

May 3, 1938.

W. S. NISSLY

2,116,407

ROAD MARKING MACHINE

Filed April 19, 1937

3 Sheets-Sheet 1

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3 Sheets-Sheet 2

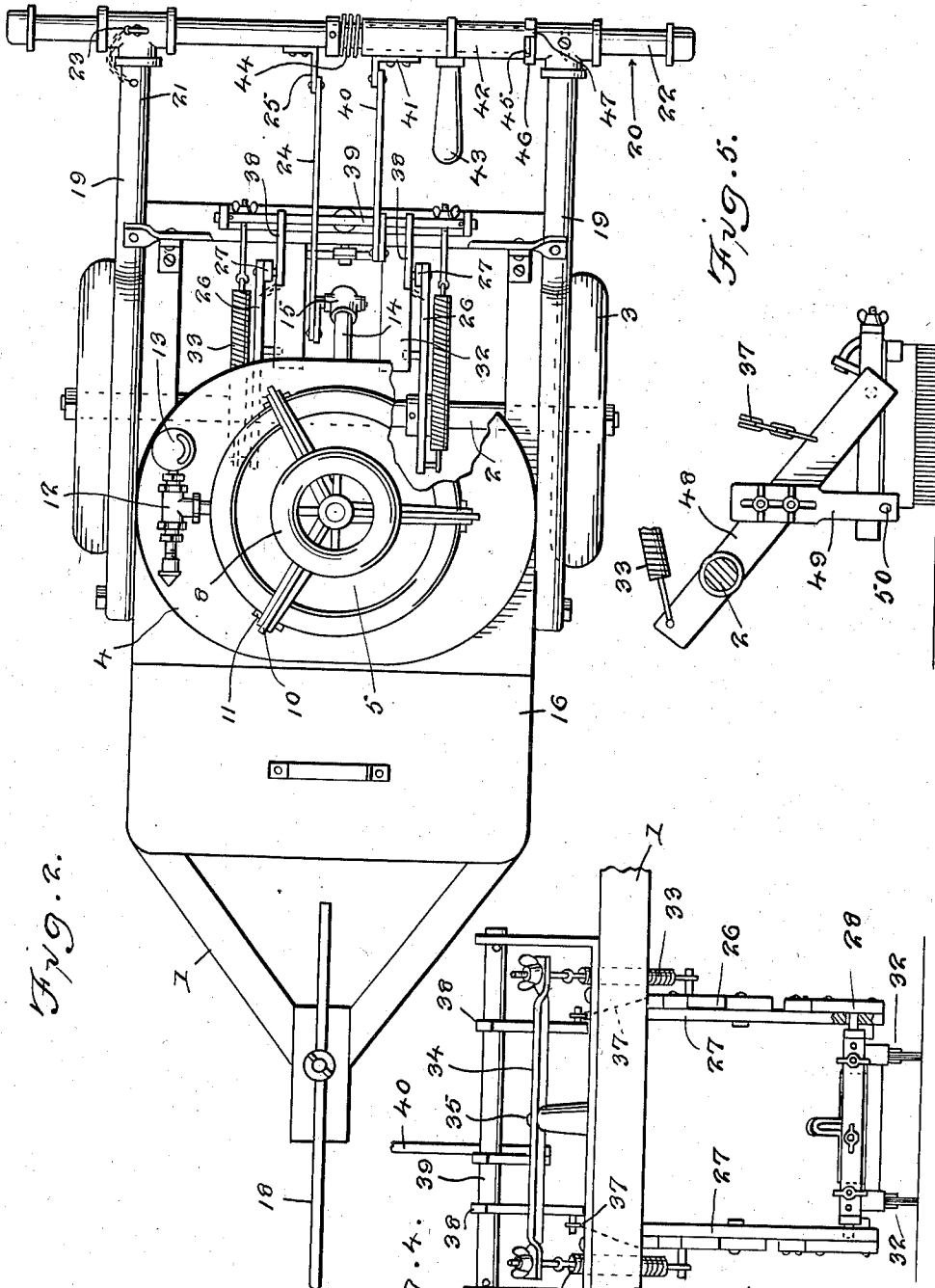


Fig. 4.

Fig. 5.

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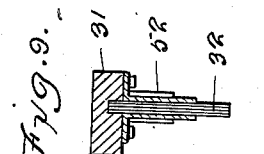
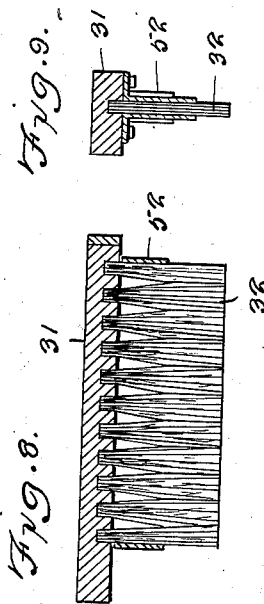
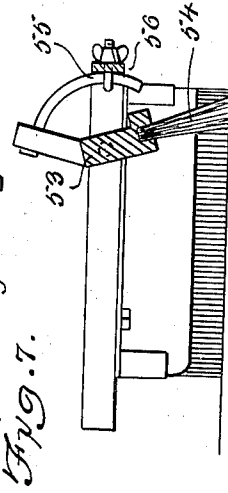
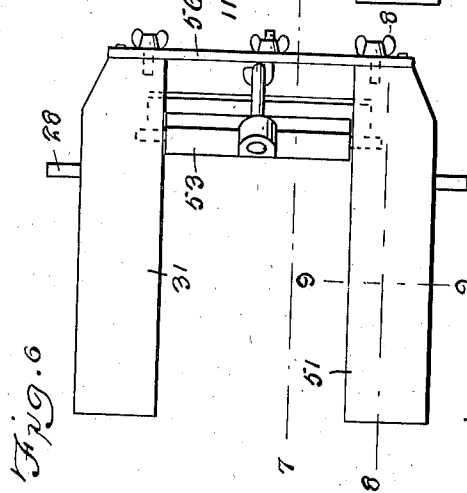
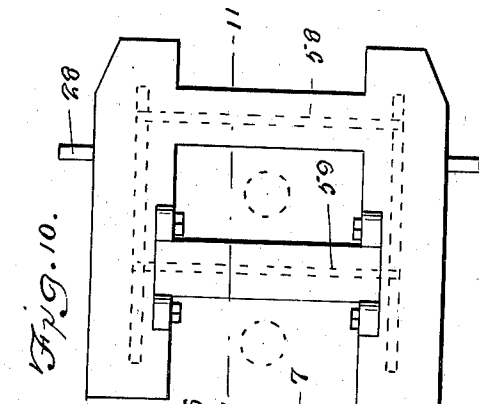
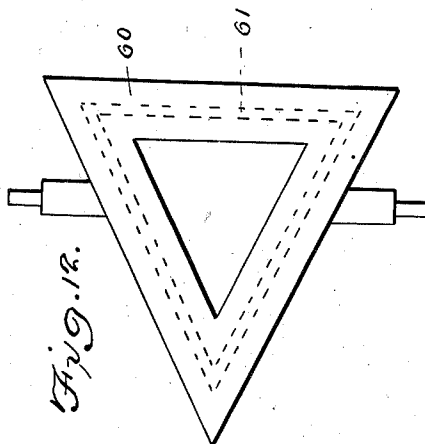
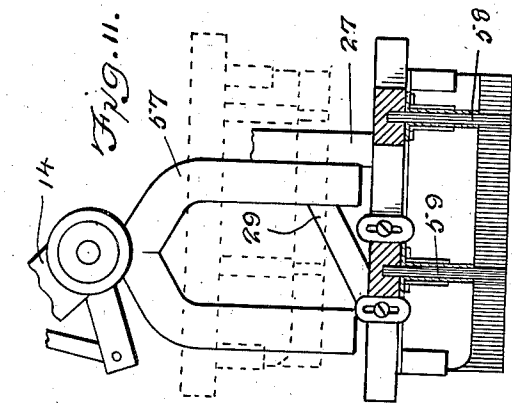
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UNITED STATES PATENT OFFICE

2,116,407

ROAD MARKING MACHINE

Walter S. Nissly, Florin, Pa.

Application April 19, 1937, Serial No. 137,809

3 Claims. (Cl. 91—12)

This invention relates to street or road marking machines especially adapted for quickly, accurately and evenly applying paint on roads or streets in stripe formation, and has for the primary object the provision of a portable device of this character which may be propelled with minimum effort and guided accurately along a predetermined path and which will assure an even distribution of paint on the surface of the street or road and may be easily rendered operative or inoperative.

With these and other objects in view, this invention consists in certain novel features of construction, combination and arrangement of parts to be hereinafter more fully described and claimed.

For a complete understanding of my invention, reference is to be had to the following description and accompanying drawings, in which

Figure 1 is a side elevation, partly in section, illustrating a road or street marking machine constructed in accordance with my invention.

Figure 2 is a top plan view illustrating the same.

Figure 3 is a fragmentary vertical sectional view illustrating paint applying means in an inoperative position.

Figure 4 is a fragmentary transverse sectional view showing the paint applying means in an operative position.

Figure 5 is a fragmentary vertical sectional view illustrating a modified form of my invention.

Figure 6 is a top plan view illustrating the paint applying brush.

Figure 7 is a sectional view taken on the line 7—7 of Figure 6.

Figure 8 is a sectional view taken on the line 8—8 of Figure 6.

Figure 9 is a sectional view taken on the line 9—9 of Figure 6.

Figure 10 is a fragmentary plan view illustrating a modified form of brush.

Figure 11 is a transverse sectional view illustrating the form of brush shown in Figure 10.

Figure 12 is a top plan view illustrating another modified form of brush.

Referring in detail to the drawings, the numeral 1 indicates a frame on which are secured axles 2 having journaled thereon ground wheels 3 preferably three in number so that the device may be more conveniently steered from the rear thereof. A paint reservoir 4 is mounted on the frame and is provided with a removable cover 5 held in position by a securing device 6 consisting of a feed stem 7 engageable with the cover at one end and provided with a hand wheel 8 at its other end and threaded in a bearing 9 forming integral parts of jaws 10. The jaws

10 are engageable with lugs 11 formed in the reservoir. The reservoir 4 when closed by the cover 5 is sealed against the escape of air and air pressure may be introduced in the reservoir 4 by an air fitting 12 equipped with a pressure gauge 13. An outlet pipe 14 is connected with the bottom of the reservoir and extends downwardly and rearwardly and is equipped with a control valve 15, the purpose of which is to regulate the flow of paint under pressure into the reservoir and permit the flow of paint to be stopped whenever desired. Arranged on the frame 1 and adjacent the reservoir 4 is a tool box 16 having a removable cover 17. A pointer 18 is adjustably secured to the forward end of the frame and is an aid to a person guiding the device along a predetermined marking or path.

A handle construction 19 consisting of a handle bar 20 supported by side bars 21 is employed by a person when propelling and guiding the device. The side bars are secured to the sides of the frame 1 and extend upwardly and rearwardly therefrom and the handle bar 20 includes sections 21 and 22. The section 22 is fixed on one of the side bars while the section 21 is journaled on the other side bar and may be locked against rotation by a removable pin 23. A link 24 is pivoted on the operating arm of the valve 15 and to a bracket 25 on the section 21 of the handle bar whereby the operator from a propelling position may open and close the valve as desired.

Journaled on the rear axle of the device are arms 26 and secured to the rear ends of said arms are vertically arranged attaching members 27 carrying at their lower ends pintles 28 and also secured to the attaching members are braces 29 which extend forwardly and downwardly and carry pins 30 engageable with a head 31 of a brush 32. The pintle pins of the pintles 28 fit in bearing openings in the head 31 and of a size to permit the head to have a side tilting movement in either direction. The journal ends of the arms 26 have connected thereto coil springs 33 which are in turn adjustably connected to an equalizing bar 34 pivoted on the frame 1, as shown at 35. The springs 33 act to urge the brush carrying ends of the arms downwardly to bring the brush in contact with the surface of the road or street and due to the way in which the brush is journaled on the attaching members 27 either side of the brush may tilt upwardly when engaging an obstruction and when passing thereover will be immediately brought to contact the surface of the road or street evenly by the springs 33. Links 36 are pivoted on the upper ends of the attaching members 27 and on the axle and parallel the arms 26. Flexible elements 37 are secured on the links and to arms 38. The arms 38 are secured on a shaft 39 journaled on 60

the frame 1. Connected to the shaft 39 is a connecting rod 40 which is in turn pivoted on an arm 41 carried by a sleeve 42 journaled and slidably mounted on the section 22 of the handle bar 20. A hand grip 43 is secured on the sleeve 42 to permit the operator to rotate said sleeve for a limited distance in either direction and also to slide the sleeve against the action of a spring 44. The spring 44 normally acts to urge a lug 45 on one end of said sleeve against a collar 46 provided with a notch 47. The lug 45 when it enters the notch 47 secures the sleeve 42 against rotation and in a position to support the brush elevated from the ground or in an inoperative position, as shown in Figure 3. As soon as the lug 45 is disengaged from the notch 47 the springs 33 act to move the brush into engagement with the ground.

Referring to my modified form of mounting of the brush on the axle, as shown in Figure 5, arms 48 are journaled on the rear axle and have connected to their forward ends springs 33 and carry at their rear ends pintles to engage in the journal openings of the brush head. Plates 49 are adjustably mounted on the arms 48 and carry pins 50 to engage with the brush head. The flexible elements 37 are connected to the arms 48 rearwardly of the journal of said arms. The brush mounting shown in Figure 5, operates similar to the brush mounting described in connection with Figures 1 to 3 of the drawings.

The head 31 of the brush 32 includes spaced longitudinally extending members 51 to which tufts of bristles are secured. The tufts of bristles are arranged on each member 51 in a longitudinal row and have applied thereto a guard 52 acting as a reinforcement for the tufts of bristles. A transverse member 53 is pivoted on the members 51 and carries a row of tufts of bristles 54. The tufts of bristles carried by the member 53 are arranged at right angles to the tufts of bristles carried by the member 51. Therefore, the rows of tufts of bristles described form therebetween a space in which is discharged the paint from the reservoir 4 so that said paint when engaged by the bristles will be smoothed into stripe formation. The angle of inclination of the member 53 may be varied by an adjusting means 55. The members 51 are connected together by a brace 56 which supports the adjusting means 55. The brace 56 is located well above the surface of the ground when the bristles are in engagement therewith so as not to interfere with the paint.

Referring to my modified form of invention the transverse row of bristles are located intermediate the ends of the members 51 and the paint is discharged both forwardly and rearwardly of the transversely arranged bristles, as indicated by the dotted line in Figure 10. In this instance, the control valve has connected thereto spaced nozzles 57, as shown in Figure 11. The form of brush, as shown in Figures 10 and 11 besides having the transversely arranged bristles intermediate the ends of the side members 51 also has a transverse row of bristles, indicated by the character 58, which trails the other row of bristles and which are indicated by the character 59. Instead of forming the brush head of substantially U-shape, as shown in Figure 6, it may be constructed of triangular shape, as indicated by the character 60, and the rows of bristles extend along all sides of the triangle, as indicated

by the character 61. The triangular shaped head has the apex thereof disposed in the direction of the forward end of the machine.

What is claimed is:

1. A machine of the character described comprising a portable frame, a reservoir mounted on said frame to contain paint, means for placing the paint in the reservoir under air pressure, a discharge pipe connected to the reservoir and extending downwardly and rearwardly therefrom, a control valve for the discharge pipe, a brush mounting carried by the frame and adjustable in an upward and downward direction, a brush carried by said mounting and of a shape to provide a space in which the paint may be discharged for contact with the ground to permit the brush to formulate the paint on the surface of the ground in stripe formation, a handle construction secured to said frame and having a handle bar including sections, one free for rotation and the other fixed against rotation, means connecting the rotatable section to the valve to permit opening and closing of said valve, said handle construction having a notch, a sleeve journaled on the fixed section of the handle bar and having a projection to enter said notch for locking the sleeve against rotation, said sleeve having a limited sliding movement, a spring acting on said sleeve to urge the projection into the notch, means connecting said sleeve to the brush mounting, and a hand grip secured to said sleeve.

2. A machine of the character described comprising a portable frame, a reservoir mounted on said frame to contain paint, means for placing the paint in the reservoir under air pressure, a discharge pipe connected to the reservoir and extending downwardly and rearwardly therefrom, a control valve for the discharge pipe, a brush mounting carried by the frame and adjustable in an upward and downward direction, a brush carried by said mounting and of a shape to provide a space in which the paint may be discharged for contact with the ground to permit the brush to formulate the paint on the surface of the ground in stripe formation, a handle construction secured to said frame and having a handle bar including sections one free for rotation and the other fixed against rotation, means connecting the rotatable section to the valve to permit opening and closing of said valve, said handle construction having a notch, a sleeve journaled on the fixed section of the handle bar and having a projection to enter said notch for locking the sleeve against rotation, said sleeve having a limited sliding movement, a spring acting on said sleeve to urge the projection into the notch, means connecting said sleeve to the brush mounting, a hand grip secured to said sleeve, and means for releasably securing the rotatable section against rotation.

3. A road marking machine comprising a portable structure including a paint supply and discharge means, a brush mounting carried by said portable structure and capable of upward and downward movements, a brush including rows of bristles carried by said mounting and capable of a tilting movement on the mounting in opposite directions, spring means acting on said mounting to urge the bristles into engagement with a surface, and an operating means for raising and lowering said mounting.

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