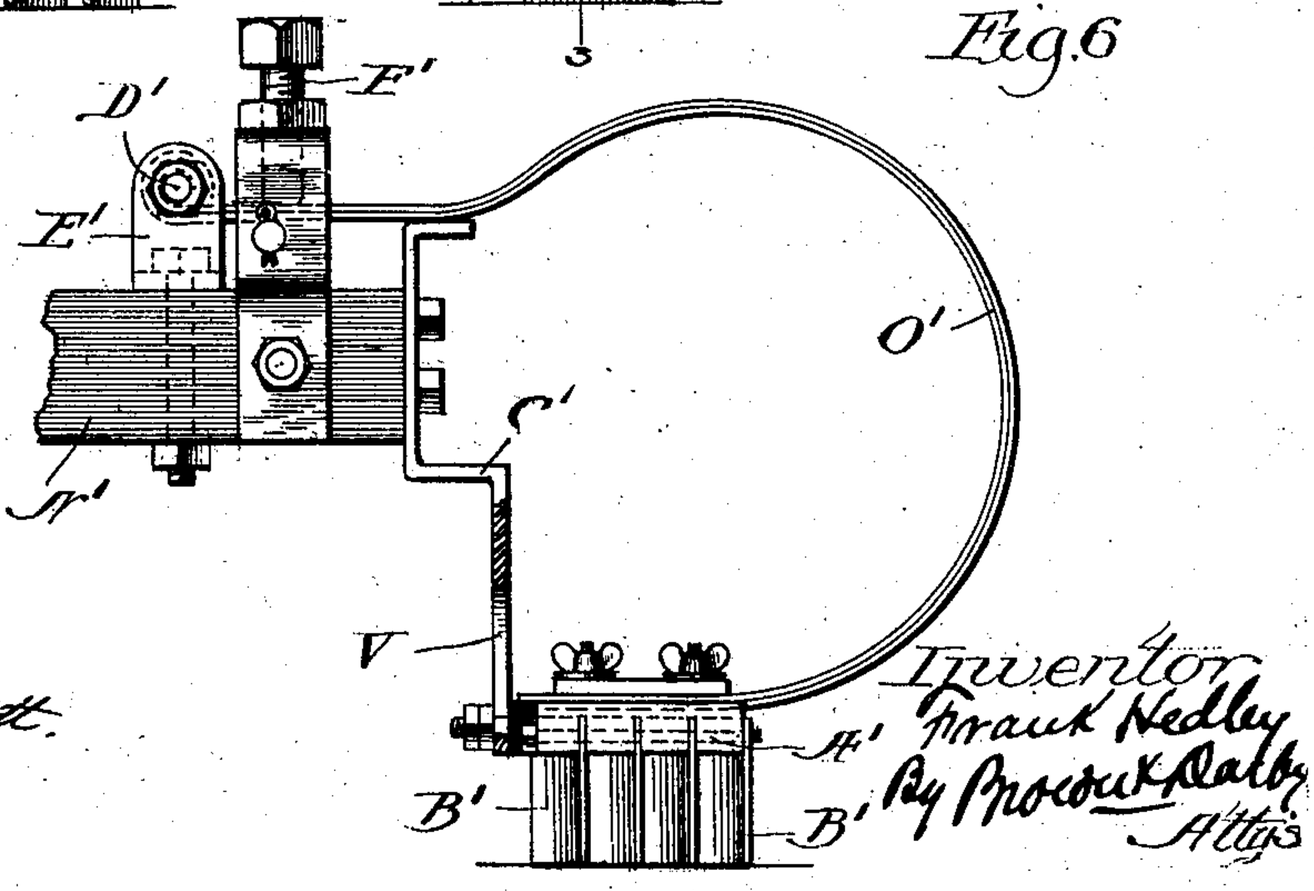


Fig. 6



Witnesses

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UNITED STATES PATENT OFFICE.

FRANK HEDLEY, OF CHICAGO, ILLINOIS.

TRACK-CLEANING DEVICE.

SPECIFICATION forming part of Letters Patent No. 693,859, dated February 25, 1902.

Application filed December 10, 1900. Serial No. 39,334. (No model.)

To all whom it may concern:

Be it known that I, FRANK HEDLEY, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Track-Cleaning Device, of which the following is a specification.

This invention relates to track-cleaning devices.

The object of the invention is to provide a device which is simple in construction and efficient in operation for cleaning track-rails of snow, ice, or other obstruction, and is particularly designed for use in cleaning snow, ice, sleet, or the like from the contact-rail of electric railways.

The invention consists, substantially, in the construction, combination, location, and arrangement, all as will be more fully hereinafter set forth, as shown in the accompanying drawings, and finally pointed out in the appended claims.

Referring to the accompanying drawings, and to the various views and reference-signs appearing thereon, Figure 1 is a view in side elevation of a construction of track-cleaning device embodying the principles of my invention and showing the application thereof to a track or contact rail. Fig. 2 is a front end elevation of the same. Fig. 3 is a view in central longitudinal section on the line 3 3, Fig. 2. Fig. 4 is a bottom plan view of the track-cleaning device. Fig. 5 is a transverse section of the same. Fig. 6 is a view similar to Fig. 1, illustrating a modified construction embodying the principles of my invention.

The same part is designated by the same reference-sign wherever it occurs throughout the several views.

Reference-sign A designates a block or casting having scraping-plates B secured therein. A convenient and economical construction and arrangement is to cast the block A about the ends of the scraping-plates B. The plates B comprise thin sections or sheets of steel or other suitable material and are arranged in inclined relation with respect to the block A, as clearly shown. These plates are designed to ride upon the upper surface of the rail D, as clearly indicated in Fig. 1, to scrape or clear from the rail any obstruction of ice, sleet, snow, or other material, and are so relatively inclined with respect to the rail and the block in which they are carried as to convey or carry any accumulated or collected ice, snow, sleet, or other obstruction off to one side of the rail D. The block A, with its scraping-plates B, may be supported from the car-body in many specifically different ways. In practice, however, I prefer to yieldingly support the said scraping-block so as to permit the scraping device to accommodate itself to any slight variations in the evenness or height of the rails over which said device operates, and I also prefer to employ a construction in which when the scraping device is not required for use it may be elevated out of operative relation with respect to the track-rail and maintained in such elevated position or relation until required for service. As illustrative of an operative embodiment of these principles I have shown in Figs. 1, 2, and 3 a construction which I have found in practice to be exceedingly efficient in operation. As shown, the block A is held between clamping-jaws E F, said jaws provided with flanges G, forming a support for the block A, said flanges being arranged to project toward each other and to engage the under surface of the ends of said block. The clamping-jaws E F may be detachably bolted together in any suitable manner, as by means of bolt H. In order to insure the retention of the scraping-block A within the clamping-jaws E F and to prevent lateral displacement of such block, I may provide the upper or top surface thereof with a longitudinal groove or seat (indicated most clearly at J, Fig. 5) and extending the entire length thereof, said groove or seat adapted to receive a bolt K, said bolt passing through the clamp-jaws, and thus forming a lock for efficiently retaining the scraping-block A in place. Whenever the scraping-plates B become worn or broken and require replacement or renewal, the block A may be readily removed by loosening the bolt H and withdrawing bolt K from engaging relation with respect to the groove or seat J in the top surface of block A and then slipping said block A laterally from between the clamp-jaws E F. In the same manner a new scraping-block with scraping-plates may be introduced in place and clamped up.

From the foregoing description it will be seen that I provide an exceedingly simple construction of track-cleaning device or scraper, one that is economical in manufacture and which is capable of being readily and easily replaced or renewed, as the only part that requires replacement or renewal is the scraping-block A with the scraper-plates carried thereby, and such block may be most economically and easily cast and at small expense around or about the ends of the scraper-plates. It will also be seen that when in use only the end surfaces of the scraper-plates bear upon the rail to be cleaned or cleared of accumulated snow, ice, sleet, or the like, and hence the life of the device as a whole is greatly prolonged, as a scraper embodying the features of my invention may be continued in use until the scraper-plates wear down the entire portion thereof which project from their supporting-block.

The clamp device carrying the scraping-block and scraping-plates may be yieldingly supported, as above indicated, from the car body or truck in many different ways. In the form shown in Figs. 1, 2, and 3 the clamp device may be provided with a stem or plate L, mounted to slide vertically in a casting or bracket M, suitably bolted or otherwise secured to or forming part of a beam or sill N, and a spring O may be arranged to bear upon or to engage said shank or stem L, said spring normally acting to press the scraping device into engaging relation with respect to the track or rail. In the particular form shown in Figs. 1, 2, and 3, to which, however, my invention is not limited or restricted, the end of shank or stem L is provided with a slot or opening P, through which projects the curved or bent end of a flat or leaf spring O, said spring being bolted or otherwise suitably secured to the beam N or to a cross-beam or other portion Q of the car body or truck. In order to hold or maintain the scraping device out of commission or elevated above the surface of the rail, the stem or shank L may be provided with a hole or opening adapted to receive when in elevated position a pin R. If desired and in order to form a lock for said pin, it may be formed in the shape of a crank-pin, adapted to be passed through an opening in the bracket or casting M, and the casting M may, if desired, be provided with a keeper S to retain the pin R in place when serving as an elevating support for the cleaning device. By this construction it will be seen that I provide against the possibility of the support which holds the scraping device in elevated position working loose or being jarred or jolted out of place. When it is desired to use the scraping device, the crank-pin R is rocked into disengaging relation with respect to keeper S and said pin is withdrawn, thereby permitting the tension of spring O to yieldingly depress the scraping device into contact with the rail. If desired, and as indicated at T, the beam N may be provided with a hole or opening adapted to receive the crank-pin R when said pin is withdrawn as a support for the scraping device, thus providing a handy and convenient location for said pin ready for use whenever required.

In Fig. 6 I have shown a modified construction embodying the principles of my invention, wherein the block A′, carrying the scraping-plates B′, is supported in the free end of a curved spring O′, said end having a guide bearing in a slot (indicated at V) in a keeper-bracket C′, secured to a supporting-beam N′. By this construction it will be readily seen that the tension of spring O′ is exerted upon the scraping device in a direction to yieldingly press the same into engagement with the track-rail. At its other end spring O′ is loosely pivoted or held upon a bolt D′, carried in a lug E′, bolted or otherwise secured to the beam N′. The tension exerted by spring O′ to press the scraper-block A′ and scrapers B′ upon the rail may be regulated by an adjusting-bolt F′.

It is obvious that many other variations and changes in the details of construction and arrangement would readily occur to persons skilled in the art and still fall within the spirit and scope of my invention. I do not, therefore, desire to be limited or restricted to the exact details of construction and arrangement shown and described; but,

Having now set forth the object and nature of my invention and illustrative forms of construction embodying the principles thereof, what I claim as new and useful and of my own invention, and desire to secure by Letters Patent of the United States, is—

1. A track-cleaning device, comprising a block or casting carrying scrapers, said casting provided with a groove or seat extending longitudinally thereof, a holder for said block or casting, a bolt carried by said holder and arranged to engage in said seat or groove to hold said block against lateral displacement, and means for supporting said holder, as and for the purpose set forth.

2. A track-cleaning device, comprising a block or casting carrying scrapers, a holder for said block or casting, including detachable clamp-jaws arranged to engage the ends of said scraper to support the same, a bolt for clamping said jaws together, said bolt arranged to engage said casting, and means normally acting to yieldingly press said holder toward the track or rail to be cleaned, as and for the purpose set forth.

3. A track-cleaning device, comprising a block or casting carrying scrapers, a holder including clamp-jaws having flanges arranged to engage underneath the ends of said block or casting to support the same, a bolt for clamping said jaws together, said bolt arranged to engage said casting for preventing displacement thereof in said clamp-jaws, and means for supporting said holder, as and for the purpose set forth.

4. A track-cleaning device, comprising a block or casting carrying scrapers, clamping-jaws arranged to form a detachable holder for said block or casting, a spring acting upon said holder and normally operating to press said holder toward the track or rail, and means for supporting said holder against the action of said spring and in position to maintain said scrapers out of contact with the rail, as and for the purpose set forth.

5. A track-cleaning device, including one or more scrapers, clamping-jaws arranged to form a holder therefor, said holder provided with a stem, a guide in which said stem is mounted, a spring arranged to bear on said stem, and a pin carried by said guide and arranged to engage said stem to hold the scraper in position out of contact with the rail, as and for the purpose set forth.

6. A track-cleaning device comprising a scraper, a detachable clamping-support therefor, a guideway in which said support is mounted to slide, a spring bearing on said support, a stud carried by said guideway and arranged to engage said stem when the latter is in raised position to hold the scraper out of operative relation against the action of said spring, and means for locking said stud, as and for the purpose set forth.

7. In a track-cleaning device, the combination of the following elements: a beam or support, a casting carried thereby and having a guideway, a holder having a stem operating in said guideway, a flat or leaf spring carried by said beam and arranged to bear at the free end thereof upon said stem, a crank pin or stud arranged to detachably engage said stem to hold the same in elevated position against the action of said spring, a keeper for locking said pin or stud, and a scraping device carried by said holder, as and for the purpose set forth.

In witness whereof I have hereunto set my hand, this 7th day of December, 1900, in the presence of the subscribing witnesses.

FRANK HEDLEY.

Witnesses:
C. H. SEEM,
S. E. DARBY.