

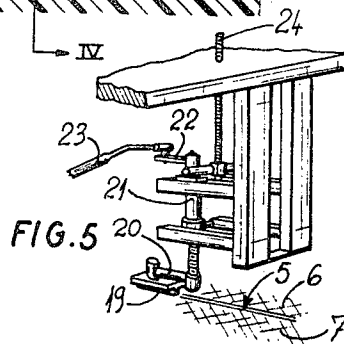
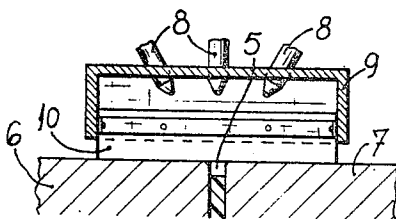
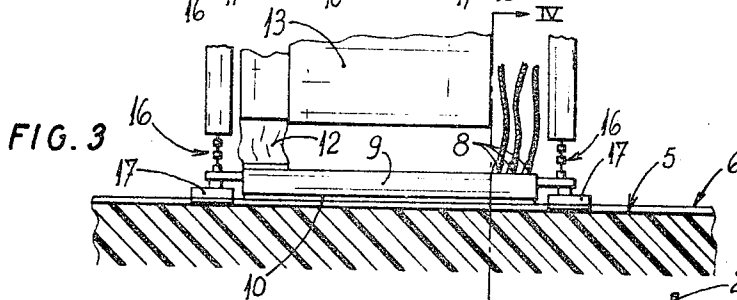
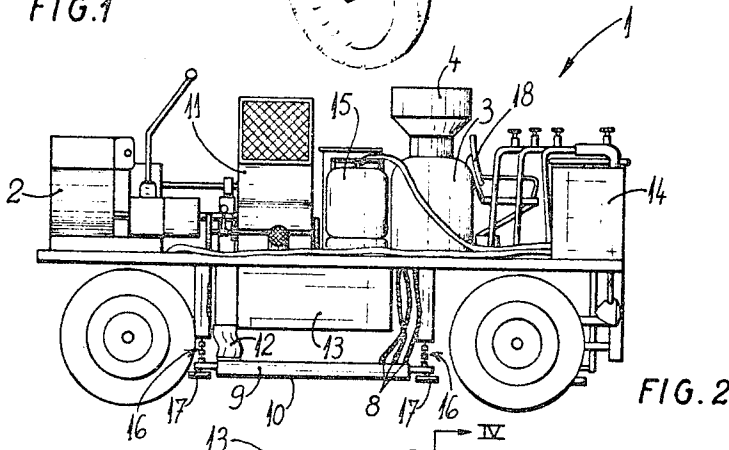
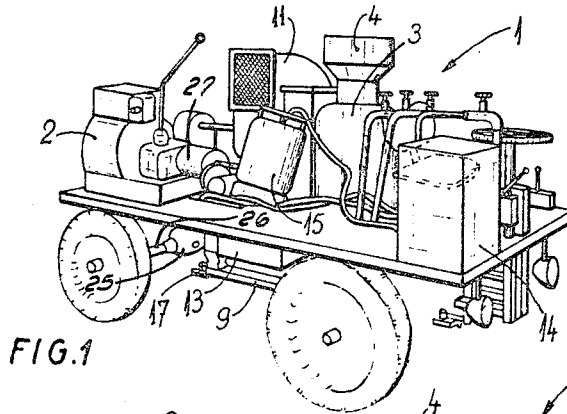
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MACHINE FOR CLEANING A JOINT IN A WORK OF CONCRETE

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MACHINE FOR CLEANING A JOINT IN A WORK OF CONCRETE

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2 Claims

ABSTRACT OF THE DISCLOSURE

A machine for cleaning a joint in concrete which is mounted on a motor vehicle and which has sand blast nozzles and a bell shaped hood which surrounds the nozzles and which is evacuated, and the bell shaped hood has guide blocks for engaging the joint. The machine may have a feeler which engages the joint and steers the vehicle.

The present invention relates to a machine for cleaning a joint in a work of concrete.

This machine is characterized by the fact that it comprises a motor vehicle under which is arranged a bell-shaped member lying on the work of concrete, above the joint, from which opens at least one nozzle for projecting sand into the joint, for cleaning it, this bell-shaped member being submitted to a low pressure so that the sand which has been used for cleaning the joint may be afterwards aspirated out of the bell-shaped member.

The drawing shows, by way of example, one embodiment of the invention.

FIG. 1 is a diagrammatic perspective view of the machine.

FIG. 2 is a diagrammatic elevational view thereof.

FIG. 3 is an elevational of a detail, at an enlarged scale.

FIG. 4 is a sectional view along line IV—IV of FIG. 3, at an enlarged scale, and,

FIG. 5 is a perspective view of another detail.

The machine comprises a motor vehicle 1 driven by a hydraulic motor 25, situated on the rear axle 26 of the vehicle, and which is fed by a pump 27 driven by an internal combustion engine 2.

This vehicle carries a tank 3 for sand, provided with a feeding cone 4; this sand is projected by means of compressed air produced by a compressor, not shown, mounted on a carriage tracted by the vehicle 1, into a joint 5 situated between two concrete ground elements 6 and 7, for cleaning this joint. It is to be noted that the compressor could also be carried by the vehicle 1 itself.

The sand transported by the compressed air is projected by three nozzles 8 mounted on a bell-shaped member 9 situated under the vehicle 1 and which lies on the concrete work by the intermediary of an annular tightening gasket 10 provided on the edge of this bell-shaped member 9. This gasket is made of nylon or of rubber, or of any other flexible material. The sand is projected by the three nozzles in different directions, so that the lateral walls of the joint as well as its bottom are touched.

The used sand, as well as the impurities detached from the joint, are aspirated by a pump 11 carried by the vehicle 1 and driven by the internal combustion engine 2, through an aspirating pipe 12 opening in the bell-shaped member 9, at the rear extremity of this latter. A decanting vessel 13 is located between the bell-shaped member

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9 and the pump 11, so that the sand will be decelerated therein and does not reach the pump.

In order that, on this one hand, the joint may be dried at the same time it is cleaned, and, on the other hand, the sand may be recovered in a dry condition, the compressed air is pre-heated at a temperature of about 300° C. To this effect, before being loaded with sand, the compressed air passes through a warming device 14 heated by means of a gas contained in a bottle 15.

It is to be noted that the bell-shaped member 9 is merely hung by its two extremities, at 16, to the vehicle, so as to freely lie on the concrete ground elements 6 and 7. The bell-shaped member is provided, at its two extremities, with guide-blocks 17 engaged in the joint 5, and which oblige it to proceed along the joint. A lifting device, which has not been represented, permits to lift the bell-shaped member 9 when the vehicle has to move without operating.

At last, in spite of the fact that the vehicle is provided with a seat 18 (FIG. 2) for an operator, it comprises an automatic guiding device which obliges it to proceed from itself along the joint to be cleaned. This guiding device comprises a guide-block 19 engaged into the joint and which is operatively connected, by a lever 20, a shaft 21 and a lever 22, to the steering rod of the vehicle, designated by 23. Thus, the front wheels of the vehicle are guided by the position of the guide-block 19, this position being determined by the joint 5 in which is engaged this guide-block. A screw-device 24 permits to lift the guide-block 19 out of the joint 5 when the vehicle has to be moved without operating.

The machine will comprise, preferably, a supplementary nozzle for the projection of sand, mounted at the extremity of a flexible pipe, serving to hand clean the joint and thus permitting to clean sections of the joint, as for instance ends thereof, which cannot be reached by the bell-shaped member 9.

What I claim is:

1. In a machine for cleaning a joint in a work of concrete, a motor vehicle, a bell-shaped member lying on the work of concrete and arranged under the vehicle, at least a nozzle for projecting sand opening into the bell-shaped member whereby sand is projected into the joint for cleaning it, a device for producing a low pressure in the bell-shaped member for aspirating the sand used for cleaning the joint out of the bell-shaped member, guide-blocks at the front and rear extremities of the bell-shaped member, the guide-blocks being engaged in the joint for guiding the bell-shaped member.

2. In a machine as claimed in claim 1, a feeler intended to engage the joint, and a steering device of the vehicle to which the feeler is operatively connected so that the vehicle may be automatically steered in such a way as to proceed along the joint.

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