J. GRATTON.

STREET ROLLER.

APPLICATION FILED APR. 26, 1915.

1,270,725.

Patented June 25, 1918.

2 SHEETS—SHEET 1.

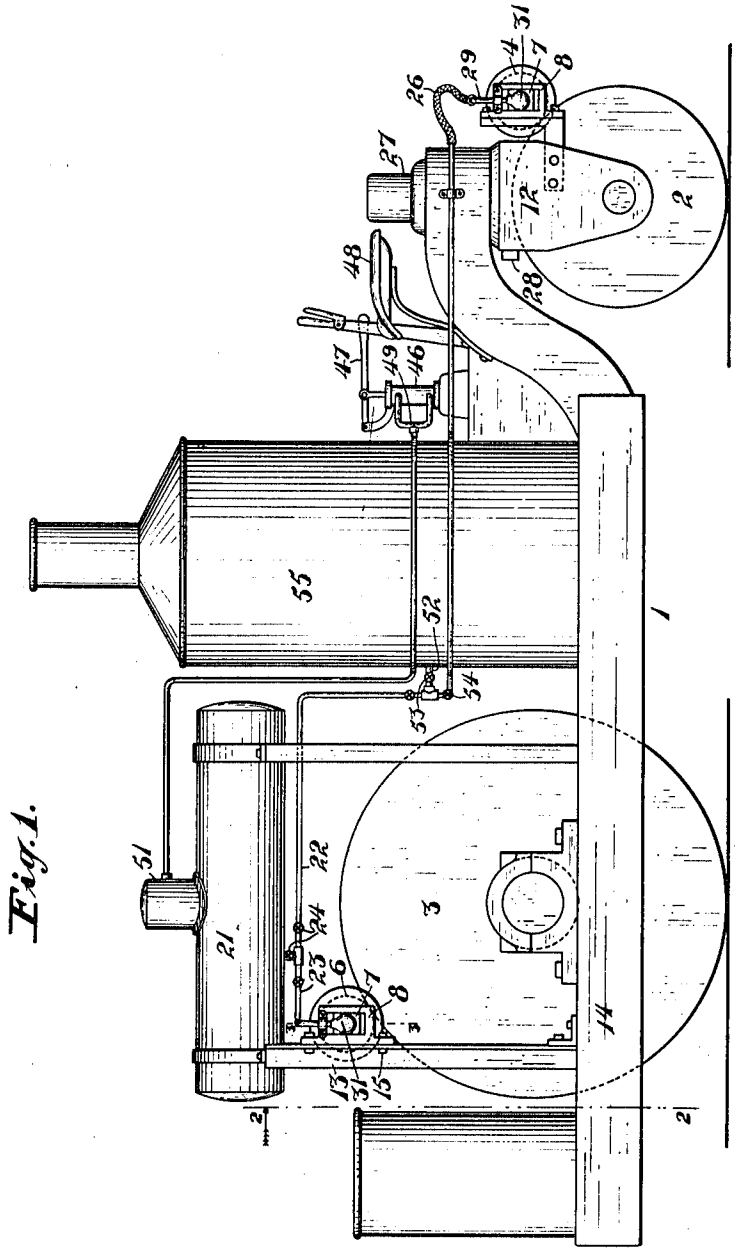


Fig. 1.

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2 SHEETS—SHEET 2.

Fig. 5.

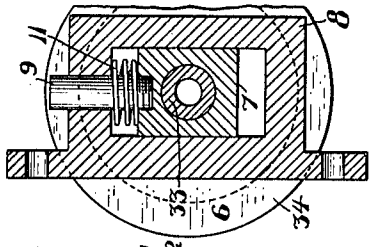


Fig. 4.

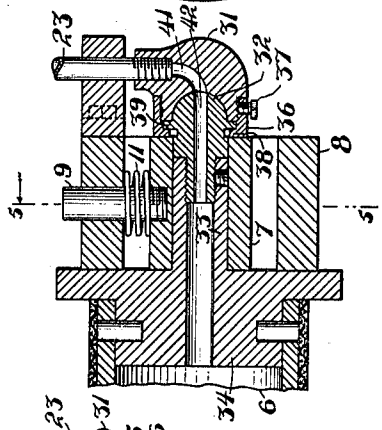


Fig. 2.

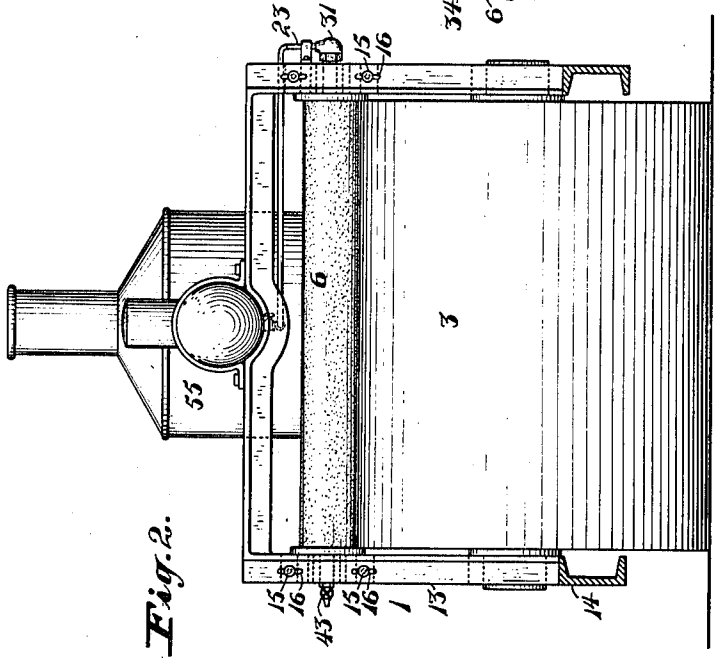
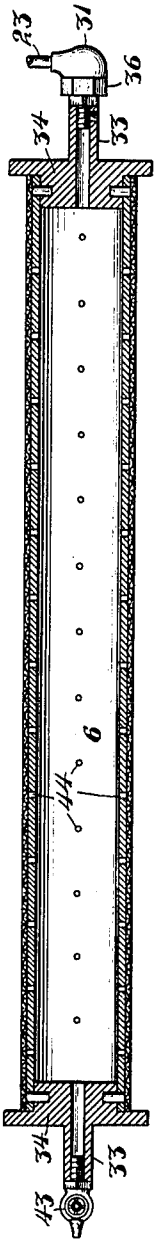


Fig. 3.



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UNITED STATES PATENT OFFICE.

JOHN GRATTON, OF SAN FRANCISCO, CALIFORNIA.

STREET-ROLLER.

1,270,725. Specification of Letters Patent. Patented June 25, 1918.

Application filed April 26, 1915. Serial No. 23,972.

To all whom it may concern:

Be it known that I, JOHN GRATTON, a citizen of the United States, residing at San Francisco, in the county of San Francisco and State of California, have invented new and useful Improvements in Street-Rollers, of which the following is a specification.

This invention relates to street pavement rolling machines, and has for its object to produce a device of simple and improved construction for applying lubricating material, such as oil, to the surface of the roller or rollers of the machine.

A further object of the invention is to produce a simple and improved device whereby the lubricant applied to a roller will be distributed evenly thereover so as to merely moisten the surface thereof without gathering in patches, thereby avoiding waste of lubricating material, as well as injury to the pavement.

A further object of the invention is to provide means whereby steam instead of oil may be used as the lubricant of the roller, and also whereby the steam can be used to clean, and at the same time heat, the device whereby the lubricant is evenly distributed.

With these and other ends in view which will readily appear as the nature of the invention is better understood, the same consists in the improved construction and novel arrangement and combination of parts, which will hereinafter be fully described and particularly pointed out in the claim.

In the drawings, Figure 1 is a side elevation showing the invention applied to a street rolling machine; Fig. 2 is a sectional view taken on the line 2—2 of Fig. 1; Fig. 3 is an enlarged detail longitudinal sectional view taken on the line 3—3 of Fig. 1; Fig. 4 is a similar view, further enlarged, of parts shown in Fig. 3; Fig. 5 is a cross section on the line 5—5 of Fig. 4.

Referring to the drawings, 1 indicates a street rolling machine having front and rear working rollers 2, 3. My improved lubricating device is shown as applied to both front and rear rollers, but it is to be understood that it may be applied only to one or the other of them. It is also to be understood that in a machine embodying additional rollers, the lubricating device may be applied to each of them.

Supported adjacent to the front and rear rollers and practically in contact with said rollers are distributing rollers 4, 6, which are substantially of similar construction. Said rollers 4, 6, are supported in bearings 7 vertically slidable in rectangular frames 8 and the bearings 7 are provided with guide pins 9 around which springs 11 are coiled to assist in maintaining the rollers 4 and 6 in contact with the surface of the rollers 2 and 3. The front frames 8 are mounted on the front truck 12 of the machine, and the rear frames 8 are mounted on uprights 13 rising from the frame 14 of the machine, said frames 8 being preferably vertically adjustable on the uprights 13 by means of bolts 15 engaging slots 16 in said uprights.

21 designates a tank or receptacle for oil or other suitable lubricant and from which such lubricant is distributed through pipes 22, 23, having valves 24 and which lead to one end of the distributing rollers 4, 6. The pipe 22 leading to the roller 4 is preferably connected with one end of a flexible pipe 26, which will permit said pipe to adapt itself to the movement of the front truck about the king bolt 27, and also about the axis of the bolt 28, whereby the truck is supported for rocking movement in an approximately vertical plane. The other end of the flexible pipe 26 is connected to a pipe 29, and the pipes 23 and 29 are screwed into socket pieces 31, in which are received rounded ends of connection pieces 32 which are screwed into tubular extensions 33 from tubular heads 34 of the distributing rollers 4, 6. Collars 36 are screwed on the socket pieces 31 and are secured thereon by set screws 37 and have flanges 38 which engage flanges 39 on the connection pieces 32. Said socket and connection pieces have conduits 41, 42, registering with each other. The tubular heads 34 at the other ends of the distributing rollers are provided with valves 43 for draining the rollers of liquid.

Said rollers are perforated as shown at 44, and are covered with carpet or other absorbent sheet material, which, being saturated with the lubricating material, will deliver the same to the surface of the working roller 2 or 3, where it will be smoothly and evenly distributed without waste.

Supported on the frame of the machine is a pump 46 having an operating lever or handle 47 which extends within convenient proximity of the operator whose seat is shown at 48. The outlet of the pump cyl-

inder is connected by a pipe or duct 49 with a dome or air chamber 51 rising from the tank 21. The inlet of the pump may at will be connected with a source of supply of lubricating material, or it may be left open to the atmosphere, thus permitting the pump to be utilized for pumping lubricating material into the tank 21 and also for compressing air within said tank.

In the operation of this device, the tank 21 is partly filled with lubricating material, after which the pump 46 is used to compress atmospheric air in said tank and in the dome or air chamber 51. By opening the valves 24, the lubricant will be permitted to flow through the pipes 22, 23, to the interior of the distributing rollers, flowing through their perforations to their exterior surfaces, which latter, being rotated by contact with the working rollers, will lubricate the surfaces of the working rollers. The lubricant used being usually of a viscous character, its flow will be greatly facilitated by the pressure of the air compressed in the distributing tank. The air pressure may be increased at will by the operator. It is to be understood that any well known means may be used for actuating the pump by power transmitted from some moving part of the machine, an ordinary clutch being utilized to throw such transmission means into and out of gear.

It is to be understood that the lubricant here used is not necessarily oil, but may be any other suitable fluid. For instance, cold water may be used. Also steam forms a very efficient lubricant, in which case the steam is taken direct from the boiler by a pipe 52 having therein a valve 53 connected with the pipe 22 leading to the ends of the distributing rollers and having valves 54 therein.

Apart from the utility of the steam as a lubricating means, the connections just above described will be of great value, because they permit steam to be easily passed through the distributing roller instead of oil, thereby forcing all the oil out of said distributing roller and thoroughly cleansing and heating the distributing roller and also heating the surfaces of the working roller.

It will be understood, therefore, that in the claim the phrase "lubricant receptacle" does not necessarily relate to the receptacle 21 but may relate to the steam boiler 55.

I claim:—

In combination with a working roller of a street rolling machine, a perforated distributing roller supported adjacent to, and contacting with, the working roller, a lubricant receptacle, a boiler, and a compressed air pump all carried by the street rolling machine, means for conducting compressed air from the pump to the lubricant receptacle, means for conducting lubricant from said receptacle to the distributing roller, means for conducting steam from the boiler to the distributing roller, and valves controlling the passage of either steam or lubricant exclusively, as desired, to the distributing roller.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

JOHN GRATTON.

Witnesses:
FRANCIS M. WRIGHT,
D. B. RICHARDS.