

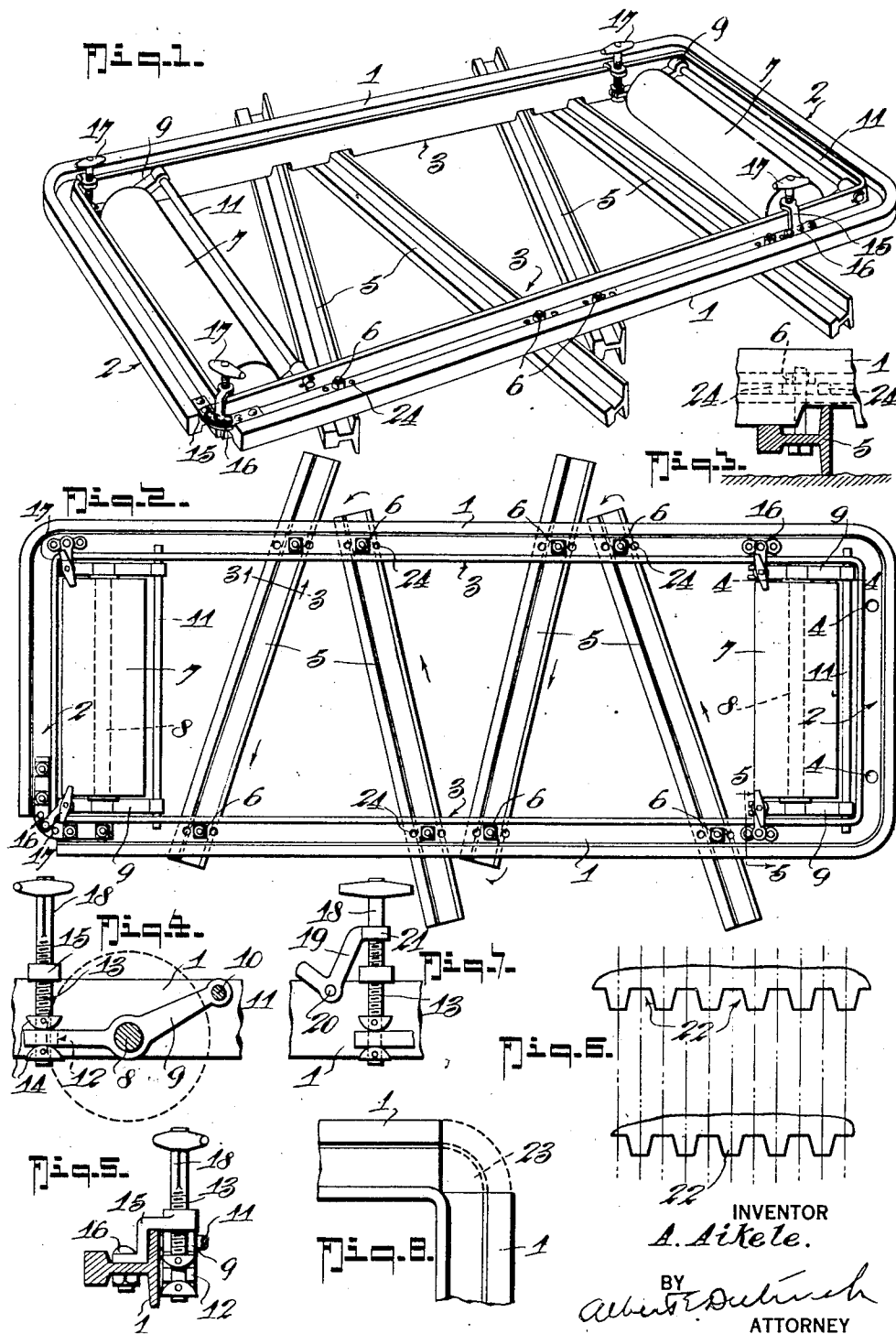
March 27, 1928.

1,663,965

A. AIKELE

ROAD DRAG

Filed April 16, 1926



UNITED STATES PATENT OFFICE.

ANDREAS AIKELE, OF MOORE, IDAHO.

ROAD DRAG.

Application filed April 16, 1926. Serial No. 102,584.

The invention generally relates to road drags and primarily has for its object to provide a device of that general character which is particularly simple of construction, in which the drag elements are so positioned as to insure the desired reduction of road humps and the filling of road hollows, in which the depth of penetration of the drag elements may be adjusted or varied, and which is so designed that it may be economically constructed of worn and discarded railroad trackage rails.

In its more detailed nature the invention seeks to provide a device of the character stated in which is included a supporting framing, rollers upon which the frame is supported while dragged over the roadway, means for vertically adjustably mounting the rollers to vary the height of the framing above the roadway surface, and drag bars carried by the framing in alternating transverse angular relation to the direction of travel thereof over the roadway whereby to deposit successively one onto the next succeeding one thereof.

With the above and other objects in view that will hereinafter appear, the invention further resides in the novel details of construction, combination and arrangement of parts, all of which will be first fully described, then be particularly pointed out in the appended claims, reference being had to the accompanying drawing, in which:—

Figure 1 is a perspective view of a drag embodying the invention.

Figure 2 is a plan view of the invention.

Figure 3 is a detail cross section taken on the line 3—3 on Figure 2.

Figure 4 is a detail cross section taken on the line 4—4 on Figure 2.

Figure 5 is a transverse section taken on the line 5—5 on Figure 4.

Figure 6 is a diagrammatic plan view illustrating the relation of the road engaging edges of successive drag bars.

Figure 7 is a detail side elevation illustrating a lock device for cooperating with the roller adjusting screws.

Figure 8 is a plan view illustrating a slightly modified feature of the invention.

In carrying out the invention I provide a framing 1 preferably constructed by bending a length of worn and discarded railway trackage into the shape illustrated in Figures 1 and 2 of the drawing to form an open rectangular frame. The frame includes the

ends 2 and sides 3, one of the side ends being provided with suitable holes 4 to facilitate connection of the device with any suitable motive power for dragging the same over the surface of a roadway.

A plurality of drag bars 5 are provided, being also cut from worn and discarded track rails, and are secured to the sides 3 of the frame, as at 6, in transverse alternately angled relation to the direction of travel of the drag with the cutting or scraping edges thereof provided by one edge of the base flanges of the rails presented to the surface of the roadway.

By thus positioning the drag bars each thereof is positioned to include an advance receiving end and a receding discharge end, the receiving end of each drag bar being extended laterally beyond the receding end of the preceding drag bar which discharges thereunto in the manner indicated in Figure 2 of the drawing.

In this manner the scrapings accumulated while the device is being dragged over the roadway are diverted from side to side along the surface of the said roadway zigzag fashion, thus efficiently removing all humps and upward projections in the said surface and, by causing the said scrapings to be diverted from side to side within the confines of travel of the drag to insure the filling of any hollows that may be present in the said roadway. This feature presents a great improvement over the common types of drags where the scrapings are deposited laterally at one side or the other of the drag making impossible the proper filling of depressions in the roadway and the cutting down of the surface thereof in undesirable manner.

A transverse supporting roller 7 is mounted at each end of the drag for the purpose of supporting the framing as the device is drawn along the ground, means being provided for vertically adjusting the rollers to vary the elevation of the framing above the roadway surface.

Each roller 7 is provided with a shaft 8, the projected ends of which have bearing in hangers or bearing arms 9 pivoted, as at 10, on the cross arm 11 secured across the framing adjacent the respective ends thereof.

The free ends of the arms 9 each terminate in a forked head 12 adapted to straddle an adjusting screw 13 having spaced heads 14 at one end thereof adapted to engage the

upper and lower faces of the heads 12, and the other end thereof being threaded through a screw bearing 15 secured as at 16 to the respective side rail 3 and terminating in a turning handle 17 whereby the screws may be rotated to raise or lower the rollers for the purpose specified.

The screws 13 may be provided with flattened sides 18 and a lock dog 19 may be provided and pivoted as at 20 to the respective side rails in position for having the bifurcated end 21 thereof engage the flattened portion of the screws to lock the same against inadvertent rotation, thus locking the rollers at their desired adjusting positions.

The road engaging edges of the drag bars may be toothed as at 22 if desired and when thus constructed the teeth of successive drag bars are alternately arranged so that the teeth of a following drag bar will follow a line of travel centered on the spaces between the teeth of the bar which the same is following, thus insuring efficient scraping of the whole of the roadway surface, see Figure 6.

By reference to Figure 8 it will be observed that the corners of the rectangular frame may be cut out as at 23 to facilitate bending of the rail into the rectangular form shown.

As will be observed by reference to Figure 2 of the drawing the side rails of the framing and the drag bars may be provided with a plurality of apertures 24 to facilitate adjustment of the side drag bars upon the said framing to any angled position desired.

To provide for proper connection of the drag bars with the framing side rails the side rails may have the bases thereof notched as indicated in Figure 3 thus providing for the ground engaging relation of said bars illustrated in the said figure.

In operation, by adjusting the screws 13 the rollers 7 may be raised or lowered on their pivotal mountings to elevate or lower the frame with relation to the roadway surface to provide for the desired scraping engagement of the drag bars carried by the said frame.

As the drag is drawn over the roadway through the medium of any suitable motive power connected thereto, as at 4, the drag bars will engage the roadway surface, reducing all humps or projections therein to the desired mean level of the roadway surface, the scrapings being directed laterally zigzag fashion from side to side of the path of travel of the drag insuring not only the proper reduction of raised portions in the said roadway but also the filling of depressions therein.

While I have disclosed the drag as constructed from worn and discarded rails it is, of course, to be understood that the same

may be constructed of any other suitable material. I merely disclose the use of rails because of the great economy thus effected and the efficiency of a drag thus constructed because of the weight thereof and the drag edges provided thereby.

When the drag framing is bent from a single rail length as indicated in Figure 2 of the drawing, the ends thereof may be secured together by a suitable bracket 25.

It is to be understood that the rollers 7 also serve to "roll" the roadway surface in addition to supporting the frame 1.

From the foregoing description, taken in connection with the accompanying drawing, it is thought the novel details of construction, manner of use and the advantages of my invention will be readily apparent to those skilled in the art to which it relates.

What I claim is:

1. A road drag comprising a framing, drag bars secured to the framing with the edges thereof presented for engagement with the surface of the roadway, rollers for supporting the framing above the ground, and adjustable mounting means for mounting the rollers on the framing in a manner permitting adjustment of the height of the framing from the ground, said mounting means comprising a pivot rod associated with each roller and mounted on the frame, bearing members for each roller pivoted at one end to the respective pivot rod and providing rotatable bearing for the roller, and means for elevating and lowering the free ends of the bearing members to vary the position of the rollers relatively to the framing, said elevating means each comprising a screw bearing secured to the framing, an adjusting screw operable through the screw bearing and having a turning handle, and upper and lower abutment members secured on the lower end of the adjusting screw and adapted for engaging above and below the free end of the respective pivoted bearing member to raise and lower said free end accordingly as said adjusting screw is screwed up or down.

2. A road drag comprising a framing, drag bars secured to the framing with the edges thereof presented for engagement with the surface of the roadway, rollers for supporting the framing above the ground, and adjustable mounting means for mounting the rollers on the framing in a manner permitting adjustment of the height of the framing from the ground, said mounting means comprising a pivot rod associated with each roller and mounted on the frame, bearing members for each roller pivoted at one end to the respective pivot rod and providing rotatable bearing for the roller, and means for elevating and lowering the free ends of the bearing members to vary the position of the rollers relatively to the framing, said elevating means each comprising a screw

bearing secured to the framing, an adjusting screw operable through the screw bearing and having a turning handle, and a non-circular shank portion beneath the handle, and upper and lower abutment members secured on the lower end of the adjusting screw and adapted for engaging above and below the free end of the respective pivoted bearing member to raise and lower said free end accordingly as said adjusting screw is screwed up or down, and a lock device associated with each elevating means comprising a lock lever having one end pivoted to the frame and the free end forked and adapted when brought into junction to engage the non-circular adjusting screw portion to secure it against rotation.

3. In a road drag, a frame composed of a single length of discarded rail-road rail bent to form an open rectangle with the base flange of the rail turned inwardly and provided with drag edge accommodating notches in its lower edge and of a depth extending below the rail head at the respective side, a plurality of drags each comprising a discarded rail length and secured to the frame with one base edge in the receiving notches at opposite sides of and resting against the head of the rail forming the frame and the remaining edge presented to the ground, and means for adjustably mounting the drags on the frame in alternately angled relation.

4. In a road drag, a frame composed of a single length of discarded rail-road rail bent to form an open rectangle with the base flange of the rail turned inwardly and provided with drag edge accommodating notches in its lower edge and of a depth extending below the rail head at the respective side, a plurality of drags each comprising a discarded rail length and secured to the frame with one base edge in the receiving notches at opposite sides of and resting against the head of the rail forming the frame and the remaining edge presented to the ground.

5. In a road drag, a frame composed of a single length of discarded rail-road rail bent to form an open rectangle with the base

flange of the rail turned inwardly and provided with drag edge accommodating notches in its lower edge and of a depth extending below the rail head at the respective side, a plurality of drags each comprising a discarded rail length and secured to the frame with one base edge in the receiving notches at opposite sides of and resting against the head of the rail forming the frame and the remaining edge presented to the ground, rollers for supporting the framing above the ground, and adjustable mounting means for mounting the rollers on the framing in a manner permitting adjustment of the height of the framing from the ground, said mounting means comprising a pivot rod associated with each roller and mounted on the frame, bearing members for each roller pivoted at one end to the respective pivot rod and providing rotatable bearing for the roller, and means for elevating and lowering the free ends of the bearing members to vary the position of the rollers relatively to the framing, said elevating means each comprising a screw bearing secured to the framing, an adjusting screw operable through the screw bearing and having a turning handle, and upper and lower abutment members secured on the lower end of the adjusting screw and adapted for engaging above and below the free end of the respective pivoted bearing member to raise and lower said free end accordingly as said adjusting screw is screwed up or down.

6. In a road drag, a frame composed of railroad-rail arranged in the form of an open rectangle and provided with drag edge accommodating notches in its lower edge and of a depth extending below the rail head at the respective side, a plurality of drags each comprising a rail length and secured to the frame with one base edge in the respective notches at opposite sides of and resting against the head of the rail forming the frame and the remaining edge presented to the ground substantially as shown and described.

ANDREAS AIKELE.