Aug. 4, 1925. 1,548,383

H. M. PICKERSGILL

ROAD MARKING DEVICE

Filed June 21, 1923

Fig. 1

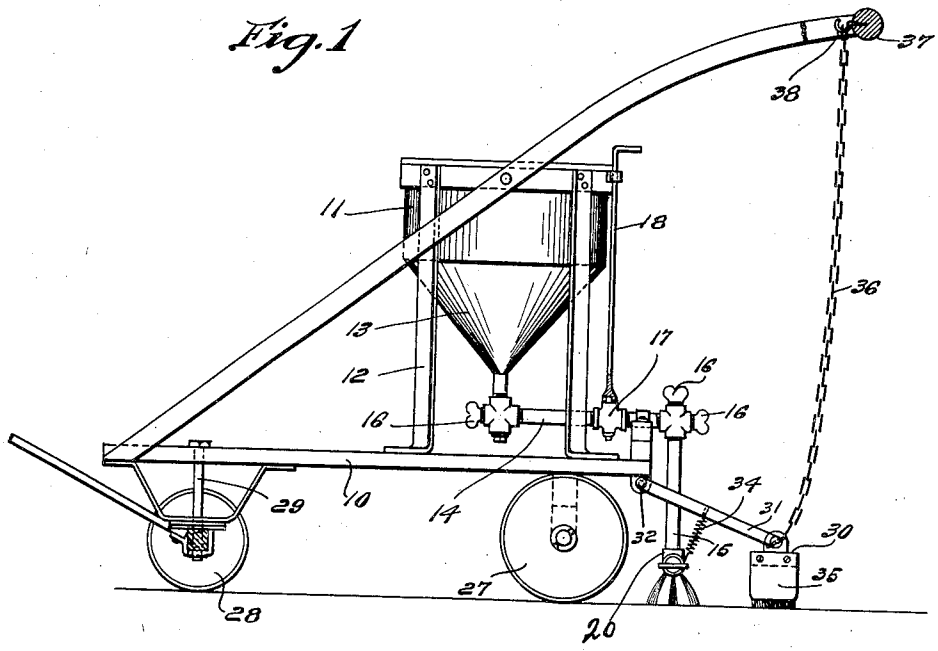


Fig. 2

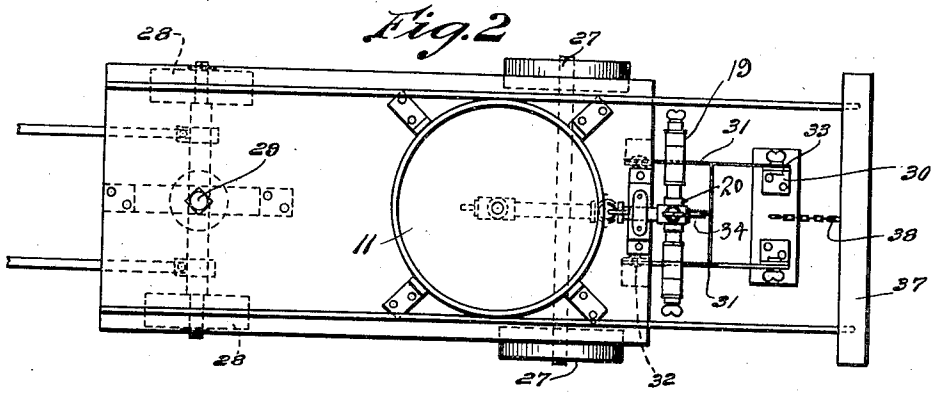


Fig. 6

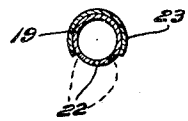


Fig. 4

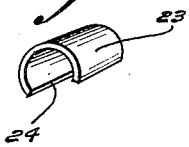


Fig. 3

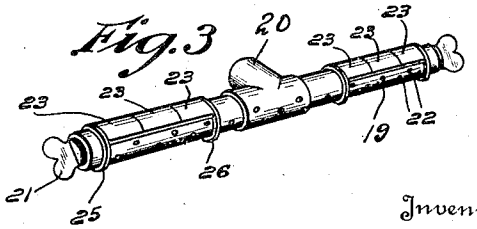
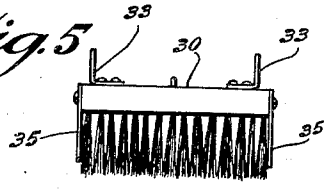


Fig. 5



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UNITED STATES PATENT OFFICE.

HENRY M. PICKERSGILL, OF EAST PROVIDENCE, RHODE ISLAND.

ROAD-MARKING DEVICE.

Application filed June 21, 1923. Serial No. 646,976.

To all whom it may concern:

Be it known that I, HENRY M. PICKERSGILL, a citizen of the United States, residing at East Providence, in the county of Providence and State of Rhode Island, have invented certain new and useful Improvements in Road-Marking Devices, of which the following is a specification.

This invention relates to improvements in the construction of road-marking device; and has for its object to provide such a device which is adapted to deposit paint or other suitable marking material upon a road or other surface to be marked, and to provide a brush to follow the depositing nozzle, to spread the marking material.

A further object of the invention is to provide means for spraying the paint upon the surface to be marked and to provide means for regulating the width of the spray to be deposited.

A still further object of the invention is to yieldably mount the spreading brush so that it will follow the unevennesses in the surface being marked with substantially uniform pressure.

The invention further consists in the mounting of a receptacle or tank upon the carriage and forming the bottom portion of the tank tapering so as to maintain a substantially uniform pressure to the flow from the tank and permitting all of the contents of the tank to be discharged therefrom, which is not the case where the bottom of the tank is flat.

This invention further consists in the provision of means for preventing the bristles of the brush from spreading out at the ends of the brush so as to insure a substantially uniform width of line regardless of the irregularities of the surface treated.

With these and other objects in view, the invention consists of certain novel features of construction, as will be more full described, and particularly pointed out in the appended claims.

In the accompanying drawings,

Figure 1 is a side elevation of my improved road-marking device.

Figure 2 is a plan view of the device.

Figure 3 is an enlarged detail perspective view of the spray head or pipe showing the set of collars mounted thereon for regulating the operating width of the spray nozzle.

Figure 4 is a perspective view of one of the shut-off collars, removed.

Figure 5 is a front elevation of the paint-spreading brush showing the end retaining plates for preventing the bristles from spreading endways of the brush.

Figure 6 is a cross sectional end view through the spray pipe and its controlling collar and showing the spray openings in the pipe.

It is found in the practical operation of road-marking devices or machines, of importance to mount a tank or container on the carriage having a tapering bottom portion, whereby all of the contents of the container may be conducted to the center and readily discharged from the tank, which construction also maintains a more uniform head or pressure on the discharging contents. It is also found of advantage to mount a brush on the carriage, which shall follow and spread the paint deposited on the surface in such a way that it will yield vertically whereby it is adapted to follow the unevennesses in the road-bed during the marking and spreading operations; and also to provide means for preventing the bristles of the brush from unduly spreading endways of the brush so as to make a mark of substantially uniform width which could not be the case if the brush were free to spread endways as the ordinary unguided bristles would have a tendency to form a narrower line in a depression and a line of greater width on a raised portion of the road due to uneven tension on the brush bristles.

It is also found of advantage to provide readily removable plugs in the ends of the supply pipe whereby a swab or cleaner may be passed through the pipe to remove the paint after each operation of the device: and the following is a detailed description of one construction by which these advantageous results may be accomplished:—

With reference to the drawings, 10 designates the body portion or platform of the carriage which is mounted upon wheels 27 and 28 and on which the supply tank or receptacle 11 is mounted, the same being supported in the desired position by the uprights 12 on the body of the carriage. The bottom portion of this receptacle is preferably formed tapering as at 13 whereby the paint at this portion of the tank is concentrated and directed into the pipe 14 to be conducted down to the spray head, nozzle or pipe 15. This conducting pipe is also

provided at its ends with plugs 16 whereby a swab or other cleaner may be passed through the pipe to prevent the paint from collecting and hardening therein, while the device is not in use.

In this supply pipe is mounted a control valve 17 which is arranged to be adjusted by the operator through an upright handle 18. This spray head or nozzle 15 is preferably formed of short pieces of laterally extending pipe 19 which are connected to the central T-fitting 20, the ends of this cross pipe being also provided with plugs 21 which may be removed to permit cleaning of this spray pipe after each day's work, and these laterally extending pipe lengths are provided with a multiplicity of spray holes 22 which may be of any suitable size and of any desired number arranged along the pipe, and in order to control the effective spraying width of this pipe or nozzle, I have mounted on each end thereof a number of spring collars 23 which are open at one portion of their circumference as at 24, whereby when these collars are set in one position the spraying holes are open to freely discharge the paint therethrough, and when it is desired to reduce the spraying width of the head, first, the outer collars near the end thereof may be rotated so as to close the end holes on the under side of the pipe and then any of these collars may be adjusted to close their particular sections as is desired. These collars are mounted to operate between the outer and inner fixed rings 25 and 26 which prevents the collars from endways movement on the pipe. The forward wheels on which this carriage is mounted are preferably connected to the body by a pivot pin 29 whereby the axle of these wheels may be turned to permit the carriage to be steered to follow a curve in the road which is not possible where the forward wheels are not pivoted.

To the rear of the spraying head 15, I have mounted a spreading brush 30 on the arms 31, one end of each of which is pivoted at 32 to the body of the vehicle while their opposite ends are pivoted at 33 to the brush and this brush is normally pressed or drawn downward upon the road surface by a spring 34 so as to provide a substantially uniform tension of the brush on the road surface, but instead of a spring a weight on the brush may be employed, if desired.

It is found in practice of advantage to provide end plates 35 on the brush 30 to extend down to confine the end bristles thereof, and prevent these bristles from spreading endways of the brush thereby maintaining a substantially uniform width of line even when passing over an undulating or uneven surface which would not be the case if the bristles were left free to spread.

In some instances, it is found of advantage to provide a cord or chain 36 leading from the brush up to the rear operating handle 31 whereby the operator may lift the brush out of engagement with the road surface when desired, and hold it suspended by simply hooking the chain over the hook 38 on the handle.

My improved road-marking machine is extremely simple and practical in construction and effective in its operation and by its use a road may be marked with any desired width of stripe and the paint accurately and uniformly spread upon the surface to be marked.

The foregoing description is directed solely towards the construction illustrated, but I desire it to be understood that I reserve the privilege of resorting to all the mechanical changes to which the device is susceptible, the invention being defined and limited only by the terms of the appended claims.

I claim:

1. A road-marking device comprising a carriage, a paint tank mounted thereon, a spray nozzle connected to said tank for delivering the paint to the surface to be marked, a brush pivotally mounted on the carriage and spaced a substantial distance to the rear of said nozzle to move bodily vertically to engage and follow the sprayed surface, and pressure applying means for pressing the brush and causing it to follow unevennesses in the road-bed with a substantially uniform pressure.

2. A road-marking device comprising a carriage, a paint tank fixedly mounted thereon having a tapering bottom portion, a spray nozzle connected to said tapered bottom for delivering paint to the surface to be marked, a rearwardly-extending arm pivotally mounted relatively to said carriage to swing vertically on said carriage, a brush carried by said arm, and means for exerting a downward pressure upon the brush causing it to engage with a uniform pressure and spread the paint upon the sprayed surface.

3. A road-marking device comprising a carriage, a paint tank mounted thereon, a spray nozzle connected to said tank for delivering paint to the surface to be marked, a laterally extending brush on said carriage mounted to move vertically independently of such movement of the carriage to engage and spread the paint evenly upon the surface sprayed, and plates mounted on the ends of the brush to move therewith for preventing undue spreading of its bristles.

4. A road marking device comprising a carriage, a paint tank mounted thereon, a spray nozzle connected to said tank for delivering the paint to the surface to be marked, a brush mounted on the carriage to move vertically independently of such move-

ment of the carriage to engage the road with a uniform pressure and spread the paint upon the surface sprayed, a pressure applying spring for causing the brush to follow unevennesses in the road-bed with a substantially uniform pressure, and plates carried by the ends of the brush and clear of the road surface for maintaining a substantially constant working width to the brush.

5. A road-marker comprising a carriage, a paint tank fixedly mounted thereon, a conductor connected to said tank for spraying paint upon the surface to be marked, a pivotally mounted rearwardly-extending arm on said carriage, a brush carried by said arm and spaced a substantial distance rearwardly of said conductor for spreading the deposited paint uniformly upon the uneven road surface being operated upon, and a connector to said arm whereby the brush may be lifted from operating position when desired.

6. A road-marking device comprising a carriage, a paint tank mounted thereon having a tapering bottom portion, a transversely arranged spray pipe for delivering paint to the surface to be marked, a brush for spreading the paint on the sprayed surface, and a set of collars on said spray pipe adapted to be set to regulate the width of the spray deposited.

In testimony whereof I affix my signature.

HENRY M. PICKERSGILL.