

No. 677,696.

Patented July 2, 1901.

M. POWER.
RAILWAY TRACK CLEANER.

(Application filed Nov. 19, 1900.)

(No Model.)

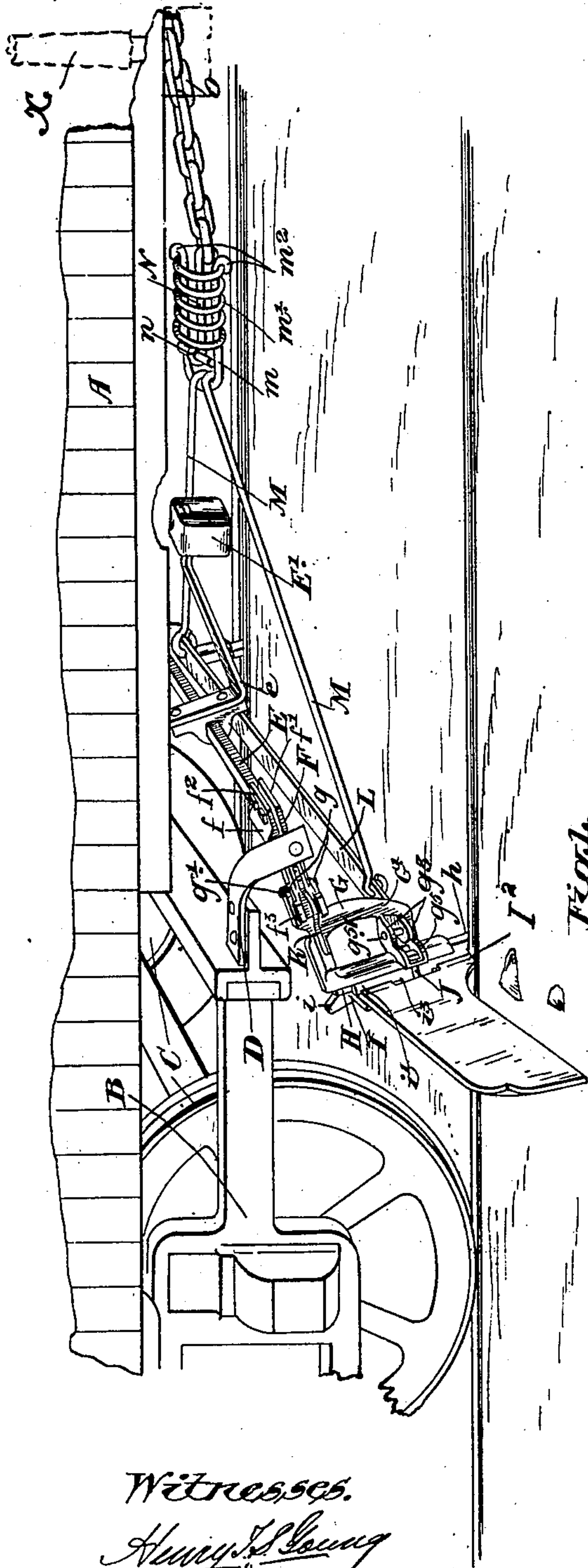


Fig. 1.

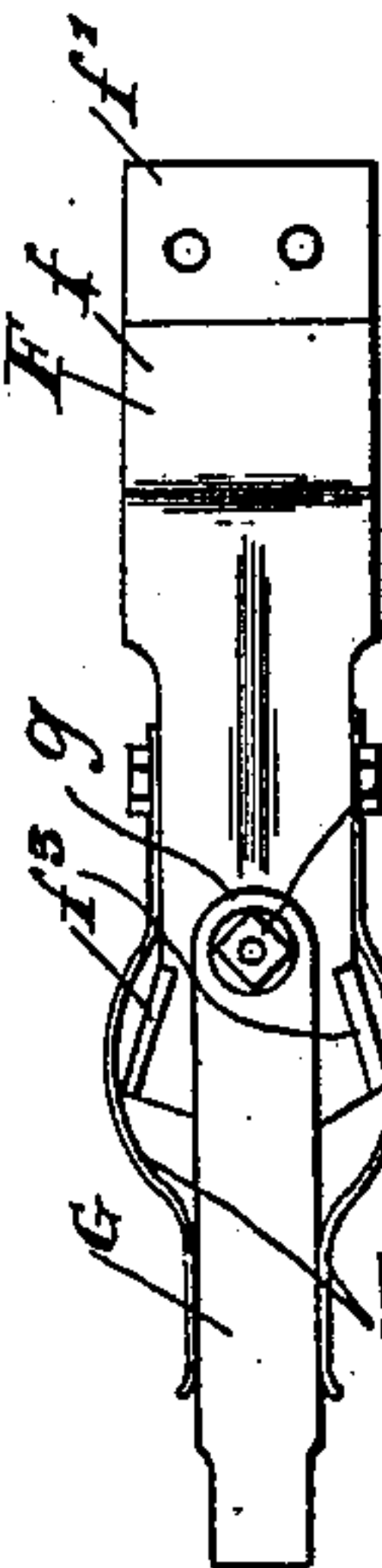


Fig. 2.

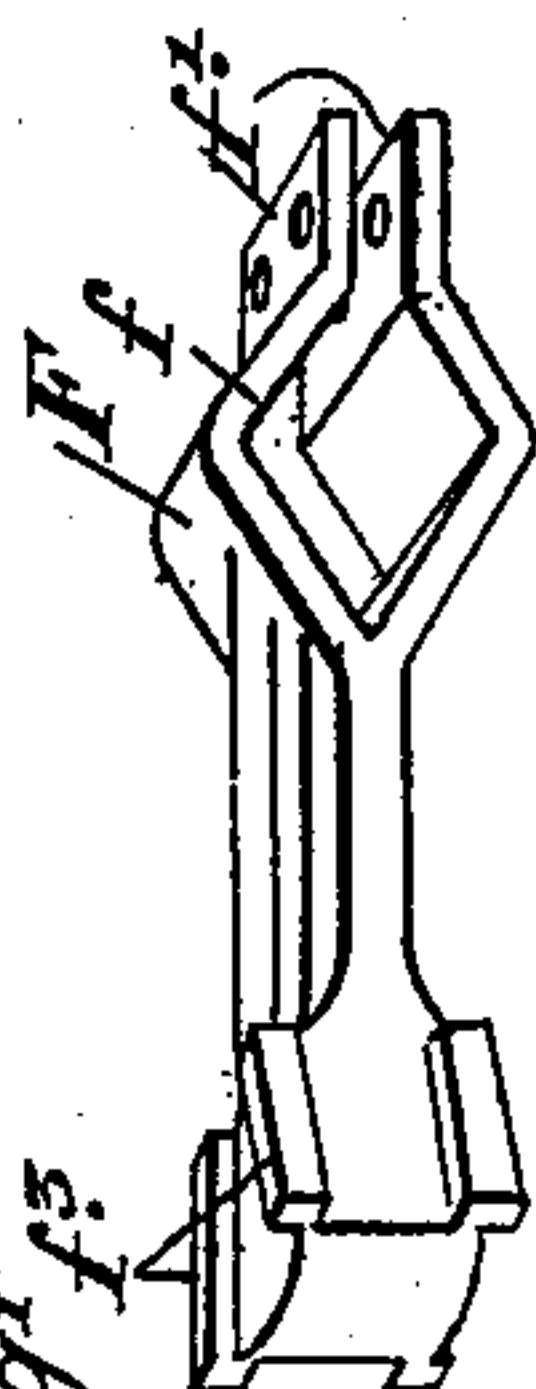


Fig. 3.

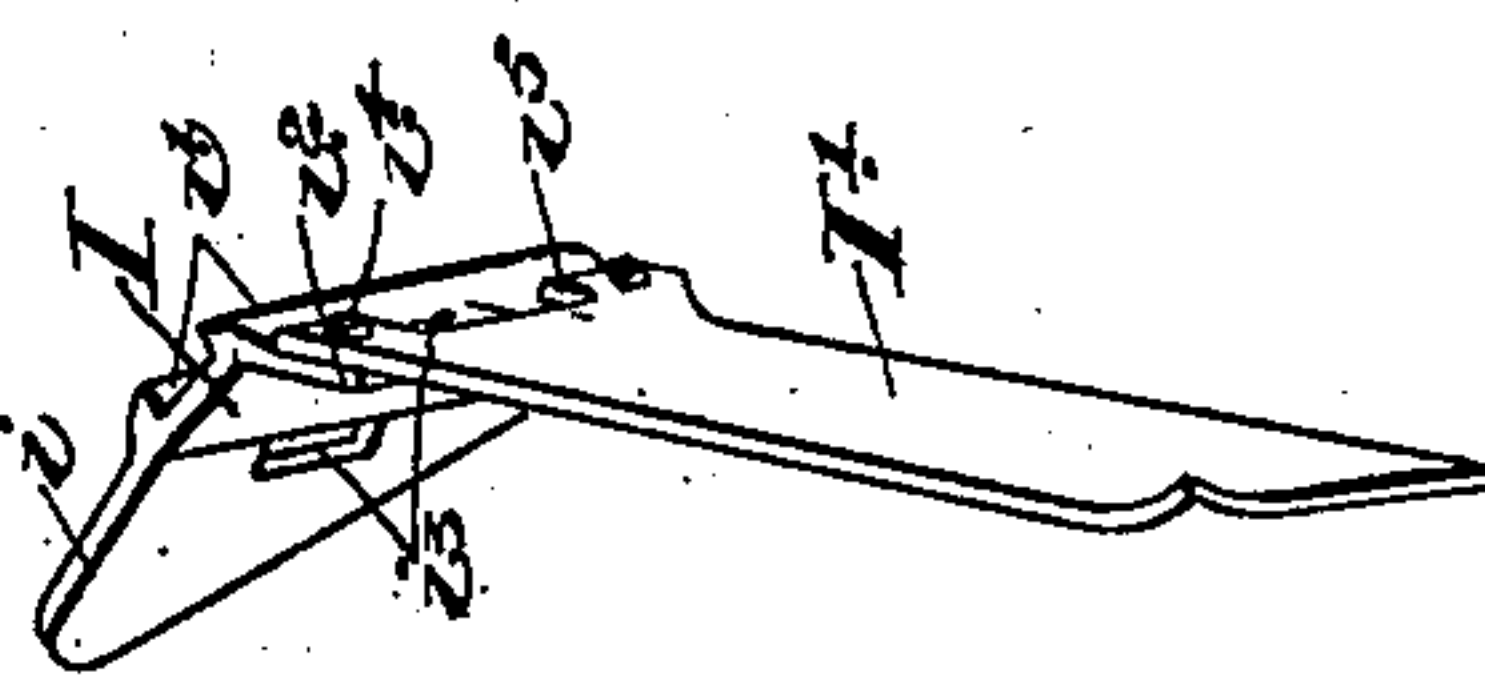


Fig. 4.

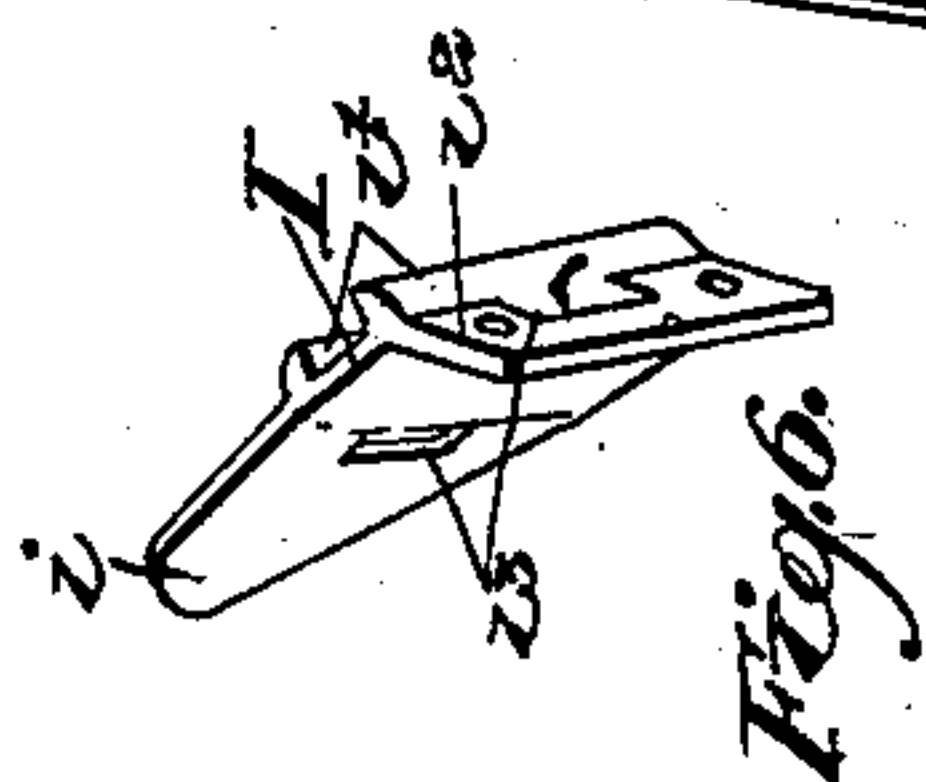


Fig. 5.

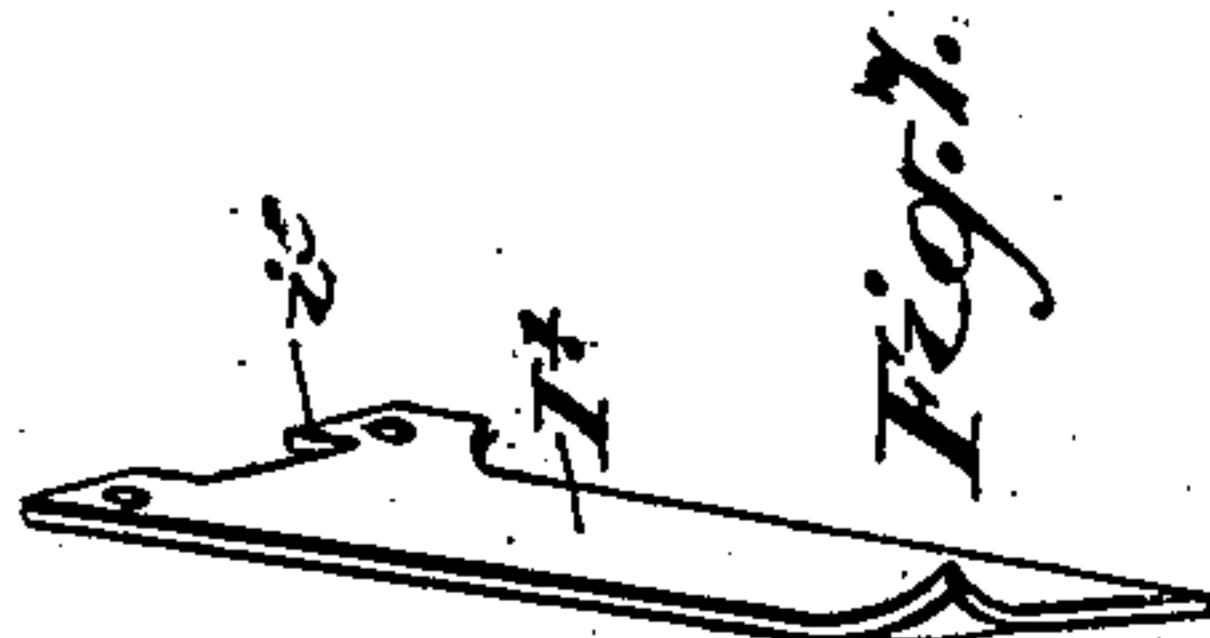


Fig. 6.

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MICHAEL POWER, OF TORONTO, CANADA.

RAILWAY-TRACK CLEANER.

SPECIFICATION forming part of Letters Patent No. 677,696, dated July 2, 1901.

Application filed November 19, 1900. Serial No. 36,999. (No model.)

To all whom it may concern:

Be it known that I, MICHAEL POWER, of the city of Toronto, in the county of York, in the Province of Ontario, Canada, have invented certain new and useful Improvements in Railway-Track Cleaners, of which the following is a specification.

My invention relates to improvements in railway-track cleaners patented to me in the United States of America under No. 576,612 on the 9th of February, 1897; and the object of the invention is to improve the construction of my track-cleaner, so that the twisting strain will be relieved from the rocker-shaft and the strain on the tool and shovel will come practically directly upon the rods and in which also the tools will be held to move parallel when rounding a curve; and it consists, essentially, of a rocker-shaft held in the end of hangers secured to the truck-frame and having connected thereto the tool-holding frame, to which are suitably connected the tool and shovel, the tool-frames being connected together by a cross-bar, to which are connected the tie-rods near the ends, such tie-rods extending forwardly to the relief-spring, which is connected by a chain to the operating-mast, the parts being otherwise constructed and arranged in detail as hereinafter more particularly explained.

Figure 1 is a perspective view of a portion of the front of the truck and car, showing the construction and arrangement of my invention. Fig. 2 is a plan view of the tool-holding frame. Fig. 3 is a detail of the tool-frame. Fig. 3^a is a detail of the supporting-arm. Fig. 4 is a detail of the tool. Fig. 5 is a detail of the shovel complete. Figs. 6 and 7 are details of the two parts of the shovel separated.

In the drawings like letters of reference indicate corresponding parts in each figure.

A is the body of the car; B, a portion of the truck; C C, the wheels, and D the hangers, which extend forwardly from the truck B. One hanger only is shown, and the other is on the opposite side of the car.

E is a rocker-shaft, which is preferably secured and suitably journaled in the ends of the hangers D. The rocker-shaft has attached to it an arm *e*, upon the forward end of which is supported a weight E'.

F is a supporting-arm, which is provided with a square socket *f* and forward extensions *f'* *f'*, which are clamped together by the bolts *f*², so as to securely hold the arm upon the rocker-shaft E. The rear end of the arm F is provided with stops *f*³, as shown, on each side.

G is the tool-holding frame, which is provided with the front jaws *g*, through which passes the bolt *g'*, which also passes through the rear end of the supporting-arm F. The holding-frame G has a downward extension G' at the front and a similar extension G² at the rear, provided with the recess *g*⁶, in which are arranged ratchet-shaped teeth *g*². The front downward extension extends rearwardly in two parts *g*³ *g*³, both of which have bolt-holes *g*⁴, one directly underneath the other.

*g*⁵ is a lug extending laterally from the downward extension G², one of such lugs being provided at each side.

H is the tool, which is provided with a sharp lower end *h* and a pointed upper beveled end *h'*. This pointed end *h'* is designed to fit into one of the teeth of the rack *g*². By this means it will be seen that I provide for the vertical adjustment of the tool in the tool-holder. To hold such tool in position, I have a back plate I, which has an inwardly-extending wing *i* and front ribs *i'* *i'*. The plate I has also an outwardly-extending wing *i*². Both the wings *i* and *i*² are provided with slots *i*³ on the outside of the ribs *i'* *i'*. The back plate I is made, preferably, of malleable iron and has attached to the outer wing *i*² by suitable bolts *i*⁴ the shovel or plow I', which is of the form shown, with a downward extension I² at the inside, which is designed to move along the surface of the outside of the rail. The plate I is placed to the rear of the tool H, the ribs *i'* *i'* passing to each side of the tool, and such tool is held in position by means of bolts J, which pass through the slots *i*³ in the back plate I and forwardly through the lugs *g*⁵, thereby securely holding the tool and shovel in place. Of course the bolts passing through a slot *i*⁵ in the shovel and the slots *i*³ in the plate necessarily allow of a limited upward movement of the shovel without, however, disturbing the tool.

K represents flat springs, which are curved,

as shown, and fastened by a suitable bolt to the rear end of the arm F. The springs K extend rearwardly to each side of the tool-holding frame and serve to keep it and the tool in alinement with the track, but yet are of sufficient resilience to allow of such tool-holding frame swinging as the tools are passing around the curve. The tool-holding frames on each side of the car are connected together by a cross-bar L, which is securely held in the straddle-lugs g^3 and g^4 by the bolts g^{51} . It will thus be seen that the tools in passing around a curve work parallel and freely together.

Near the ends of the cross-bar L are connected the hook-shaped ends of the rods M, which are connected at the front to the U-shaped link m , upon which is held the spiral spring m' by the hooked ends m^2 . The rear end of the spiral spring extends through an eye n in the bar N, which is connected by a chain O to the brake-mast X, (shown in dotted lines,) the operation of which is not necessary here to describe.

Under normal conditions the tool and shovels of the track-cleaner are preferably held clear of the tracks by means of the weight E'. When it is desired to clean the track, the brake-mast is operated so as to pull forwardly upon the chain O and cause a direct pull to be made upon the tool-holding frame itself in close proximity with the point of the tool, which is an important desideratum, as all twisting strain is relieved from the rocker-shaft and the strain applied almost in a direct line to where the tool meets the resistance. Of course any extra strain is relieved by the spring m , and if the shovels meet an obstruction they will naturally rise, so as to clear it, being held down, of course, normally by the spring m' .

The spring m' is preferably held in compressed form, as in practice the effect is more beneficial by reason of less liability to breakage. The spring m' is a very important feature in other respects, as it enables the operator at the brake-mast to bring the tools into operative position with greater rapidity and force, as such spring allows of a more exact adjustment of the brake-mast as well as providing for the oscillation of the truck-frame.

What I claim as my invention is—

1. In a track-cleaning device, the combination with the rocker-shaft and suitable supports for the ends of the same on the truck-frame, of the tool-holding frames secured at the forward end on the rocker-shaft, the tools suitably held therein, means for counterbalancing the weight of the tools and frame to normally hold said tools elevated, the cross-bars connected at their ends by bolts or their equivalents to the lower end of the tool-holding frame and means for operatively connecting the cross-bar to the operating means as and for the purpose specified.

2. In a track-cleaning device, the combination with the rocker-shaft and suitable sup-

ports for the ends of the same on the truck-frame, of the tool-holding frames secured at the forward end on the rocker-shaft, the tools suitably held therein, means for counterbalancing the weight of the tools and frame to normally hold said tools elevated, the cross-bars connected at their ends by bolts or their equivalents to the lower end of the tool-holding frame and the forwardly-extending rods, the operating-mast and a suitable connection between such rods and the mast as and for the purpose specified.

3. In a track-cleaning device, the combination with the rocker-shaft and suitable supports for the ends of the same on the truck-frame, of the tool-holding frame secured at the forward end on the rocker-shaft, the tools suitably held therein, the cross-bars connected at their ends by bolts or their equivalents to the lower end of the tool-holding frame and the forwardly-extending rods, the operating-mast, the U-shaped link to which the front ends of the rod are connected provided with hooked ends, the spiral spring encircling the U-shaped link, the bar extending into the spring and having an eye to receive the rear end of the spiral spring, the mast and the chain connecting the bar to the mast as and for the purpose specified.

4. In a track-cleaning device, the combination with the rocker-shaft and suitable supports for the ends of the same on the truck-frame and tool-holding frames secured at the forward end on the rocker-shaft and having downwardly-extending front portions and rear portions connected together by the straddle-lugs, the cross-bar extending between the straddle-lugs at each end, and the bolts extending through straddle-lugs and the ends of the cross-bar and the tool suitably secured in the supporting-frame and means for connecting the cross-bar to the operative means as and for the purpose specified.

5. In a device of the class described, the combination with the rocker-shaft and support therefor, of the supporting-arms secured at their forward end to said shaft, and having diverging stops at the side edges of their upper and lower faces, the tools, the supporting-frames therefor having jaws inclosing said rear end of said arms and pivotally connected to the same, said jaws being confined by said stops and springs secured to the arms coacting with said tool-supporting frames, substantially as described.

6. In a device of the class described, the combination with the tool-supporting frame suitably held in position and provided with a downwardly-extending rear portion having a rear recess provided with teeth and having laterally-extending lugs on each side of such downwardly-extending portions, of the back plate provided with the ribs and slots on each side of the ribs, such ribs being designed to fit on each side of the tool and the bolts extending through the slots in the back plate and shovel and through the laterally-extend-

ing lugs in the tool-holding frame as and for the purpose specified.

5 7. The combination with the tool-holding frame having the laterally-extending rear lugs, of the back plate having the shovel secured to one side thereof provided with a downwardly-extending inner portion, the recess in front of the back plate, the slots in the back plate and shovel and the bolts ex-

tending through the slots in the back plate to and shovel and holes in the laterally-extending lugs whereby a limited vertical adjustment to the shovel and plate is permitted as and for the purpose specified.

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Witnesses:

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