Dec. 27, 1938. C. JACKSON 2,141,301

CONCRETE WORKING MACHINE

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Fig. 1.

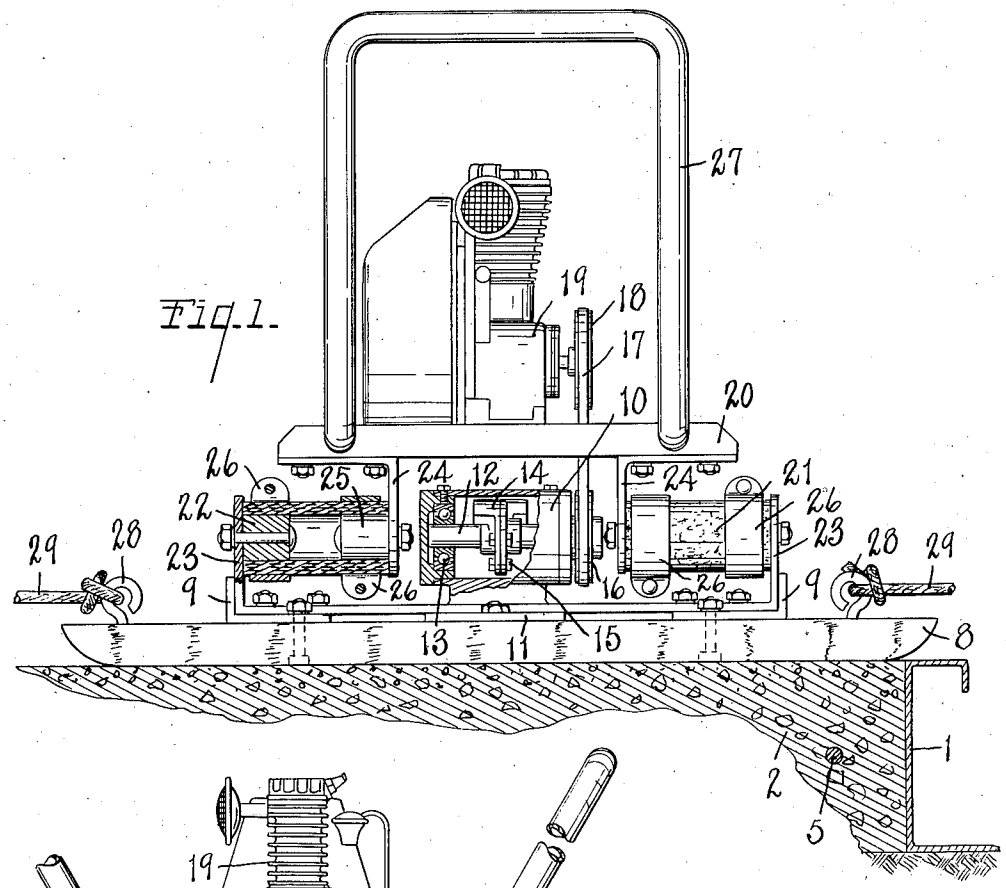
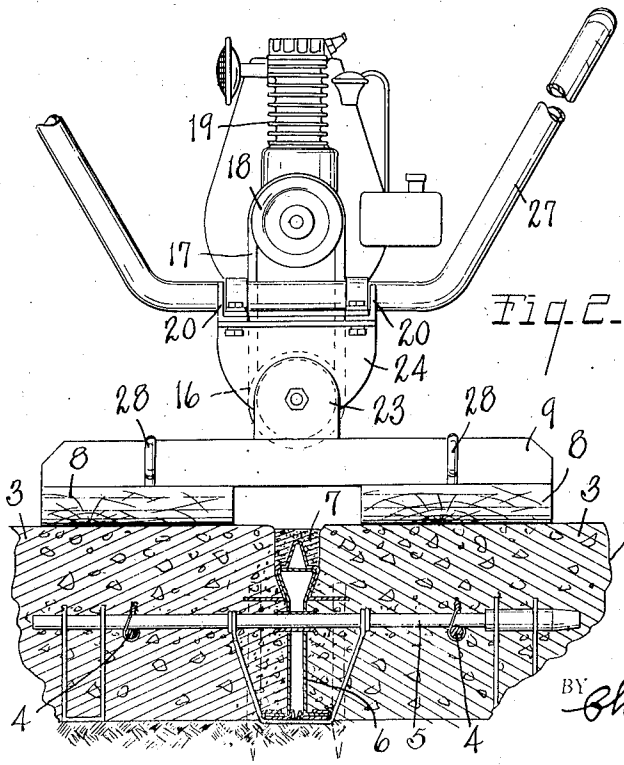


Fig. 2.



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CONCRETE WORKING MACHINE

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11 Claims. (Cl. 94—48)

This invention relates to improvements in concrete working machines.

The main objects of this invention are:

First, to provide a machine for vibrating concrete pavements or beds of concrete at the joint thereof.

Second, to provide a machine for use in the placement of concrete paving and the like in which the concrete is effectively vibrated at the joints to properly embed the reinforcing and doweling elements and to effectively vibrate the concrete around the joint elements.

Third, to provide a machine having these advantages which is very convenient in its manipulation and highly efficient for the purpose and also one which is of large capacity.

Objects relating to details and economies of the invention will appear from the description to follow. The invention is defined and pointed out in the claims.

A preferred embodiment of the invention is illustrated in the accompanying drawing, in which:

Fig. 1 is a side view of my improved concrete working machine, parts being broken away and shown in vertical section, the machine being shown in operative relation to a slab of concrete.

Fig. 2 is a fragmentary end view, the machine being illustrated in operative relation to a pavement joint of one type.

In the accompanying drawing, 1 represents a side form of a pavement and 2 designates a pavement or bed of concrete and 3, 3 adjacent paving slabs having reinforcing rods 4 therein and dowel pins 5.

Between the paving slabs are joint members 6, a cap or protecting filler 7 being provided for the joint. While I have illustrated one particular type of joint, it will be understood that this has been done merely to show the adaptability of the machine and that the machine is adapted for use in the placement of concrete highways—for example, having any type of joint.

My concrete treating machine comprises a pair of shoes 8 disposed in parallel relation and connected by the angle iron cross bars 9. The shoes are rigidly held in spaced relation so that they rest upon the slabs or bed of concrete at opposite sides of the joint which it is desired to vibrate.

On these shoes I mount a vibrating member or unit, the embodiment illustrated comprising a cylindrical housing 10 having a base plate 11 mounted on the shoes centrally thereof—that is, centrally relative to their length with the housing centrally transversely of the shoes.

In this housing I mount a shaft or rotor 12, the shaft being supported by the bearings 13 so that vibrations of the shaft are imparted to the housing and thereby to the shoes.

The shaft is provided with an unbalancing weight comprising a pair of members 14 adjustably associated with each other so that by shifting relative to each other the amount or degree of vibration can be controlled. The members are connected in their adjusted position by means of bolts 15 engaging slots in the members, the details of this not being illustrated.

The shaft is provided with a pulley 16 receiving the belt 17 from the driving wheel 18 of the motor 19 preferably an internal combustion engine as is illustrated in the accompanying drawing. This motor is mounted on a base 20, the base being mounted on the shoes by means of the flexible supports 21. These flexible supports are in the form of relatively heavy tubing or hose, the outer ends of which are engaged on the coupling members 22 carried by the angled brackets 23. The motor base is provided with angled brackets 24 having coupling members 25 which project into the opposite end of these resilient supports, the resilient supports being clamped upon the coupling members by means of the clamp 26 which is similar to a hose clamp. This provides an effective cantilever support for the motor and relieves it of the vibration imparted to the shoes by the vibrating means. They are in effect shock or vibration absorbers.

Upwardly diverging handles 27 are mounted on the motor base and project to such height that they can be conveniently grasped by workmen standing at either side of the shoes.

The shoes are provided with eye-bolts 28 at each end to which the ropes or cables 29 are connected to permit the machine being drawn back and forth across a pavement with its shoes astride a joint thereby vibrating the joint or the concrete at the joint without the necessity of a workman standing or walking upon the concrete.

The machine may be drawn or lifted off the concrete and transported from joint to joint.

My concrete working machine is very effective for the working or treatment of joints; the concrete is effectively vibrated and compacted and worked around the reinforcing and joint elements and voids eliminated even where the joint members are provided with laterally projecting flanges as indicated at 30, Fig. 2.

I have illustrated and described my improvements in a very practical embodiment thereof. I have not attempted to illustrate or describe cer-

tain other embodiments or adaptations which I contemplate as it is believed that this disclosure will enable those skilled in the art to which my invention relates to embody or adapt the same as may be desired.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent, is:

1. In a machine of the class described, the combination of shoes disposed in spaced parallel relation to straddle a pavement joint, cross members connecting said shoes, a vibrating member comprising a housing provided with a base mounted on said shoes centrally thereof, a shaft mounted in said housing in parallel relation to said shoes and provided with an unbalancing weight, said shaft being centrally disposed relative to said shoes, a motor, a motor base, opposed supports for said motor base disposed in alinement with said shaft and comprising tubular members of resilient material mounted at their outer ends on said shoe cross members, said motor base being mounted on the inner ends of said supports, a driving connection for said motor to said shaft, opposed upwardly diverging handles on said motor base, and propelling means at each end of said shoes.

2. In a machine of the class described, the combination of shoes disposed in spaced parallel relation to straddle a pavement joint, cross members connecting said shoes, a vibrating member comprising a housing provided with a base mounted on said shoes centrally thereof, a shaft mounted in said housing in parallel relation to said shoes and provided with an unbalancing weight, said shaft being centrally disposed relative to said cross, a motor, a motor base, opposed supports for said motor base disposed in alinement with said shaft and comprising tubular members of resilient material mounted at their outer ends on said shoe cross members, said motor base being mounted on the inner ends of said supports, and a driving connection for said motor to said shaft.

3. In a machine of the class described, the combination of shoes disposed in spaced parallel relation to straddle a pavement joint, a vibrating member comprising a housing provided with a base mounted on said shoes centrally thereof, a shaft mounted in said housing in parallel relation to said shoes and provided with an adjustable unbalancing weight, said shaft being centrally disposed relative to said shoes, a motor, a motor base, opposed supports for said motor base disposed in alinement with said shaft and comprising tubular members of resilient material mounted on said shoes, said motor base being mounted on the other ends of said supports, and a driving connection for said motor to said shaft.

4. In a machine of the class described, the combination of shoes disposed in spaced parallel relation to straddle a pavement joint, a vibrating member comprising a housing provided with a base mounted on said shoes centrally thereof, a shaft mounted in said housing in parallel relation to said shoes and provided with an unbalancing weight, said shaft being centrally disposed relative to said shoes, a motor, a motor base, opposed supports for said motor base disposed in alinement with said shaft and comprising tubular members of resilient material mounted on said shoes, said motor base being mounted on the other ends of said supports, and a driving connection for said motor to said shaft.

5. In a machine of the class described, the combination of shoes disposed in spaced parallel relation, a vibrating member mounted centrally between said shoes and comprising a shaft disposed longitudinally thereof and provided with an unbalancing weight, a motor mounted on said shoes, vibration absorbing means for supporting said motor on said shoes comprising a pair of laterally extending resilient members each fixedly secured at one end to the shoes and supporting the motor at the other end, driving connections for said motor to said shaft, and handles connected above said vibration absorbing means and positioned to be grasped by workmen at the sides of the shoes.

6. In a machine of the class described, the combination of shoes disposed in spaced parallel relation, a vibrating member mounted centrally between said shoes and comprising a shaft disposed longitudinally thereof and provided with an unbalancing weight, a motor mounted on said shoes, means for supporting the motor on the shoes comprising a pair of resilient members each secured to the shoes and to the motor, and driving connections for said motor to said shaft.

7. In a machine of the class described, the combination of shoes disposed in spaced relation, a vibrating member mounted on said shoes, a motor mounted on said shoes, means for supporting said motor on said shoes comprising a motor supporting base and resilient cantilever members fixedly connected at one end to said shoes and at the other end to said base, and driving connections for said motor to said vibrating member.

8. In a machine of the class described, the combination of a shoe adapted to engage a bed of cement for vibrating the same, means for vibrating the shoe comprising a rotor attached to the shoe, a motor for driving the rotor, means for resiliently supporting said motor on the shoe comprising a motor supporting base, brackets carried by said base and shoe respectively, a pair of flexible tubular cantilever members each fixedly connected at one end to said shoe brackets and at the other to said base brackets, and means for drivingly connecting said rotor to said motor.

9. In a machine of the class described, the combination of a shoe adapted to engage a bed of cement for vibrating the same, means for vibrating the shoe comprising a motor, means for resiliently supporting said motor on the shoe comprising a motor supporting base, brackets carried by said base and shoe respectively, and a pair of flexible tubular cantilever members each fixedly connected at one end to said shoe brackets and at the other to said base brackets.

10. In a machine of the class described, the combination of a shoe adapted to engage a bed of cement for vibrating the same, means for vibrating the shoe comprising a motor, and means for supporting said motor on the shoe comprising a motor supporting base, brackets carried by said base and shoe respectively, and a flexible cantilever member fixedly connected at one end to said shoe bracket and at the other to said base bracket.

11. In a machine of the class described, the combination of a shoe adapted to engage a bed of cement for vibrating the same, means for vibrating the shoe comprising a motor, and means for supporting said motor on the shoe comprising a flexible cantilever member fixedly connected at one end to said shoe and at the other to said motor.

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