Oct. 26, 1926. **1,604,616**

H. H. STRIETMANN

MIXING CART

Filed Dec. 10, 1924 2 Sheets-Sheet 1

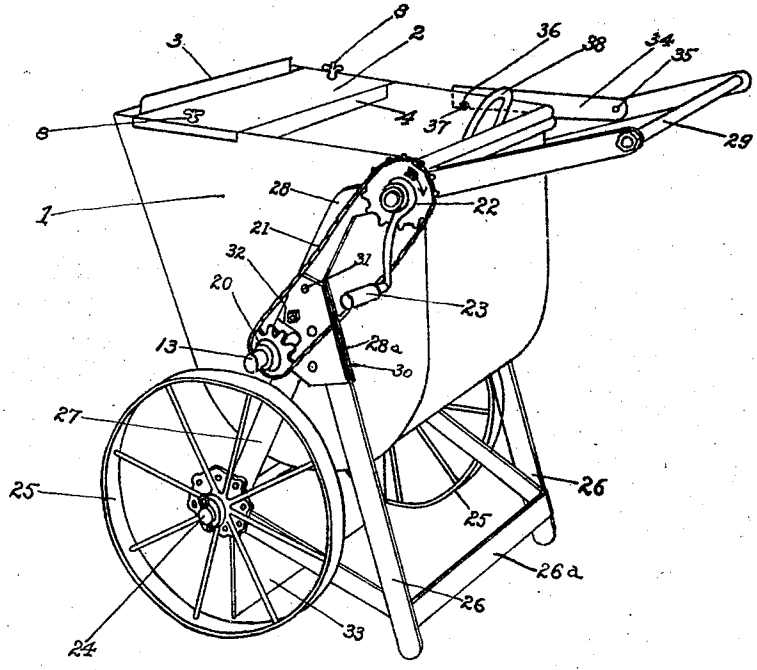


Fig 1

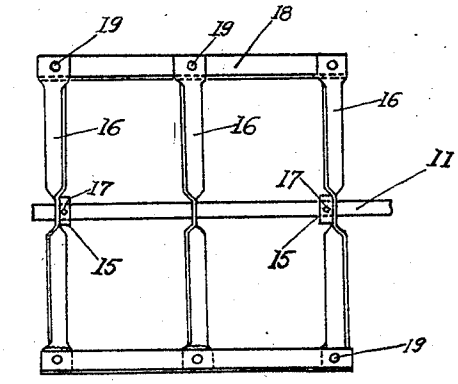


Fig 2

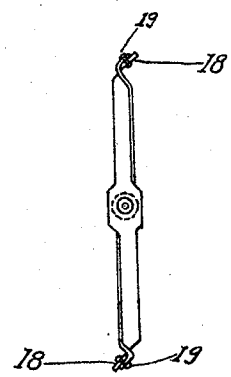


Fig 3

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2 Sheets-Sheet 2

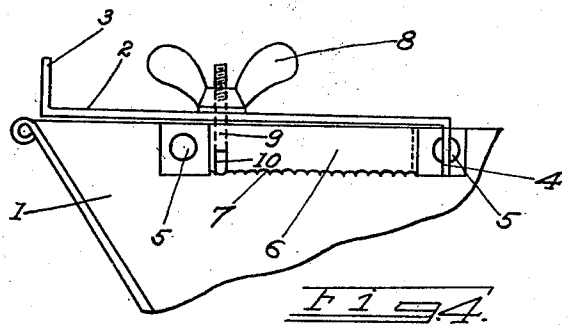


Fig. 4.

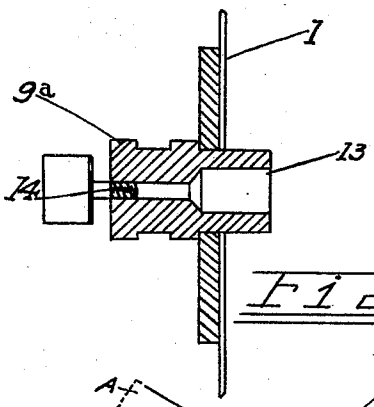


Fig. 5.

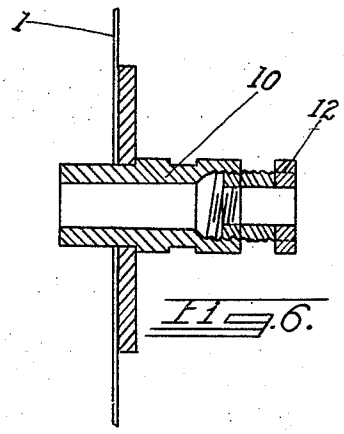


Fig. 6.

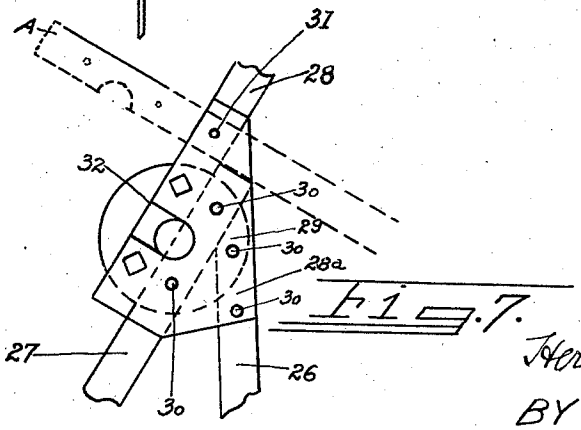


Fig. 7.

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Patented Oct. 26, 1926. 1,604,616

UNITED STATES PATENT OFFICE.

HERMAN H. STRIETMANN, OF CINCINNATI, OHIO, ASSIGNOR TO LITTLEFORD BROTHERS, A PARTNERSHIP COMPOSED OF JOHN S. LITTLEFORD, THOMAS S. LITTLEFORD, ROGER S. LITTLEFORD, AND JOHN S. LITTLEFORD, JR., OF CINCINNATI, OHIO.

MIXING CART.

Application filed December 10, 1924. Serial No. 755,047.

My invention relates to carts for mixing and applying asphalt and grout mixture which is used as a binder for bricks, stones, wood block, or other material with which a road or other hard surface is being constructed or repaired. My object is to make a simple, convenient and efficient cart which can be used to measure a desired quantity of binder, mix it with any desired ingredients and dispense it in any desired amount and with comparative safety to the operator who is handling it.

Although I accomplish these results by the particular combination of structure hereinafter described, I do not wish to be limited to the specific size or shape of its several parts, or to the usefulness which I describe as its application in other branches of industry will be obvious to these skilled in those branches.

In the construction or repair of roads, pavements or other surfaces which are paved or otherwise constructed to resist wear, it is common practice to cement the cracks between the paving stones or blocks with what is called "grout mixture", which is usually a mixture of sand and bitumen, and its application acts not only to hold the blocks of the paving material together, but also to protect the edges of the blocks from chipping away. The mixture being made in a suitable container, it is customary to stir the mixture with a hoe or stick and the operator has then carried the container to the position where it was to be used. Then he has attempted to pour out the necessary amount by tilting the container and the difficulties and dangers of this old method have been first that the operator could not supply a uniform quality, that it required much labor to carry the container about, that the mixture did not remain uniform, and finally that he was always in great danger of having the hot mixture splash on him while mixing, or flow out in a too large quantity and burn his feet. The particular construction of my device eliminates all these difficulties and dangers as will be evidenced by reference to the accompanying drawings and the following description of parts.

In the drawings:

Figure 1 is a side perspective view showing the general construction and appearance of the cart.

Figure 2 is a top view and Figure 3 is a side view of my anti-splash mixing and dispensing agitator.

Figure 4 is a side view of my flow control plate.

Figures 5 and 6 are sections of the trunnions supporting the tank on the frame.

Figure 7 is a side view of the frame construction showing how the tank may be removed from the frame for convenience in shipping, and for replacement and repairs.

In the drawings, 1 is the mixing and dispensing tank preferably of sheet metal and of U shape with a slight flare toward its dispensing end. Mounted on the top front portion of the tank is a flanged plate 2 with upward front 3 and downward back 4. In order to be able to adjust this plate for any desired amount of dispensing aperture, a plate 6 with a lower notched edge 7 is secured within the tank on each side, and hooked bolts 9 passing through the plate 2 and provided with thumb nuts 8, hold the sliding plate in a rigid position, so that a definite flow of mixture from the kettle will result when the tank is tilted for dispensing.

The kettle is supported by trunnions 9^a and 10. The construction of the trunnion 10 for one side is slightly different from the construction of the trunnion for the other side. The trunnion preferably of the drive side is hollow and is provided with an agitator shaft 11 passing through it, with a packing nut 12 to prevent leakage of material from the tank, while I lubricate the shaft by means of a grease cup at the end of the shaft through a hole which leads to those portions of the shaft where it has bearing.

The other end of the agitator shaft fits into a socket 13 in the trunnion 9^a, the closed end of which socket I have provided with a hole 14 as a means of supplying lubricant to the rotating shaft.

On the shaft, held in position between the two trunnions for purposes of agitating and dispensing the material in the tank, I have provided an agitator frame with radial arms 16 carrying blades 18 preferably riveted thereto by rivets 19, and collars 15 are attached to the end arms to mount the agitator frame on the shaft 11, where it is held by set screws 17. The blades 18 are set at an angle as shown to avoid splashing

as the agitator is rotated. The particular construction of these agitator arms serves a treble purpose of mixing the grout thoroughly, and preventing splashing of the hot mixture at the point where the blades impinge into it and lastly of acting as scraper blades to push out the last particles of mixture when the tank is being emptied.

I have found a simple means of turning the agitator by fastening a sprocket wheel 20 to the exposed end of the agitator shaft and driving it with a chain 21 and another sprocket 22 supported in the frame and propelled by the attached handle 23. It will be understood that the method of revolving this sprocket is not a feature of my invention, the particular method I have described being one simple and easy way of accomplishing my purpose which is to provide a means of agitating the tank which will be effective whether the tank is stationary in filling position, or being moved or being dispensed. It can be supplied with an auxiliary drive from the axle 24 with a clutch so that when the cart is being pushed it automatically will turn the agitator.

The cart is provided with carrying wheels 25. The frame of the cart is made in two sections. The lower section comprises supporting legs 26 and axle supports 27 for the carrying axle, suitably braced by the bar 26^a. The upper section of the frame is extended upwardly and rearwardly and carries the pushing handle 29.

The frame for the cart is held rigid by gusset plates 28^a. There is a pair of these plates on each side which are bolted to the upper ends of the bars 26 and 27, with edges of the plates extending beyond the axle support 27 so as to leave a space between the plates, and U-shaped slots rounded at the bottom are formed in the two plates, which slots register and a semicircular notch is cut in the bar 27 to form a support for the trunions 9^a and 10. The side bars 28 which carry the push handle 29 are pivoted at 31 between the gusset plates and the handle being raised the bar on each side drops between the gusset plates and is bolted in place. The handle bars are formed with a semicircular notch 32 to form with the base of the U-slots in the gusset plates a bearing for the trunnions of the tank. By loosening the bolts the handle bars are swung into the position shown by dotted lines in Figure 7, so that when desired the trunnion of the tank will be released and the tank can be readily lifted out of the frame.

A plate 33 is hinged to the wheel axle and hangs in a substantially vertical position and in contact with the ground to be held in fixed position when the machine is stationary and to prevent the flow of any hot material from the tank onto the operator's feet, the plate being hinged so that the cart can be pushed over uneven ground without fouling the plate. It will be noted that in tilting the tank for discharging purposes the handle and frame of the cart stay in a fixed position. The tank is held in a stationary position with reference to the frame by a lock bar 34 pivoted with a rivet at 35 to the back support bar 28 and a notch 36 which allows the bar to engage the pin 37 fixed in the tank. By raising the lock bar the groove comes out of engagement with the pin so that the tank may be tilted for dispensing by the handle 38. When the tank is pulled back to the normal position the pin 37 slides along the lock bar 34 until it engages the notch 36 and automatically locks itself.

Having thus described the particular combination which I claim as new and desire to secure by Letters Patent, what I claim is:—

1. In a device of the character specified, a framework with carrying wheels, a tank pivoted in said frame, a sliding plate mounted on the tank or regulating the discharge therefrom, and means for retaining said sliding plate in fixed position.

2. In a device of the character specified, a framework with carrying wheels, a tank pivoted in said frame, a sliding plate mounted on the tank for regulating the discharge therefrom, and side plates with notches along the lower edge thereof and hook bolts passing through the sliding plates to engage said notches with thumb nuts for tightening the same to hold the sliding plate in fixed position.

3. In a device of the character specified, a framework with carrying wheels, a tank pivotally mounted thereon, an agitator in the tank, a slidably adjustable plate, whereby the flow of material from the tank may be regulated and a hinged baffle plate supported from the framework whereby the operator's feet are protected from material discharging from the tank.

4. In a device of the character specified, a tank and a frame-work comprising upper and lower framework members adapted to support the tank, the upper frame-work members adapted to form a handle for the device, and said upper framework members demountably secured in said lower members.

5. In a device of the character specified, a framework with carrying wheels, a tank mounted on the frame-work and a suspended baffle plate supported from the framework members to protect an operator's feet from material discharging from the tank.

HERMAN H. STRIETMANN.