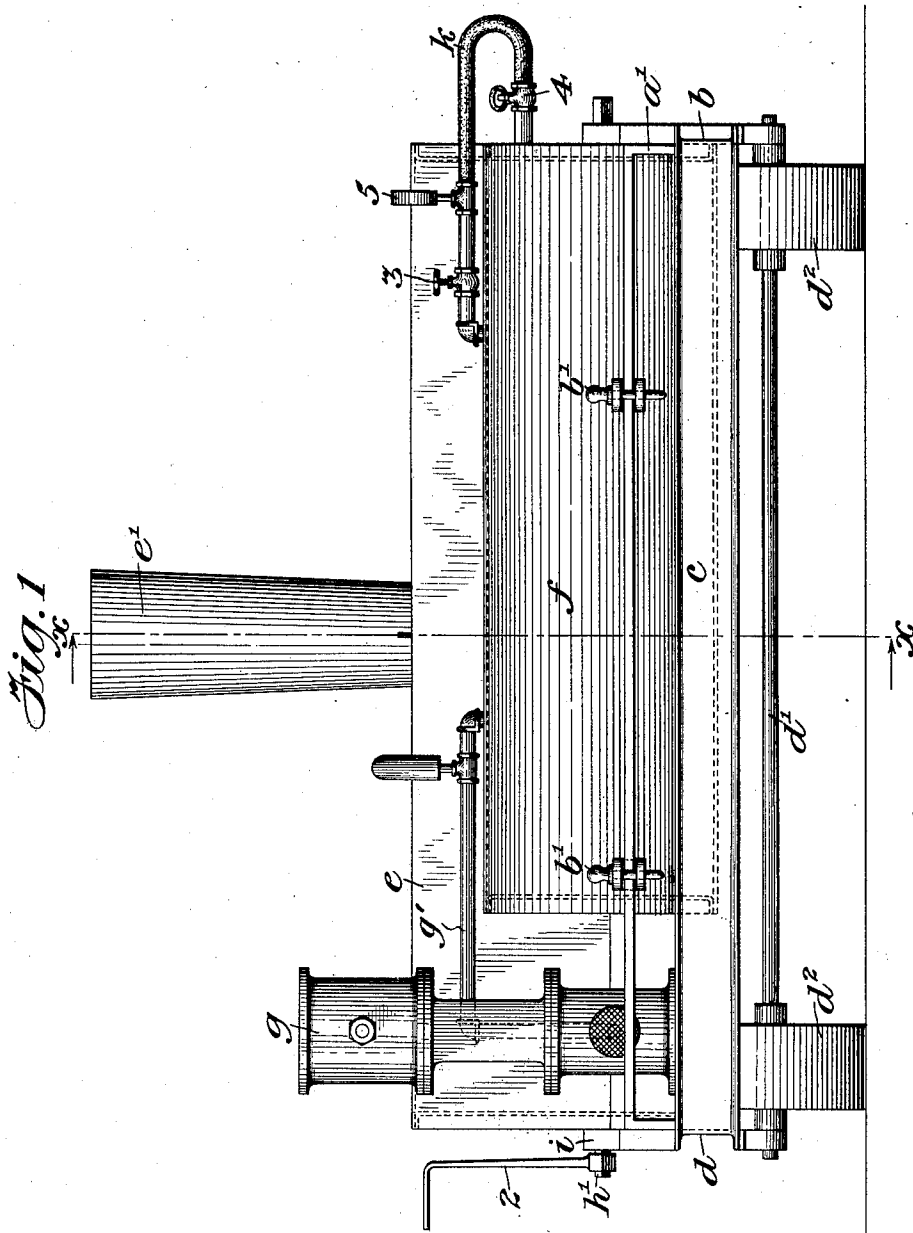


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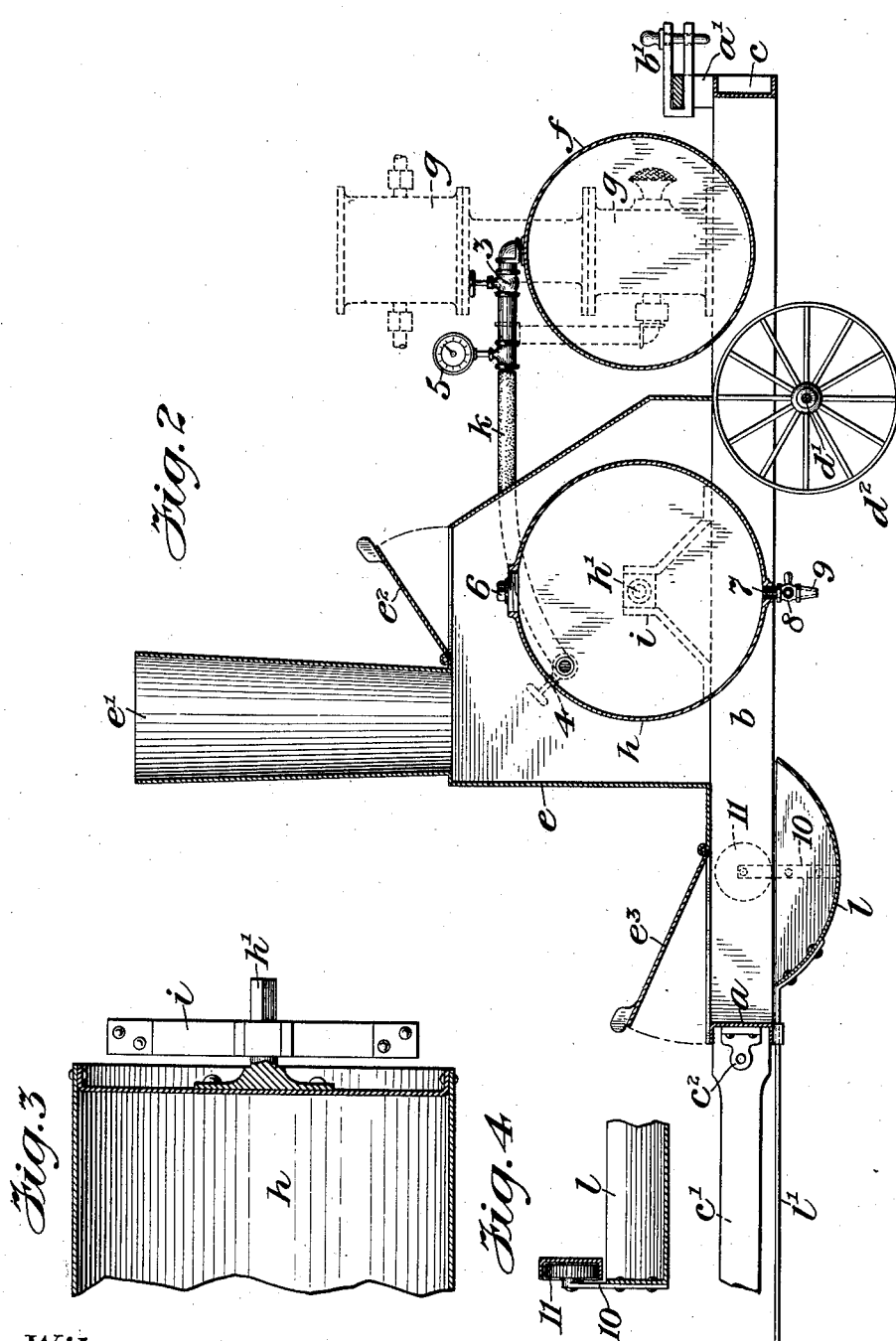
2 SHEETS—SHEET 1.



Inventor.
William N. Gailor
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1,058,420.

2 SHEETS--SHEET 2.



Witnesses;
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UNITED STATES PATENT OFFICE.

WILLIAM H. GAILOR, OF SARATOGA SPRINGS, NEW YORK.

ROAD-SURFACING MACHINE.

1,058,420.

Specification of Letters Patent.

Patented Apr. 8, 1913.

Application filed September 20, 1912. Serial No. 721,418.

To all whom it may concern:

Be it known that I, WILLIAM H. GAILOR, a citizen of the United States, residing at Saratoga Springs, in the county of Saratoga and State of New York, (whose post-office address is No. 192 Union avenue, Saratoga Springs, New York,) have invented a certain new and useful Improvement in Road-Surfacing Machines, of which the following is a specification.

My invention relates to a machine for surfacing a road or street, either after or during the laying of the roadbed, so as to treat the surface with an oil in a heated or cold condition, or with asphalt or similar material in a heated condition. There are various objects for this surfacing which are well known in this art.

In the device of my invention, I employ a revoluble and endwise movable tank for holding the surfacing material, and movable means for heating the contents of this tank, and I preferably employ means for compressing air, and a tank for holding the same, and devices for connecting the compressed air tank and the tank for holding the surfacing material.

The device of my invention is preferably substantially balanced on an axle and pair of wheels and is adapted to be pulled over the surface of the road by an ordinary road roller or similar machine, which is to be connected at one end to the apparatus. A pole is provided and connected at the other end of the apparatus, to which an animal may be attached for transporting the device of my invention from one place to another, all of which is hereinafter more fully set forth.

In the drawing, Figure 1 is a front end elevation illustrating the device of my invention. Fig. 2 is a longitudinal central section on about the broken line $x-x$ of Fig. 1, and looking in the direction of the arrows indicated at the end of this broken line. Fig. 3, in a larger size, is a sectional plan at one end of the revoluble tank for holding the surfacing material and Fig. 4 is a partial cross section taken transversely through the fire pan.

Similar letters and numerals of reference in the respective figures indicate the same parts.

I provide an iron frame or support of substantially square or rectangular outline and consisting of the members a , b , c , and d ,

suitably connected together at the respective ends. Each of these members comprises an upright plate and end flanges bent therefrom in the same direction. At one end of this frame, I provide a frame a^1 and one or more clevis devices b^1 connected to this frame a^1 , and by means of which the machine of my invention is adapted to be connected to a road roller or similar device, whereby the machine is pulled over the surface of the road. c^1 represents a pole at the opposite end of the machine, and c^2 a pole attaching device, and the machine of my invention is substantially balanced upon an axle d^1 and pair of wheels d^2 , suitable bearings being provided and depending from the frame member to this axle d^1 so that the machine is substantially balanced and if moved about for transportation, no great amount of weight rests upon the animal or animals attached to the pole c^1 , and also when pulled in the opposite direction, in the act of surfacing a road or street, no special weight or strain attaches to the clevis devices b^1 . Because of only one pair of wheels, and the arrangement of the parts as shown, the wheels are always forward of the delivery of the oil or asphaltum upon the surface of the road, consequently there is no tracking of the wheels in the material delivered onto the surface of the road.

e represents a casing of sheet metal, extending across and secured to the members of the frame support, and constituting a heating chamber with a smoke stack e^1 rising above the same. One part of this casing is provided with a cover plate e^2 and another part with a cover plate e^3 of larger area.

f represents a tank for compressed air secured to the frame support, and g represents an air compressor, there being a pipe g^1 from the compressor g to the tank f . This air compressor is to be of any suitable or well known character, and while illustrated generally, does not need further description.

Upon the other side of the axle d^1 and within the heating chamber formed by the casing e , is a tank h to hold oil, asphaltum or similar surfacing material. This tank is provided at the respective ends with trunnions h^1 which are mounted in suitable bearings i so that the tank is revoluble and may be turned by means of a crank handle 2 on one end.

k represents a pipe, part of which at least is flexible, and said pipe extends from the air tank f through the casing e to one end of the tank h , and in the length of this pipe 5 k there is a valve 3 near the air tank and valve 4 near the tank h and a pressure gage 5. The union between the pipe k at the valve 4, and the tank h , is preferably of such flexible character as to provide for the 10 rotation or oscillation of the tank h on its trunnions.

As shown in Fig. 2, I provide a plug 6 at the upper part of the tank h , and by means of which the tank is filled with such 15 material as is to be employed for surfacing the road, and at the other side of the tank (the lowermost side in Fig. 2), I provide a series of sleeves 7, valves 8, and nipples 9, which are alined and at spaced intervals 20 extend along the length of the tank and by means of which the oil, asphaltum or other surfacing contents of the tank is to be delivered upon the road. I provide a heating device for the contents of this tank in the 25 form of a fire pan l , which is shown of circular construction in Fig. 2, but may be of any desired shape. It is preferably provided with a handle l^1 , generally alining with the pole c^1 , and on opposite ends of this fire pan, I secure straps 10 and I mount 30 rollers 11 on the upper ends of these straps so that the rollers occupy a position between the flanges of the frame members b and d ; hence, it will be seen that while the fire pan is thus supported at its respective ends, it 35 may be moved from the position shown in Fig. 2 so as to come underneath the tank h . Fuel for this fire pan is supplied by lifting the cover plate e^3 , and even when in the position shown in Fig. 2 by full lines and 40 when the cover plate e^3 is down in place, instead of being raised as shown, this fire pan is still beneath the heating chamber and the products of combustion pass up through 45 the heating chamber and escape by the smoke stack e^1 . This pan may be pushed from the position Fig. 2 by the handle l^1 so as to come beneath the revoluble tank h , that is to say, when the tank is sufficiently 50 turned, so that the series of valves and nipples are in more or less of an elevated position.

In the operation of the device, and presuming that there is a fire of suitable character in the fire pan l while the same is in 55 the full line position Fig. 2, the tank h , in the full line position shown, may be filled more or less with oil, upon the removal of the plug 6, and after filling, the plug is returned to position. The tank is then turned 60 so as to bring the series of sleeves, valves and nipples from a full line position Fig. 2 to an elevated position. In other words, by giving the tank a half rotation. The fire 65 pan may then be pushed from the full line

position Fig. 2 to a position beneath the tank so as to heat the oil to the desired extent, after which the pan may be returned to its full line position Fig. 2 and the tank 70 to its position, so as to open the valves 8, and with the forward movement of the road surfacing machine, to deliver the hot oil upon the surface of the ground or pavement. If the tank is filled with asphaltum or similar material, it is heated in the same 75 manner and the contents delivered by opening the valves 8, and the valves must be turned in an upright position to further heat the tank so that whatever may be the contents of the sleeves 7, valves 8, and nipples 9, an opportunity is given the same to 80 return to the tank when said parts are in an elevated position, thereby preventing them becoming filled up or choked with the oil or asphaltum. In case said valves and their 85 associated parts become choked or filled with the material in the tank, the tank may be turned so that the valves come into an elevated position slightly above the position 90 of the fire pan, hence when the fire pan is run underneath the tank and the valves, the gummy materials adhering to said parts may be burned off, or so thoroughly heated and rendered fluid as to readily return to 95 the tank and leave the valves free and clear for future use. In assembling said parts, the sleeves are screwed into the tank in line, the valves are connected to the sleeves and the nipples in turn screwed into the valves. I do not, however, limit my invention to the 100 use of such parts as a series of nipples alone, or pipes with similar discharge orifices might answer the purpose.

The special advantage of the tank for compressed air is to be able to force the oil 105 or hot asphaltum out of the tank to a greater extent than would be possible by a gravity flow, and while I do not limit my invention to the use of an air compressing apparatus and an air tank and connections therefrom 110 to the tank for oil or asphaltum, yet under certain conditions, the employment of air under pressure is advantageous, and then the same is admitted from the air tank f past the valve 3 through the pipe k and past 115 the valve 4 into the tank h , above the contents thereof, so as to force out the oil or liquid asphaltum more rapidly than would be possible under a gravity flow. The pressure in the tank f may always be obtained 120 by opening the valve 3 before opening the valve 4, under which conditions the pressure may be noted in the pressure gage 5.

I claim as my invention:

1. The combination in a road surfacing 125 machine, with a suitable frame support, an axle and a pair of wheels upon which the same are mounted, of devices at one side of the axle for compressing air and storing the same, revoluble devices on the other side of 130

the axle for receiving oil or other similar material for surfacing the road, and for delivering the same upon the surface of the road, devices forming a heating chamber inclosing the said revoluble devices, and shift-
5 able devices for heating the said revoluble devices.

2. In a road surfacing machine, and in combination, a heating chamber, shiftable
10 means for heating the same, a revoluble tank mounted in the heating chamber, means associated with the tank whereby the same may be filled with suitable road surfacing material, and a series of devices connected
15 to the tank for delivering the road surfacing material from the tank to the surface of the road, the tank being turned to position with the said devices lowermost when in operation and to the position, with the said
20 devices uppermost, when not in operation so as to permit the same to drain back into the tank.

3. In a road surfacing machine, and in combination, a heating chamber, means for
25 heating the same, a revoluble tank mounted in the heating chamber, means associated with the tank whereby the same may be filled with a road surfacing material, a series of devices connected to the tank for delivering the surfacing material therefrom to
30 the road, the tank being so revolved that the said devices are in their lowermost positions when the apparatus is in operation, and

turned so that the said devices are in their uppermost positions when the apparatus is
35 not in use, thereby permitting the said devices to drain back into the tank, and devices connected to the tank for supplying compressed air thereto.

4. In a road surfacing machine, and in
40 combination, a heating chamber, a revoluble tank mounted in the heating chamber, means associated with the tank whereby the same may be filled with a road surfacing material, a series of devices connected to
45 the tank for delivering the surfacing material therefrom to the road, the tank being so revolved that the said devices are in their lowermost positions when the apparatus is
50 in operation, and turned so that the said devices are in their uppermost positions when the apparatus is not in use, thereby permitting the said devices to drain back in the tank, devices connected to the tank for supplying compressed air thereto, and a shift-
55 able heating device adapted to be placed immediately beneath the revoluble tank, when the discharge devices are in their uppermost positions, and to be removed from beneath the tank when the said discharge devices are
60 in their lowermost positions.

Signed by me this 22d day of June, 1912.

WILLIAM H. GAILOR.

Witnesses:

JOHN G. MUNSEY,
FRED ALBRIGHT.