April 20, 1943. R. C. McCUBBIN 2,317,288

ROAD MARKING MACHINE

Filed Dec. 16, 1941 4 Sheets-Sheet 1

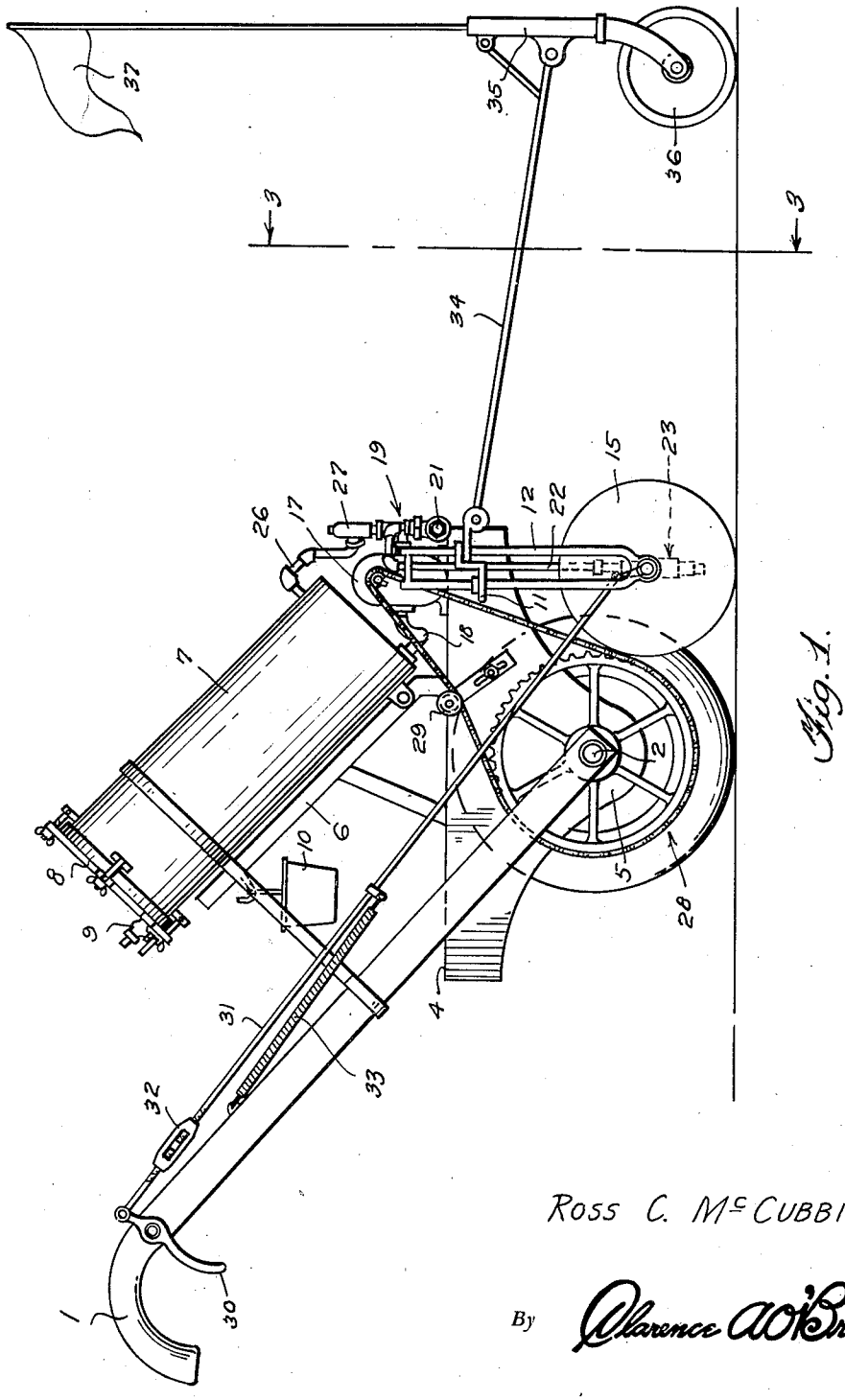


Fig. 1.

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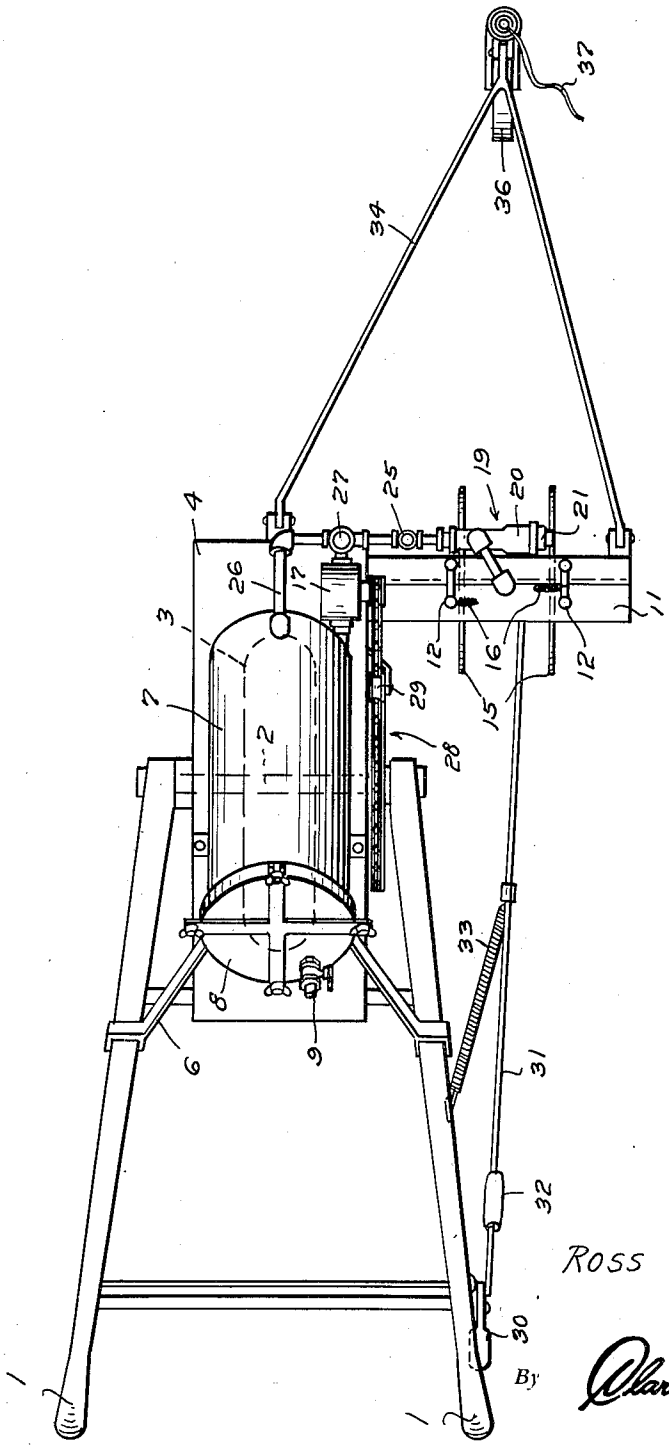


Fig. 2.

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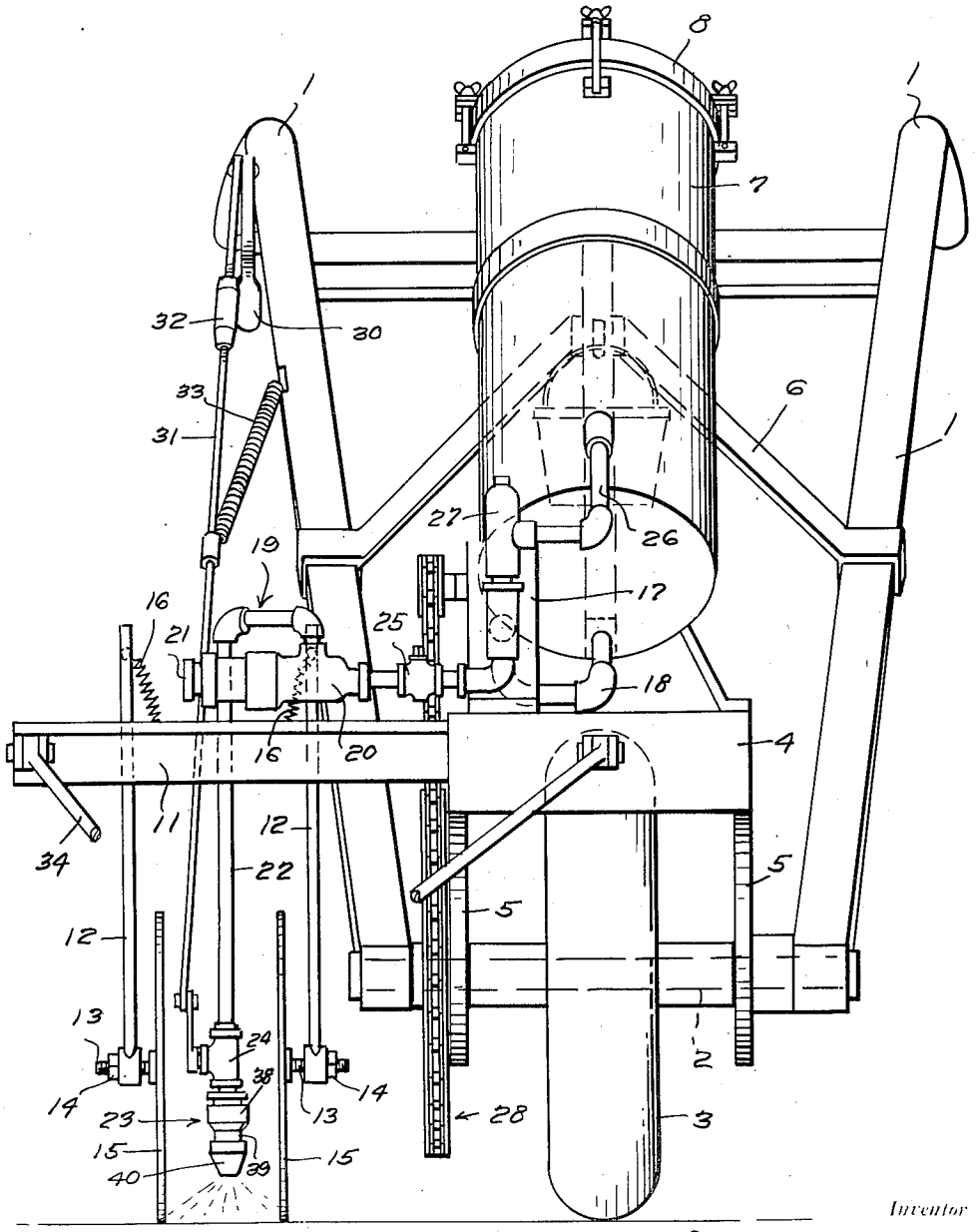
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ROAD MARKING MACHINE

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Fig. 3.

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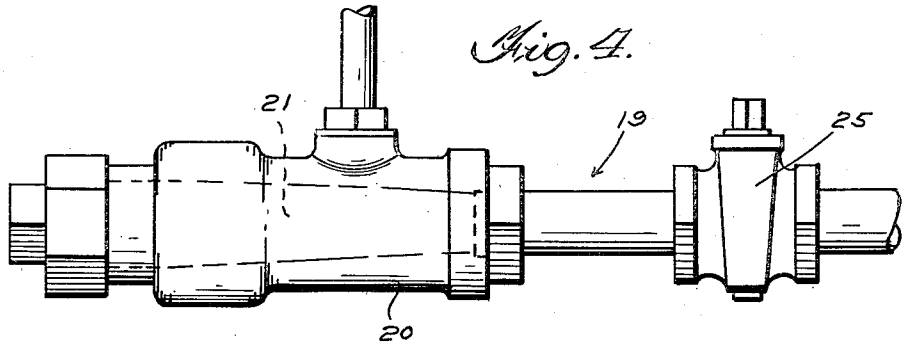
Attorney

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ROAD MARKING MACHINE

Filed Dec. 16, 1941 4 Sheets-Sheet 4

Fig. 4.



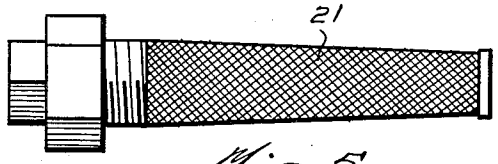


Fig. 5.

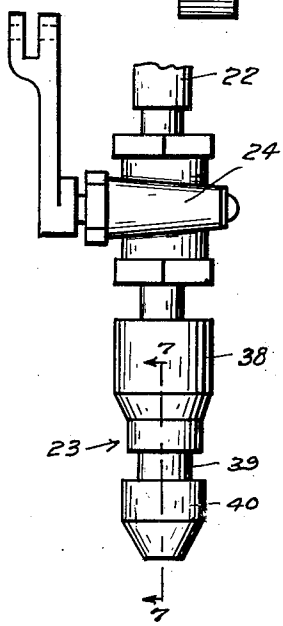


Fig. 6.

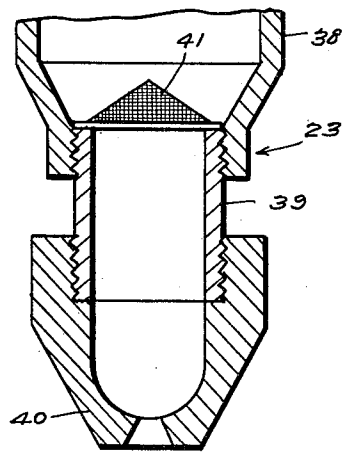


Fig. 7.

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Patented Apr. 20, 1943

2,317,288

UNITED STATES PATENT OFFICE

2,317,288

ROAD MARKING MACHINE

Ross C. McCubbin, Auburn, Calif.

Application December 16, 1941, Serial No. 423,216

2 Claims. (Cl. 91—12)

The present invention relates to new and useful improvements in highway or street marking machines, and has for one of its important objects to provide, in a manner as hereinafter set forth, a device of this character which may be manually operated by two men with a minimum of effort.

Another very important object of the invention is to provide a road marking machine of the aforementioned character which will function properly on irregular or inclined surfaces.

Still another very important object of the invention is to provide a road marking machine of the character described which is adapted to paint different widths of stripes on highways or streets.

Other objects of the invention are to provide a road marking machine of the character set forth which will be comparatively simple in construction, strong, durable, reliable and economical in use, compact, light in weight, and which may be manufactured at low cost.

All of the foregoing and still further objects and advantages of the invention will become apparent from a study of the following specification, taken in connection with the accompanying drawings wherein like characters of reference designate corresponding parts throughout the several views, and wherein:

Figure 1 is a view in side elevation of a road marking machine constructed in accordance with the present invention.

Figure 2 is a top plan view thereof.

Figure 3 is a view in front elevation of the device.

Figure 4 is a view in front elevation of a portion of the conduit to the spray nozzle.

Figure 5 is a detail view in elevation of the removable screen which is mounted in the paint conduit to the spray nozzle.

Figure 6 is a detail view in front elevation of the spray nozzle and the control valve therefor.

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

Referring now to the drawings in detail, it will be seen that the embodiment of the invention which has been illustrated comprises a pair of plow-type handles 1 having journaled in their forward end portions a transverse shaft 2. Fixed on the shaft 2 is a pneumatic tire equipped wheel 3. Mounted above the wheel 3 is a platform 4 comprising depending side supports 5 which are journaled on the shaft 2.

Mounted on the handles 1 and the platform 4 is an inclined frame 6. Secured on the frame 6 is a container 7 for the reception of paint. Of course, the container 7 may be of any desired capacity. The container 7 is closed and sealed by a removable closure 8. A valve controlled vent 9 is provided in the closure 8. A tool bucket 10 is suspended from the frame 6.

Projecting laterally from the front portion of the platform 4 is a metallic arm 11 of angular cross-section. Mounted for vertical sliding movement in the arm 11 is a pair of inverted forks 12. Threadedly mounted in the lower portions of the forks 12 is a pair of aligned stub shafts 13. Lock nuts 14 secure the shafts 13 in position. Journaled on the inner end portions of the shafts 13 is a pair of spaced, opposed ground engaging discs 15 which control the width of the stripes being painted on the street or highway. Springs 16 are connected to the upper portions of the forks 12 in a manner to yieldingly maintain the discs 15 in engagement with the surface being striped. Mounted on the front portion of the platform 4 is a gear pump 17. A conduit 18 connects the intake side of the pump 17 to the lower end of the paint container 7. Connected to the outlet side of the pump 17 is a conduit which is designated generally by the reference numeral 19. The conduit 19 includes a fitting or the like 20 having mounted therein a removable screen 21 through which the paint must pass. The conduit 19 further includes a vertical end portion 22 which extends downwardly through the arm 11 and which has mounted on its lower end portion a nozzle 23. A manually operable shut-off valve 24 is provided in the end portion 22 of the conduit 19 adjacent the nozzle 23. Another shut-off valve 25 is provided in the conduit 19 ahead of the screen 21. A paint return line 26 connects the container 7 to the conduit 19 at a point between the pump 17 and the valve 25. The return line 26 is connected to the conduit 19 by an adjustable pressure valve 27.

The pump 17 is connected to the shaft 2 for actuation thereby through the medium of a chain and sprocket drive 28 which may be of any desired ratio. A chain tightener 29 is provided for the drive 28. If desired, a belt and pulley drive may be used.

Pivotally mounted on the upper portion of one of the handles 1 is a lever 30. A rod 31 connects the valve 24 to the hand lever 30 for actuation thereby. A turnbuckle 32 is provided for adjusting the rod 31. A coil spring 33 is connected to the rod 31 for closing the valve 24.

A substantially V-shaped forwardly projecting

frame 34 has its ends pivotally connected to the platform 4 and the arm 7 for swinging movement in a vertical plane. Mounted on the forward end portion of the frame 24 is a vertical tube 35.

Journaled in the lower portion of the tube 35 is a caster guide wheel 36. Mounted in the upper portion of the tube 35 is a sight flag 37.

It is thought that the operation of the machine will be readily apparent from a consideration of the foregoing. Briefly, as the device is moved over the street or highway the pump 17 is driven by the supporting wheel 3. Thus, paint from the container 7 is forced through the conduit 19 by the gear pump 17 and discharged by the spray nozzle 23 on the surface being striped between the discs 15 which control the width of the stripe. The discharge of the paint from the nozzle 23 may be conveniently controlled by the operator through the medium of the lever 30, the rod 31 and the valve 24. By loosening the lock nuts 14 the threadedly mounted shafts 13 may be adjusted in the lower portions of the forks 12 for making stripes of various widths within a given range. As hereinbefore indicated, the coil spring 33 normally maintains the valve 24 in closed position.

As illustrated to advantage in Figure 7 of the drawings, the nozzle 23 includes a body 38 having threaded in its lower portion a nipple 39. Mounted on the nipple 39 is a tip 40. A substantially conical screen 41 is provided in the lower portion of the body 38. The guide wheel 36 is aligned with the nozzle 23. Any suitable means may be provided for lubricating the bearings of the discs 15. The machine may be operated by a man mounted on the front of a motor truck. When thus used, the flag 37 functions as a guide for the driver of the truck.

It is believed that the many advantages of a street or highway marking machine constructed in accordance with the present invention will be readily understood, and although a preferred embodiment of the device is as illustrated and described, it is to be understood that changes in the details of construction and in the combination and arrangement of parts may be resorted to which will fall within the scope of the invention as claimed.

What is claimed is:

1. A road marking machine comprising a wheel supported platform, an arm projecting laterally from said platform, inverted forks mounted for vertical sliding movement on said arm, a pair of spaced, opposed discs rotatably mounted on the lower portions of said forks, springs connected to the forks for yieldingly urging the discs downwardly into engagement with the surface over which the machine is moving, a paint container mounted on the platform, a nozzle between the discs, and means connecting said nozzle to the container for receiving paint therefrom.

2. A road marking machine comprising a wheel supported platform, an arm projecting from said platform, forks mounted for vertical sliding movement on said arm, aligned shafts threadedly mounted for adjustment toward and away from each other in the lower portions of said forks, means for securing the shafts in adjusted position, a pair of spaced, opposed ground engaging discs journaled on the shafts, and a spray nozzle between the discs.

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