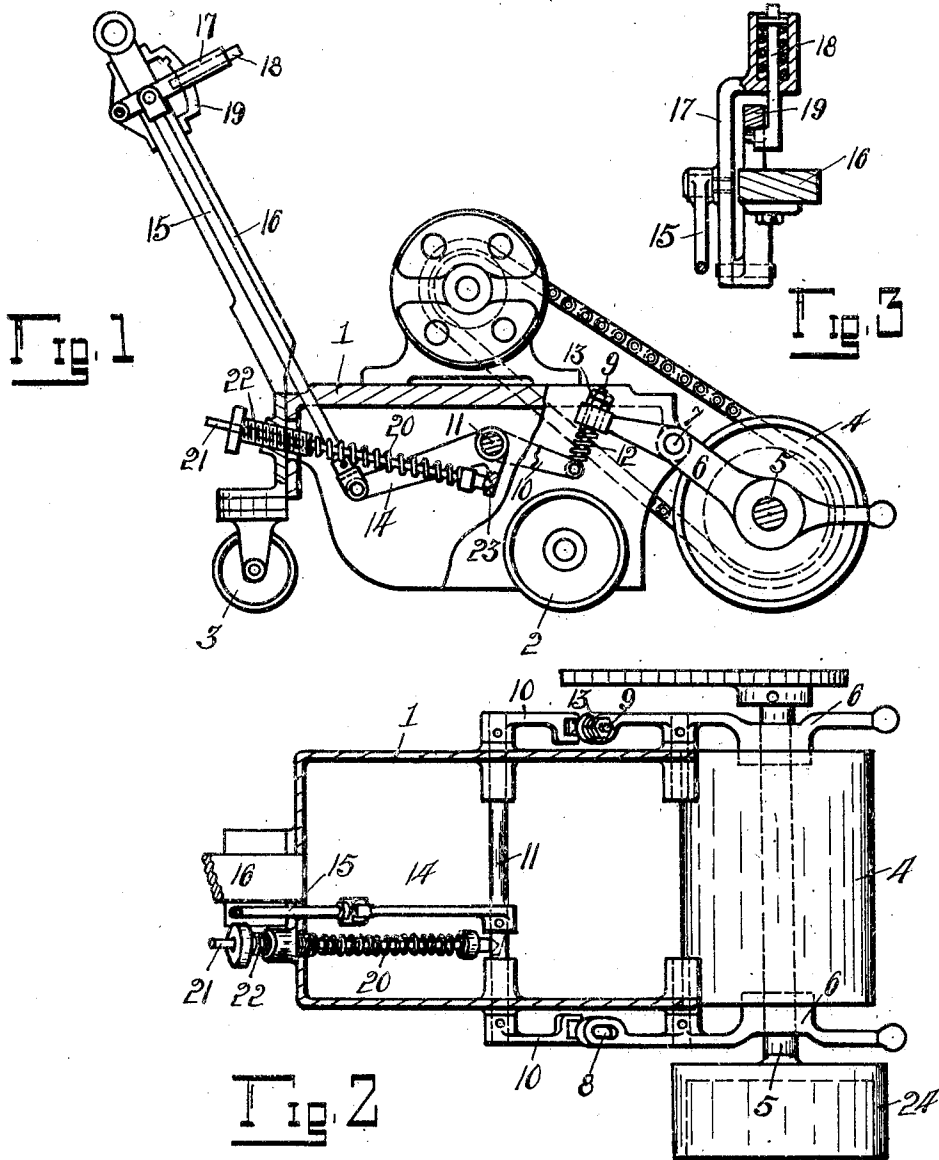


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TENSION MEANS FOR FLOOR SURFACING MACHINES.
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INVENTOR

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UNITED STATES PATENT OFFICE.

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TENSION MEANS FOR FLOOR-SURFACING MACHINES.

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Specification of Letters Patent.

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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 Tension Means for 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 floor surfacing machines, and particularly to spring tensioning means for the surfacing drums thereof.

The object of the invention is the provision of a simple and efficient yielding tension means for the surfacing drums of floor surfacing machines, or the like, which means is adapted to apply an equalized pressure on both ends of the drum, is adapted to permit a yielding automatic adjustment of the drum to any unevenness in the surface over which operating, and to permit the drum to move up and down to conform to irregularities in the surface without practically affecting the spring tension, is also capable of adjustment to vary the spring tension, as necessitated by the nature of the work being performed, and is so arranged as to permit the drum to be instantly raised or lowered by the control means, as desired.

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 side elevation of a floor surfacing machine embodying the invention, with a portion broken away. Fig. 2 is a top plan view thereof with parts removed and broken away, and Fig. 3 is a fragmentary detail of the control lever and its catch means.

Referring to the drawings, 1 designates the frame of a floor surfacing machine of the portable type, which is supported at the forward portion thereof, at each side, by a wheel 2 and at the rear thereof by a castor-wheel 3. The surfacing drum 4 is carried by a shaft 5, the ends of which are jour-

naled in the forwardly projecting arms of levers 6, which are fulcrumed at the rear of the drum to the forward end of the frame 1 at 7, one being disposed at each side of the frame. The rearwardly projecting arm 6c of each lever 6 is provided with a vertically disposed elongated eye 8 (Fig. 2) through which a bolt 9 extends and which is connected at its lower end to the free end of a rocker arm 10 which is fixed to and projects forwardly from the respective end of a rock shaft 11 journaled crosswise in the frame 1 and having its ends projected without the sides of the frame. A coiled compression spring 12 encircles each bolt 9 in respective end thrust engagement with the lever 6 and arm 10 to provide a yielding connection therebetween. The tension of these springs may be varied by an adjustment of nuts 13 on the upper ends of the bolts 9, as is apparent.

A rocker-arm 14 is fixed to and projects rearward from the shaft 11 within the frame 1 and is connected at its rear end to the lower end of a rod 15, which extends up along the side of the upwardly and rearwardly extending push handle 16 of the machine and is connected at its upper end to a control lever 17. This lever is pivotally carried by the upper end portion of the handle transversely thereof and has a spring catch 18 in releasable engagement with a notched segment 19 on the handle. It is evident that a downward movement of the outer end of the control lever 17 will communicate a lowering movement to the surfacing drum 4 or exert an increased surfacing pressure thereon, and that a raising of such lever will either reduce the pressure of the drum on the floor or elevate it free from contact therewith. The yielding connection between the lever 6 and arms 10 causes a yielding instead of a positive pressure to be applied to the drum and also permits the drum to have a rocking or equalizing movement to conform to the irregularities of the surface over which it is operating.

The main drum-tension spring of the machine is designated 20 and is carried by a movable rod 21, the rear end of which projects freely through a bushing 22 threaded through an opening in the rear end of the frame 1, while the forward end of the rod has thrust bearing against an arm 23 pro-

jecting downward from the inner end of the rocker arm 14. The spring 20 is of the coiled compression type and has its rear end thrust against the forward end of the bushing 22 and its forward end thrust against the shoulder on the forward end portion of the rod 21. An adjustment of the spring tension is effected by an adjustment of the bushing 22. The spring 20 should be of such length and construction as to permit the drum to move up and down to conform with the irregularities in the floor without practically affecting the spring tension. When the drum is in operating position with the control lever 17 in substantially the neutral position shown the control parts are permitted to have movement with the drum as it rises and falls or conforms to irregularities in the floor surface, thereby causing the pressure on the spring to be communicated through the arm 23, shaft 11, springs 12 and levers 6 to the drum. The segment 19 for the control lever catch is only provided with one catch notch, being located at the upper end of the segment so that the control parts may be locked in the extreme upper position of movement thereof, in which case the spring 20 is inoperative so far as the drum is concerned. If the size of the drum is changed the tension of the spring 20 may be easily and quickly adjusted to conform to the change in size of the drum by simply adjusting the bushing 22. Some floor surfacing machines are adapted to have an edge surfacing roller or drum 24 attached to one end of the drum shaft 5 and in such case the edging drum is usually of larger diameter than the main drum. When this is the case it is necessary to adjust the tension of the spring 20 to suit the size of the edge roller employed.

It is evident that I have provided a spring tension for the drums of floor surfacing machines, which is easily and quickly adjustable to suit the tension to be applied to the drum, is adapted to apply an equalized pressure on both ends of the drum and is also adapted to permit the drum to respond to the irregularities of the floor and to apply a uniform surfacing pressure on the floor at all times.

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 numerous modifications and changes 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 machine of the class described, a

portable frame, a surfacing drum, means carried by the frame and in turn carrying the drum for different movements relative to the frame, a manual control means for the drum carrying means having a lever fulcrumed to the frame, yielding connection between the control means lever and the drum carrying means, and spring pressure means manually adjustable as to its tension and co-acting with the control means to communicate a uniform surfacing pressure on the drum in any position of its movement.

2. In a machine of the class described, a wheeled frame, a pair of levers fulcrumed to an end thereof in transversely spaced relation for vertical rocking movements, a surfacing drum carried by the levers, a manual control means having a lever member fulcrumed to the frame for vertical rocking movements, yielding connection between each of the drum carrying levers and the lever of said means to resist a raising of the drum when the control means is stationary, and a spring pressure means coacting with the manually controlled means to communicate a uniform surfacing pressure on the drum in any position of its movement.

3. In a machine of the class described, a wheeled frame, a pair of levers fulcrumed to the frame for vertical rocking movements, a drum carried by the levers, a manual control means having a lever member fulcrumed to the frame and having more than two arms, yielding connection between two of the arms of the lever member and the drum carrying levers, and adjustable spring pressure means carried by the frame and acting against an arm of the lever member to communicate a uniform surface pressure on the drum.

4. In a machine of the class described, a frame, a drum, a pair of levers fulcrumed to and projecting in transversely spaced relation from the forward end of the frame, a surfacing drum carried by the levers, a lever carried by the frame at the rear of the drum carrying levers and having three rocker arms, spring connection between two of the rocker arms and the drum carrying levers to exert a downward pressure on the drum, manually controlled means connected to the other arm of the three arm lever, spring means acting on the three arm lever to exert a uniform drum depressing pressure thereon, and means controlled from the rear of the drum for adjusting the tension of the spring means.

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

HARRY H. WOLFE.