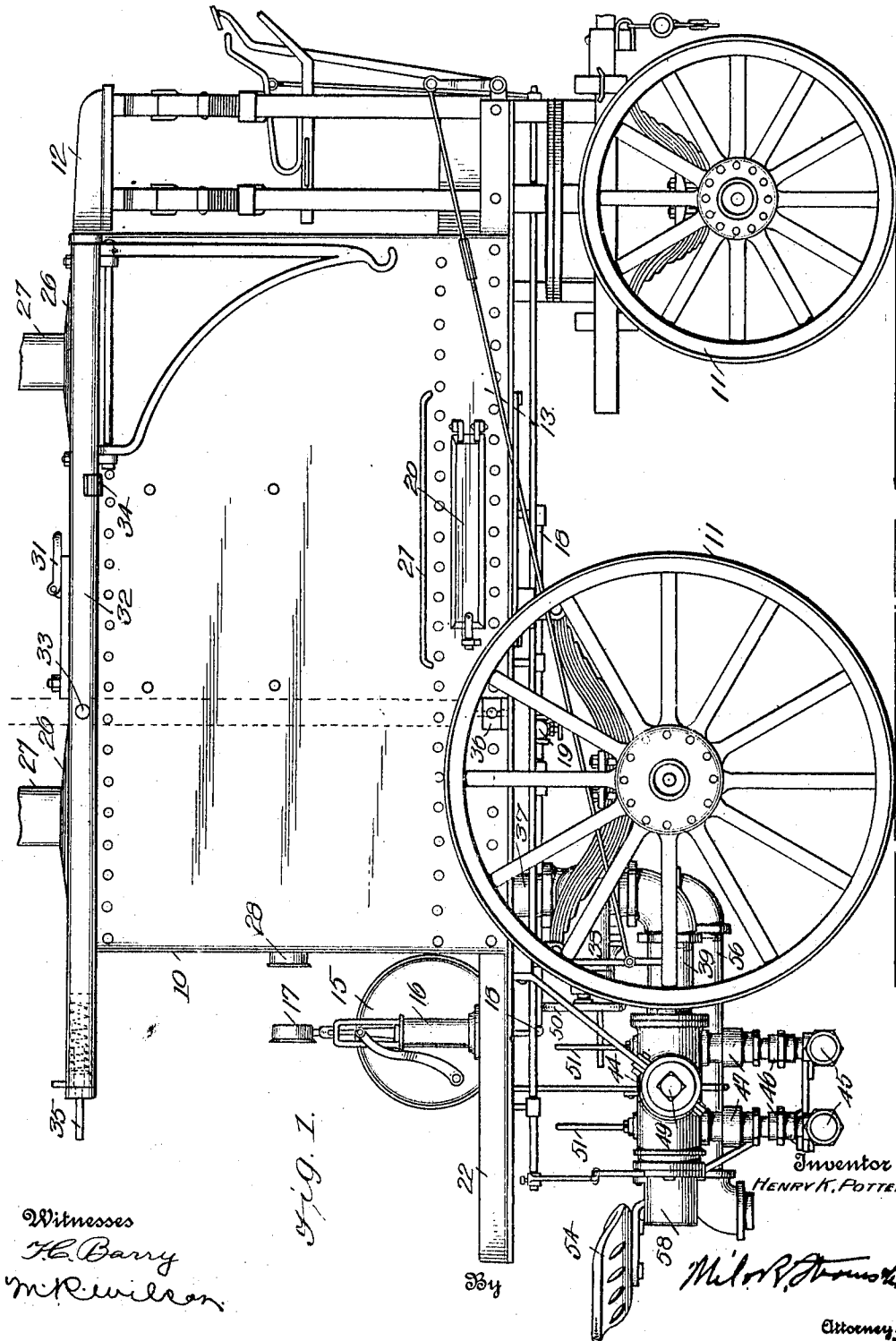


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 APPARATUS FOR TREATING ROADS.
 APPLICATION FILED OCT. 21, 1910.

993,618.

Patented May 30, 1911.

3 SHEETS—SHEET 1.

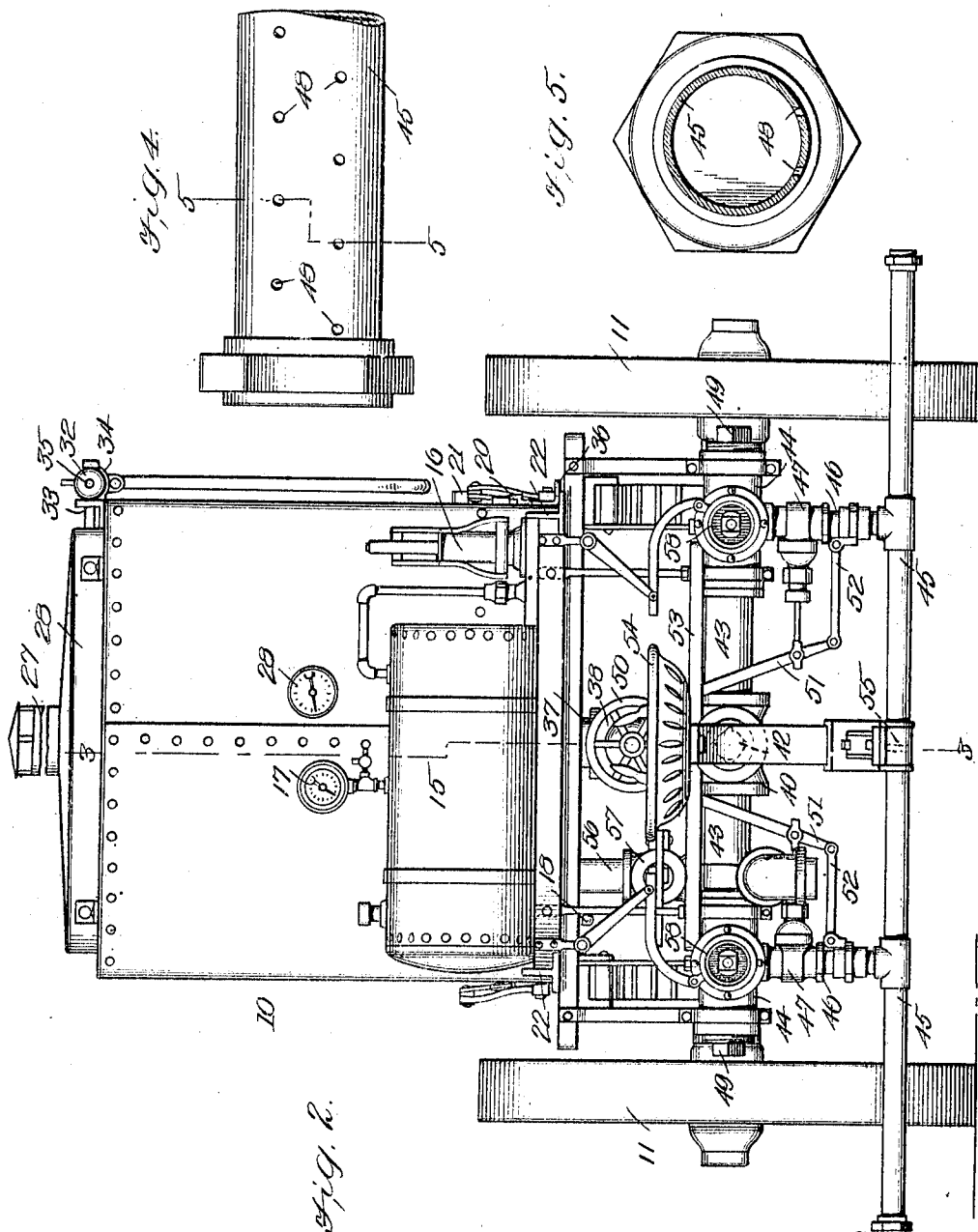


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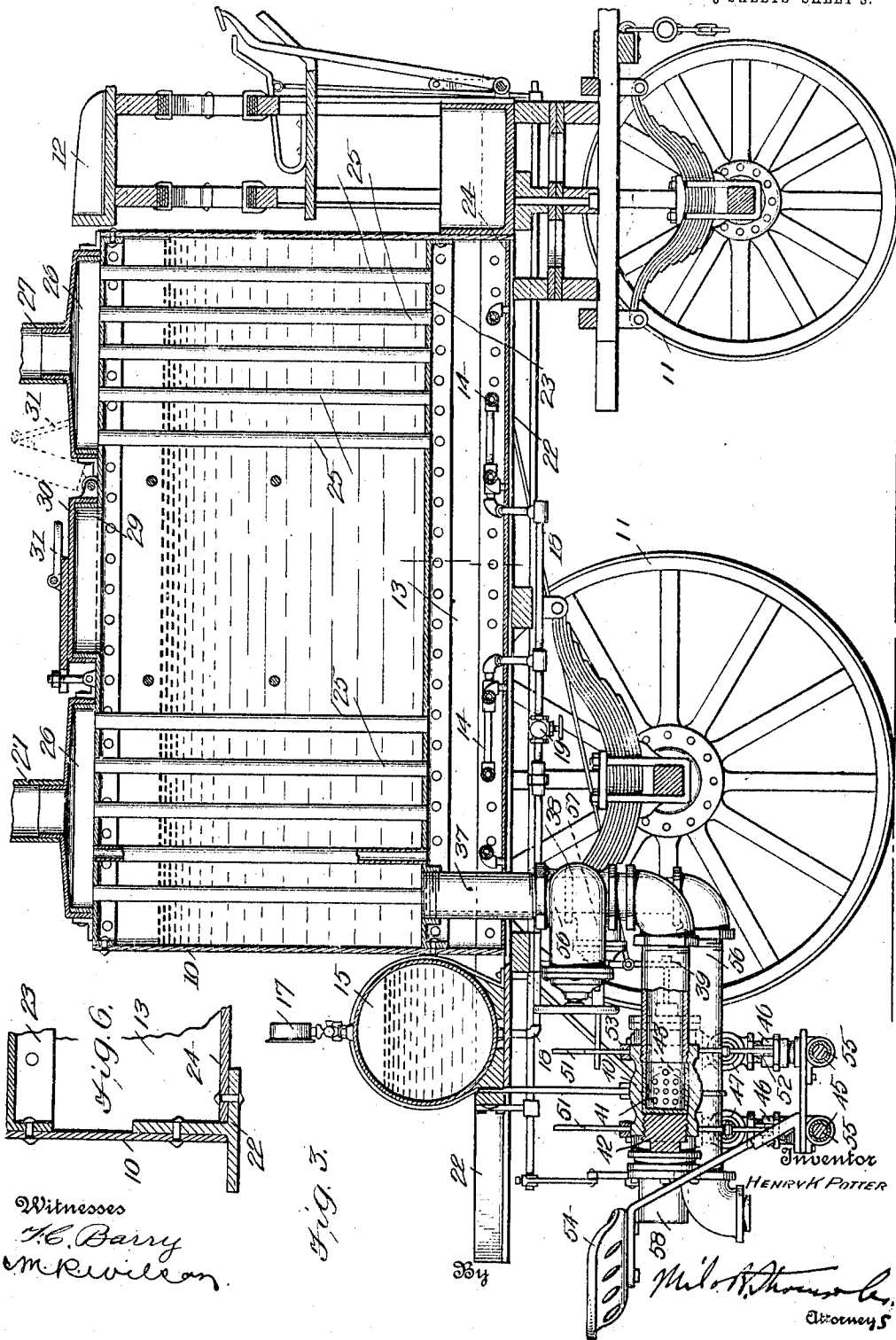
Attorney

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3 SHEETS-SHEET 3.



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Fig. 3.

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APPARATUS FOR TREATING ROADS.

993,618.

Specification of Letters Patent.

Patented May 30, 1911.

Application filed October 21, 1910. Serial No. 588,337.

To all whom it may concern:

Be it known that I, HENRY K. POTTER, citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Apparatus for Treating Roads, of which the following is a specification.

This invention relates to apparatus for applying asphaltic road oils, and emulsifying oils, or any bituminous products—either hot or cold—to roads, for their maintenance, and construction, and also for the purpose of laying dust.

It is the object of the present invention to provide an apparatus of the kind stated by means of which the material can be readily heated and distributed in any desired volume, from the lightest to the heaviest application, and as evenly and as uniformly as though applied by a brush.

A further object of the invention is to provide an apparatus which will handle all kinds of oils, of any consistency or grade, with equal facility, a heater being provided by means of which the oil may be heated so that it will flow freely, thus permitting the use of heavy oils, and also enabling the apparatus to be operated in cold weather.

The invention also has for its object to provide an apparatus of the kind stated embodying certain novel features of construction to be hereinafter described and claimed, reference being had to the accompanying drawings and the detailed description appearing hereinafter.

In the drawings—Figure 1 is a side elevation of the apparatus. Fig. 2 is a rear end view thereof. Fig. 3 is a longitudinal section taken on the line 3—3 of Fig. 2. Fig. 4 is a bottom plan view of a fragment of one of the sprayer pipes. Fig. 5 is a cross section of said pipe taken on the line 5—5 of Fig. 4. Fig. 6 is a sectional detail through one of the corners of the tank and fire box showing the construction thereof.

Referring specifically to the drawings, 10 denotes a rectangular steel tank which is mounted on a platform spring, turn-under, running gear, the wheels 11 of which are fitted with broad tires. At the front end of the running gear is a seat 12 for the driver. Beneath the tank is a fire box 13 extending throughout the entire length and width thereof, and containing liquid-fuel burners

14, fed from a tank 15 mounted on the running gear behind the tank 10. A force feed is had by placing the fuel in the tank 15 under pressure by means of an air pump 16 discharging into said tank. The fuel tank is fitted with a pressure gage 17 to indicate the air pressure therein. The fuel supply pipe 18 running from the tank to the burners, is provided with a valve 19, so that the flames of the burners may be increased, diminished, or extinguished. The fire box is provided with a door 20 through which access to the burners is had, and above the door is located a flash board 21 to prevent any of the contents of the tank which might slop over and run down the side thereof, from running into the fire box.

The running gear carries longitudinal T-rails 22 on which the tank 10 and the fire box 13 are supported. The webs of the rails are upstanding, and to the outer surfaces thereof are riveted, or otherwise secured, the side walls of the tank, said walls being extended to form the side walls of the fire box. The bottom 23 of the tank forms the top of the fire box, and is riveted, or otherwise secured, to the side and end walls of the tank. The bottom 24 of the fire box is secured to the inner flanges of the rails 22, said flanges being horizontal. The lower edges of the side walls of the tank rest on the outer flanges of the rails. The object of this construction is to prevent any of the oil which may slop over and run down the side walls of the tank from entering the fire box.

Through the tank 10 extend flues 25 which are arranged vertically, and open at their lower ends into the fire box 13. The flues are arranged in two groups located, respectively, at the front and rear ends of the tank, one of the burners 14 being located under each group. The upper ends of the flues of each group open into a removable smoke box 26 mounted on top of the tank 10, and fitted with a stack 27. The products of combustion pass from the fire box into the flues, and pass out of the same into the smoke box, from which latter they escape by way of the stacks. Inasmuch as the flues pass through the tank, the contents thereof are rapidly heated. A thermometer 28 is connected to the tank so that the temperature of the contents thereof may be observed.

The top of the tank 10, at the center thereof, has an inlet opening surrounded by an annular flange 29, which latter is fitted with a hinged cover 30 having suitable means for firmly holding it in closed position. To the back of the cover is hinged a foot piece 31 which is designed to engage the top of one of the smoke boxes, as shown by the dotted lines in Fig. 3, when the cover is open, and thus keep the latter from hitting the stack of said smoke box.

On one side of the tank 10 is mounted a crane 32 to facilitate the filling of the tank, the barrels of oil or other material to be emptied into the tank being hoisted to the top thereof, over the filling opening, by means of a suitable tackle connected to the crane, and the latter is pivoted to the tank as indicated at 33 so that it may be swung into horizontal position, out of the way when not in use, it being supported in this position by a bracket 34. A spring bolt 35, carried by the lower end of the crane, and engageable with a suitable keeper 36, holds the crane in upright position.

The contents of the tank 10 are distributed over the road by means of the spraying devices which will now be described: To the bottom of the tank is connected a pipe 37 provided with a gate valve 38, and having a rearward extension 39, to the extremity of which is connected a cross coupling 40 containing a strainer 41. The branch of the cross coupling opposite the one to which the pipe 39 is connected, is closed by a plug 42, and to the other branches of the cross coupling are connected two oppositely extending pipes 43, the cross coupling being arranged so that said pipes 43 are horizontal. To the extremities of each pipe 43 is connected a coupling 44 which carries the spray pipe 45, two of such pipes being provided, they being connected to the couplings 44 by suitable fittings 46, in which latter are interposed gate valves 47. Each spray pipe is thus provided with a valve, so that the flow from both of said pipes may be controlled. The spray pipes are arranged in parallelism and in the same horizontal plane, and each has two rows of outlet apertures 48 arranged staggered. The couplings 44 are provided with clean-out plugs 49.

The apertures 48 are not drilled on radial lines, but they extend parallel to a perpendicular line drawn through the center of the spray pipe. By this arrangement there is no break in the flow of oil at any point below the pipes, and each spray of oil strikes the surface of the ground on an even line, whereby the material is discharged or sprayed evenly and uniformly.

A hand wheel 50 is provided for operating the valve 38. The valves 47 are operated by means of hand levers 51 connected to the stems of said valves, and fulcrumed on stems

52 carried by the fittings 46, the free ends of the levers working in guides 53 carried by the couplings 44. The pipes 45 carry a seat 54, the latter being located so that the operating means of the valves 38 and 47 are within easy access of the operator occupying the seat.

The spray pipes 45 are divided into two sections by a partition 55 located midway between the ends thereof, so that either one or both sections of the pipes may be used by a proper manipulation of the valves 47. The partition is so located that there is no break in the discharge when both sections of the pipes are in use.

To the bottom of the tank 10 is also connected a rearwardly extending pipe 56 provided with a valve 57, and open at its end, said pipe being provided in order that the oil or other material in the tank may be removed for any purpose, and in any quantity, by simply placing a bucket or other receptacle under the discharge end of the pipe, and opening the valve.

To the couplings 44 are secured sprinkler heads 58 in order that the apparatus may also be used for sprinkling water. The structure of the sprinkler heads is immaterial to the present invention, and a detailed description thereof is, therefore, deemed unnecessary. The sprinkler heads are operated by suitable devices having actuating rods extending to the driver's seat.

It will be understood, of course, that the tank 10 will be filled with water when the apparatus is to be used for sprinkling water, and the valves 47 will then also be closed.

I claim:

1. The combination with a vehicle running gear, of a tank mounted thereon, a fire box under the tank, T-rails on the running gear, said rails having their webs upstanding, and the side walls of the tank being extended to form the side walls of the fire box, and secured to said upstanding webs on the outside thereof, the bottom of the fire box being secured to the inner horizontal flanges of the T-rails, and a spraying device connected to the tank.

2. The combination with a vehicle running gear, of a tank mounted thereon, a discharge pipe connected to the tank, a spray pipe, a partition in the spray pipe dividing the same into sections, connections between the discharge pipe and the spray pipe sections, and valves in said connections.

3. The combination with a vehicle running gear, of a tank mounted thereon, an outlet pipe connected to the tank, a cross coupling connected to the end of the outlet pipe, pipes extending in opposite directions from the cross coupling, couplings at the extremities of the last-mentioned pipes, a spray pipe, a partition in the spray pipe, fittings connecting the spray pipe on opposite sides

of the partition to the last-mentioned couplings, and valves in the fittings.

5 4. A spray pipe having parallel rows of discharge apertures set staggered, and piercing the pipe on lines extending parallel to a perpendicular line drawn through the center of the pipe.

In testimony whereof I affix my signature in presence of two witnesses.

HENRY K. POTTER.

Witnesses:

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