

1,009,805.

Fig. 1, Fig. 2, and Fig. 3 are technical drawings of a mechanical device. Fig. 1 is a top-down view of a circular component with a central hub and multiple radial spokes. The spokes are labeled 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100. The central hub is labeled 11. Fig. 2 is a side view of the device, showing a vertical shaft 11 and a horizontal shaft 12. The shafts are connected by a series of gears or pulleys. The shaft 11 is labeled 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100. The shaft 12 is labeled 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100. Fig. 3 is a cross-sectional view of the device, showing a central shaft 11 and a surrounding housing 12. The shaft is labeled 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100. The housing is labeled 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100.

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WILLIAM P. TARRANT, OF SARATOGA SPRINGS, NEW YORK.

ASPHALT-DISTRIBUTER.

1,009,805.

Specification of Letters Patent.

Patented Nov. 28, 1911.

Application filed April 8, 1910. Serial No. 554,109.

To all whom it may concern:

Be it known that I, WILLIAM P. TARRANT, a citizen of the United States, and a resident of Saratoga Springs, in the county of Saratoga and State of New York, United States of America, have invented certain new and useful Improvements in Asphalt-Distributers, of which the following is a specification.

My invention relates to distributers for asphalt or similar material, especially for use as a part of apparatus for spraying or laying a sheet of heated asphalt on Macadam or other roads. Its object is to provide a device which, when applied to a vehicle, will insure the even distribution of the material on the surface at desired rates, and at rates proportional to the speed at which the vehicle is drawn over the surface which is to be thus treated.

I will describe my invention in the following specification and point out the novel features thereof in the appended claims.

Referring to the drawings, Figure 1 is a side elevation of certain parts of an asphalt-ing machine with my improved distributer. The latter is shown in section. Fig. 2 is a plan view showing certain parts of the apparatus and the distributer, and the driving mechanism for a part of the distributer.

Like characters of reference designate corresponding parts in all of the figures.

10 designates the body or tank of an asphalt-ing machine which may be of any desired construction, such, for example, as that shown in another application for patent filed herewith, and bearing the Serial Number 554,108. This body or tank is a part of a vehicle mounted on wheels one of which is shown at 11. The axle of this wheel is designated by 12. On the outer end of the axle is loosely mounted a bushing 13. To this bushing is affixed a ratchet-wheel 14 with which pawls 15 on the wheel 11 are spring pressed into engagement, and a plurality of driving sprocket-wheels 16, 17 and 18 of different diameters are also affixed to this bushing.

If desired a slip-ring 20 may be provided on the wheel 11. This carries projecting pins 21 which are adapted to engage with the pawls 15. When this ring is rotated by hand until the pins it carries assume positions like that in which one of them is shown in dotted lines at 21^a, they will cause the pawls to be thrown out of engagement with

the ratchet-wheel 14 as is shown by the position of one of these pawls shown in dotted lines in Fig. 1 at 15^a.

30 is a pipe which leads from the tank to the distributer which is on the rear end of the apparatus. The parts of the distributer are supported within an inclosing heater drum or casing 31 within which is an inner chamber 32 of cylindrical form, with which the pipe 30 is connected.

33 is a strainer plate which is perforated with holes of sufficient size to allow liquid material to pass freely, but this member will arrest any foreign substances which, if allowed to pass, might clog up the apparatus. The inner chamber is in open communication with a slot-like nozzle 34. The width of opening of this nozzle may be adjusted, or it may even be closed by moving the part designated by 35 backward or forward.

36 is a rotatable shaft running longitudinally through the chamber 32. This projects through the end of the casing and has affixed to it sprocket-wheels 37, 38 and 39 of different diameters which are so arranged that they may be connected with the driving sprockets 16, 17 and 18, respectively, by a chain 19.

Affixed to the shaft 36 within the inner cylindrical chamber are a plurality of blades 40 which project in a substantially radial direction from the axis of the shaft. The outer ends of these blades fit against the inner walls of the cylinder, but run diagonally across them as shown so that they will not catch in the longitudinal openings at the top and bottom of the chamber. I have shown four of these blades which are of a curved form, but a different number of blades may be employed if desired, and these may be of any desired shape. The space between the walls of the inner chamber and the inclosing chamber 31 is provided for the purpose of forming a heating jacket through which hot gases may be passed.

It may be seen that the forward movement of the vehicle will cause the rotation of the wheel 11 to be transmitted to the shaft 36 at different rates of speed according to which pair of sprockets the chain 19 is connecting. The rate of rotation of the shaft 36 will, of course, be proportional to the speed at which the vehicle is traveling. The ratchet and pawl mechanism is provided so that the machine may be backed without ac-

tuating the shaft, or, if desired, the pawls may be thrown out of engagement with the ratchet by some such mechanism as that which I have already described, in which
 5 case the apparatus may be moved from place to place without actuating the driving mechanism of the distributor.

The effect of the blades 40 is to divide the chamber 32 into a plurality of pockets
 10 into which the liquid material from the tank is first received, which is then carried by the rotation of these blades to the space above the nozzle 34 through which it flows. The material is delivered to the nozzle at
 15 different rates dependent upon the rate of rotation of the shaft 36. This rate of rotation, as has already been pointed out, is dependent upon the rate of movement of the vehicle. It may also be varied at will by
 20 changing the chain from one pair of sprockets to another.

It is often desirable to stop the flow of the liquid at a given point, and with my device this may be accomplished by merely stop-
 25 ping the vehicle, as none of the material can run through the distributor when the blades 40 are at rest. Then, if it is desired to move the vehicle forward, this may be done by removing the chain 19, or by rotating the slip-ring 20 to throw the pawls out
 30 of engagement.

This apparatus is designed especially for the distribution of hot liquid asphalt or similar material which requires heat to
 35 liquefy it.

What I claim is—

1. A vehicle, an asphalt distributor connected therewith, said distributor comprising a nozzle, a chamber connected with said
 40 nozzle through which the asphalt flows by gravity to the nozzle, a rotary member within the chamber arranged to stop said flow of asphalt when at rest and to control the rate of flow thereof when rotated, a heater sur-
 45 rounding the chamber and said rotary member, and means for driving said rotary member at a rate proportional to that of the movement of the vehicle.

2. A vehicle, an asphalt distributor connected therewith, said distributor comprising a nozzle, a chamber connected with said
 50 nozzle through which the asphalt flows by gravity to the nozzle, a rotary member within the chamber arranged to stop said flow
 55 of asphalt when at rest and to control the rate of flow thereof when rotated, a heater surrounding the chamber and said rotary member, means for driving said rotary member at a rate proportional to that of the
 60 movement of the vehicle, and means for changing the relative rate of rotation of said member.

3. A vehicle, an asphalt distributor connected therewith, said distributor comprising
 65 a nozzle, a horizontal cylindrical cham-

ber connected with said nozzle through which the asphalt flows by gravity to the nozzle; a rotary member within the chamber arranged to stop said flow of asphalt
 70 when at rest and to control the rate of flow thereof when rotated, said rotary member comprising a shaft extending through the chamber, and a plurality of blades projecting radially from the shaft; a heater surrounding the chamber and said rotary member,
 75 means for driving said shaft at a rate proportional to that of the movement of the vehicle, and means for changing the relative rate of rotation of said shaft.

4. A vehicle, an asphalt distributor connected therewith, said distributor comprising a horizontal cylindrical chamber provided with longitudinal openings at the top and bottom thereof, through which openings
 80 and chamber the asphalt flows by gravity, a nozzle connected with said lower opening, a rotary member within the chamber arranged to stop said flow of asphalt when at rest and to control the rate of flow thereof
 85 when rotated, said rotary member comprising a concentrically alined shaft extending through the chamber, a plurality of curved blades projecting from said shaft and disposed obliquely to said longitudinal openings, a heater surrounding the chamber and
 90 the rotary member; means for driving said shaft at a rate proportional to that of the movement of the vehicle, and means for changing the relative rate of rotation of said shaft.
 95

5. A vehicle, an asphalt distributor connected therewith, said distributor comprising a horizontal cylindrical chamber provided with longitudinal openings at the top and bottom thereof, through which openings
 105 and chamber the asphalt flows by gravity, a nozzle connected with said lower opening, a rotary member within the chamber arranged to stop said flow of asphalt when at rest, and to control the rate of flow thereof
 110 when rotated, said rotary member comprising a concentrically alined shaft extending through the chamber, and a plurality of rigid blades projecting substantially radially from said shaft and disposed obliquely
 115 to said openings, a heater surrounding the chamber and the rotary member; means for driving said shaft at a rate proportional to that of the movement of the vehicle, and means for changing the relative rate of rotation of said shaft.
 120

6. A vehicle, an asphalt distributor connected therewith, said distributor comprising a horizontal cylindrical chamber provided with longitudinal openings at the top
 125 and bottom thereof, through which openings and chamber the asphalt flows by gravity, a nozzle connected with said lower opening, a rotary member within the chamber arranged to stop said flow of asphalt when at
 130

rest and to control the rate of flow thereof
when rotated, said rotary member compris-
ing a concentrically alined shaft extending
through the chamber, and a plurality of
5 curved blades rigidly affixed to said shaft
and arranged to be moved by the rotation
of said shaft obliquely across said openings,
a heater surrounding the chamber and the
rotary member; means for varying the size
10 of the nozzle, means for driving said shaft

at a rate proportional to that of the move-
ment of the vehicle, and means for chang-
ing the relative rate of rotation of said shaft.

In testimony whereof I have signed my
name to this specification in the presence of 15
two subscribing witnesses.

WILLIAM P. TARRANT.

Witnesses:

ELLA TUCK,

ERNEST W. MARSHALL.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,
Washington, D. C."
