

H. H. WOLFE.
FLOOR SURFACING MACHINE.
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1,438,283.

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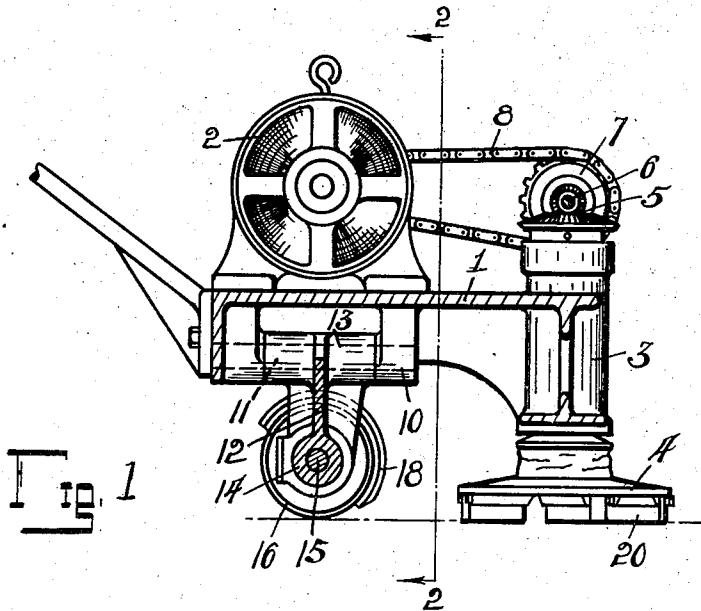


Fig. 1

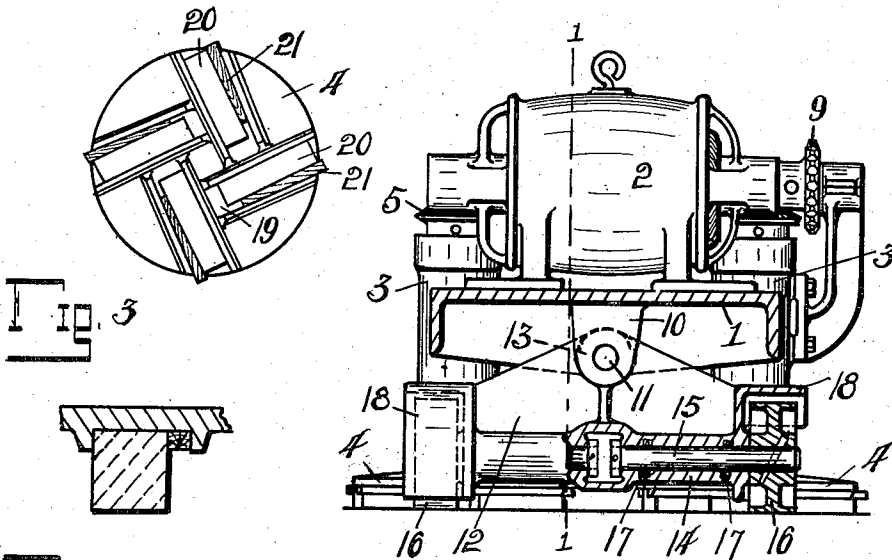


Fig. 2



Fig. 3

Fig. 4

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FLOOR-SURFACING MACHINE.

Application filed May 9, 1921. Serial No. 468,194.

To all whom it may concern:

Be it known that I, HARRY H. WOLFE, a citizen of the United States, and a resident of Toledo, in the county of Lucas and State of Ohio, have made an invention appertaining to Floor-Surfacing Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the characters of reference marked thereon, which form a part of this specification.

This invention relates to machines for surfacing floors of terrazzo, marble, mosaic, composition, tile or the like.

An object of my invention is the provision, in a machine of the class described, of a rocking joint between the truck and frame which will permit the truck and grinding disks or heads to have relative rocking movements to accommodate themselves to any unevenness in a floor over which operating without rocking the machine frame.

In the use of machines of this character, considerable difficulty is experienced by reason of the alkaline slush, in which the grinding disks work, entering the wheel bearings and soon destroying the same. An object of the invention is to so mount the truck wheels of the machine as to permit free differential movements thereof and to protect their bearings from the alkaline slush in which the wheels work and which is thrown on the wheels and carrying parts by the rotation of the abrading disks.

A further object of the invention is the provision of a simple, efficient and improved means for securing the abrading blocks in the disks or carrying heads.

The invention is fully described in the following specification, and while, in its broader aspect, it is capable of embodiment in numerous forms, a preferred embodiment thereof is illustrated in the accompanying drawings, in which,—

Figure 1 is a vertical longitudinal section of the machine on the line 1—1 in Fig. 2, with parts in full and parts broken away. Fig. 2 is a cross-section thereof on the line 2—2 in Fig. 1, with a part broken away. Fig. 3 is a bottom view of a block holding disk with a set of abrading blocks secured therein, and Fig. 4 is an enlarged fragmen-

tary section across the disk and one of the blocks carried thereby.

Referring to the drawings, 1 designates the machine frame forming a platform on its top for supporting a motor 2, in the present instance, of the electric type, and having its forward end provided at opposite sides thereof with vertical bearings 3, 3 in each of which is mounted a shaft carrying at its lower end a rotary disk or abrading-block carrying-head 4. The upper end of each shaft has beveled gear connection 5 with a cross shaft 6 suitably journaled in the frame and provided with a sprocket-wheel 7 in connection, through a sprocket chain 8, with a sprocket wheel 9 on the motor shaft.

The frame 1 is provided centrally at the under side of its rear portion directly beneath the motor with a pair of depending bearing lugs 10, which are spaced longitudinally of the frame and support the ends of a horizontally disposed pin or shaft 11. A truck frame 12 is provided at its central top portion with a bearing portion 13 disposed transversely of the truck and mounted on the shaft 11 intermediate the bearing lugs 10, whereby the truck is permitted to have free transverse rocking movements relative to the frame. The truck frame 12 forms an axle housing 14 in each end portion in which an independent differentially rotatable shaft section 15 is journaled. A truck wheel 16 is fixed to the outer end of each axle section whereby the wheel and axle are caused to turn together. Each axle section has a pair of bearings 17 within the axle housing and protected thereby from the slush in which the machine is operated. The axle housing at each end has a guard 18 extending partly around the respective wheel 16 to protect the wheel and its axle as much as possible from the slush thrown by the abrading disk. The axle 15 of the truck is preferably disposed in a vertical plane with the motor shaft axis so that the weight of the motor is equally distributed at both sides of the axle.

The rotary disks 4 are provided on their undersides with a plurality of pairs of ribs forming grooves 19 for receiving abrading blocks 20. It has heretofore been customary to secure the abrading blocks in the disk grooves by the use of metal wedges driven into the grooves between a side thereof and a block disposed therein. It is found, however, that these wedges due to the unyield-

ing nature of both the blocks and the groove walls soon loosen and drop out, so that considerable difficulty is experienced in securely holding the blocks in position. To obviate this difficulty I employ block holding wedges 21 of wood, which during use become tightened by reason of the swelling thereof by the absorption of the slush liquid in which they work, so that the blocks instead of becoming loosened in use are more firmly tightened and held in position by the use of wooden wedges than by the use of the metal wedges heretofore employed.

It is evident that the mounting of the frame on the truck to permit a relative transverse rocking thereof is quite an important feature in machines of this class as it allows the abrading disks and truck to have any movement necessary to accommodate themselves to any unevenness in the floor over which operating, thereby facilitating the action of the machine and enhancing its practicability and commercial value. It is also evident that by disposing the truck bearings in protecting position within the axle housing and providing each wheel with an independent axle section, the wheels are permitted to have free independent or differential turning movements and the bearings therefor are protected from the deteriorating action of the slush in which the machine is working, thereby materially prolonging the life of the bearings and the easy running of the machine.

I wish it understood that my invention is not limited to any specific construction, arrangement or form of the parts, as it is capable of embodiment in numerous forms without departing from the spirit of the claims.

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

1. In a floor surfacing machine, a frame forming a motor support and having a pair of transversely spaced vertical bearings at one end, shafts journaled in said bearings and having rotary abrading heads at their lower ends, a motor mounted on the rear portion of the frame with its shaft trans-

verse thereto, driving connection between the motor and vertical shafts, and a supporting truck for the frame disposed directly beneath the motor and connected to the frame for transverse rocking movements relative thereto.

2. In a floor surfacing machine, a frame having at its forward end a pair of transversely spaced downwardly extending vertical bearings, shafts journaled in said bearings and having rotary abrading heads at their lower ends, a motor mounted on the rear portion of the frame with its shaft transverse thereto, driving connection between the motor and shafts, a pair of truck bearings at the under side of the rear portion of the frame spaced longitudinally thereof and axially aligned with a point midway between the axes of the vertical bearings, one of said truck bearings being disposed at each side of a vertical plane parallel to and intersecting the motor shaft axis, and a two-wheel truck pivotally connected to the truck bearings for transverse rocking movements in a vertical plane relative to the truck.

3. In a floor surfacing machine, a frame having at its forward end a pair of transversely spaced downwardly extending bearings, shafts journaled in said bearings and having abrading heads at their lower ends, a motor mounted on the rear portion of the frame, driving connection between the motor and shafts, a truck frame disposed directly below the motor and connected to the frame for transverse rocking movements relative thereto with its rocking axis aligning with a point substantially central between said shafts, shaft sections journaled in and projecting from opposite ends of the truck frame for differential rotation therein, and a wheel fixed to the outer end of each shaft section, the truck frame having a guard projecting therefrom around the side of each wheel adjacent to a shaft abrading head.

In testimony whereof I have hereunto subscribed my name to this specification.

HARRY H. WOLFE.