July 15, 1924. 1,501,327

J. H. FOX

APPARATUS FOR SURFACING PLATE GLASS

Filed June 5, 1923

Fig. 1.

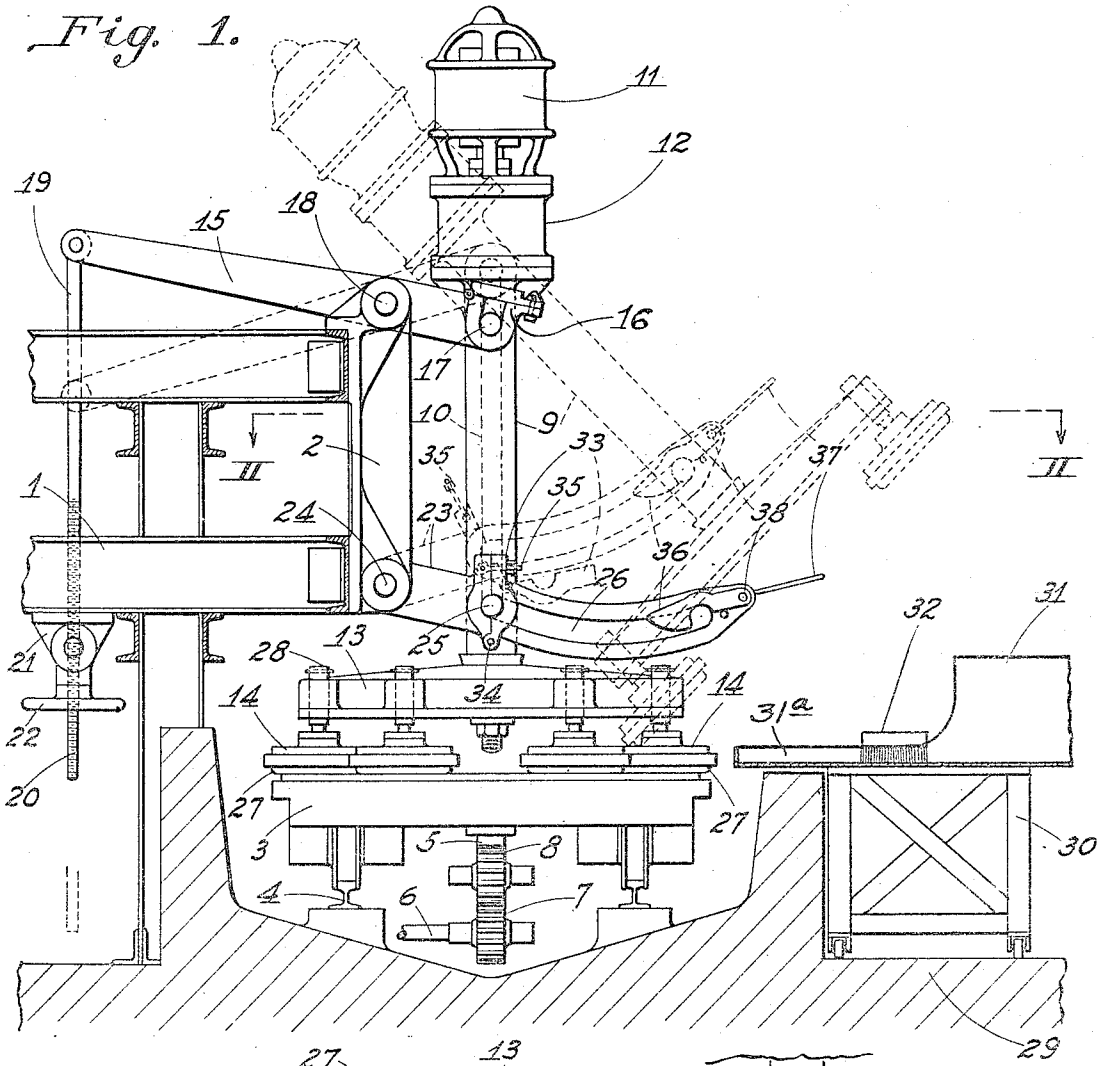
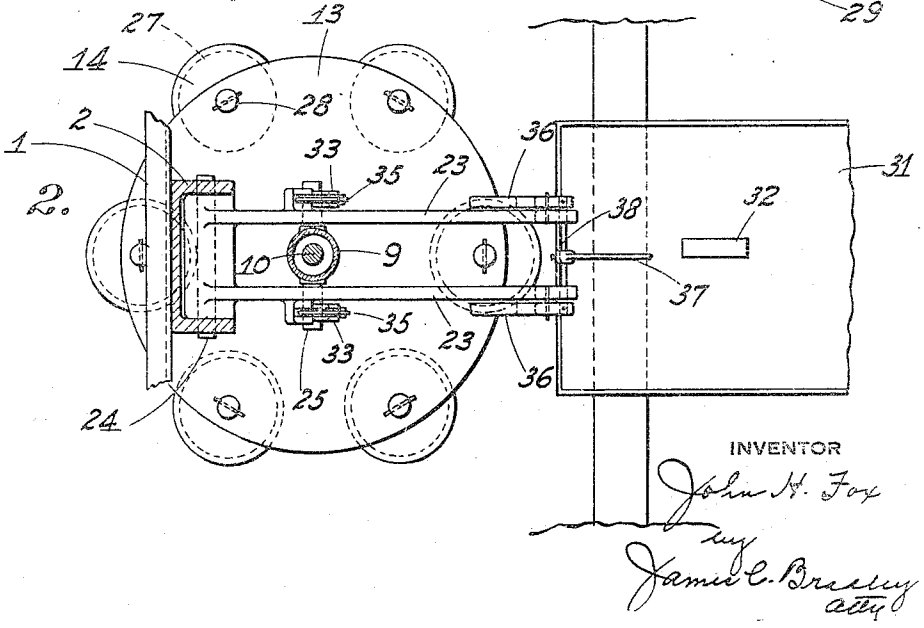


Fig. 2.



INVENTOR
John H. Fox
by
James C. Bradley
atty

Patented July 15, 1924. 1,501,327

UNITED STATES PATENT OFFICE.

JOHN H. FOX, OF PITTSBURGH, PENNSYLVANIA, ASSIGNOR TO PITTSBURGH PLATE GLASS COMPANY, A CORPORATION OF PENNSYLVANIA.

APPARATUS FOR SURFACING PLATE GLASS.

Application filed June 5, 1923. Serial No. 643,490.

To all whom it may concern:

Be it known that I, JOHN H. FOX, a citizen of the United States, and a resident of Pittsburgh, in the county of Allegheny and State of Pennsylvania, have made a new and useful invention in Improvements in Apparatus for Surfacing Plate Glass, of which the following is a specification.

The invention relates to apparatus for surfacing plate glass, and particularly to apparatus for polishing the glass in which the glass to be polished is carried beneath a series of polishers on cars or other carrier apparatus. After a certain period of use, the felts of the runners or blocks become caked with the rouge or other polishing material and their efficiency is reduced. The principal object of the invention is to provide a simple, convenient arrangement whereby the felts may be cleaned without removing the blocks or runners from the machine, and whereby the runners are made accessible for convenient removal and replacement or repair. One embodiment of the invention is illustrated in the accompanying drawings wherein:

Figure 1 is a side elevation of the apparatus. And Fig. 2 is a partial section on the line II—II of Fig. 1.

Referring to the general arrangement of parts, 1 is the framework of the machine; 2 is a supporting bracket, preferably a casting carried by the framework; 3 is a car mounted upon the track 4 and carrying the glass to be surfaced; 5 is a rack carried upon the bottom of the cars and driven from the shaft 6 through the gears 7 and 8; 9 is a tubular support provided at its upper and lower ends with bearings in which is journaled the runner shaft 10; 11 is an electric motor which drives the shaft 10 through the intermediary of reduction gearing located in the casing 12; 13 is the runner frame secured to the lower end of the runner shaft and carrying the blocks or runners 14; 15 is a forked lever provided with a hooked end and retaining cap, as indicated at 16 and engaging trunnions 17 projecting laterally from the support 9; 18 is a transverse rod carried by the bracket 2 upon which the lever 15 is pivoted; 19 is a rod connected to the lever 15 for raising and lowering the runner, such rod being threaded as indicated at 20 and passing through the bracket 21; 22 is a hand wheel threaded onto the rod whereby it may be raised and lowered; 23 is a link carried upon the pivot rod 24 mounted in the bracket 2; and 25 are trunnions projecting laterally from the support 9 and engaging the slots 26 in the link.

The polishing blocks 14 are provided with the usual felts 27 and have spindles 28 projecting upwardly through the runner frame 13. It will be understood that the apparatus illustrated is one of a series of similar polishing machines and that there are a plurality of tables carrying the glass sheets which are passed continuously beneath the series of machines until the glass attains the necessary polish. The form of transmission gearing intermediate the motor 11 and the runner shaft 10 is immaterial and may be of the planetary type shown and described in the application of Albert E. Evans, Serial No. 636,327 or may be of the bevel or worm gear type.

Located on a roadway or track 29 paralleling the track 4 is a truck 30 carrying a pan 31. This pan is provided with a suitable cleaning liquid which is used in connection with the brushes 32 for successively cleaning the felts carried by the runner block when the surfacing unit is swung to the position illustrated in dotted lines. The pan is mounted so as to slide laterally across the top of the table, so that after the runner frame 13 is moved to the dotted line position, the pan can be moved to the left (Fig. 1) to bring the portion 31^a of the pan beneath the inner polishing runners.

To permit of the movement of the runner to the position indicated in dotted lines, the link 23 is provided with the grooves 26 acting as guides for the trunnions 25. In normal operation, the trunnions are held against outward movement in the grooves by means of the cap members 33 pivoted at 34 and provided with suitable holding bolts 35. When these cap members are released and allowed to swing down to open position, the surfacing unit may be swung to the position illustrated in dotted lines, this being accomplished by any suitable means, such as a block and tackle operated from an overhead crane located at one side of the apparatus. The power required to swing the unit to this position is not great since the weight of the motor and reducing gearing above the trun-

nions 18 counterbalances the weight of the runner shaft and runner. Preliminary to this swinging movement, however, it is necessary to lift the surfacing unit so as to give clearance between the runner blocks and the table, and this is accomplished by means of the lever 15 operated from the hand wheel 22. When the trunnions reach the right hand end of the grooves 26, they are engaged by the gravity latches 36 provided with a suitable operating handle 37 mounted on the transverse pivot rod 38 to which the latches are keyed.

The faces of the felts lying above the pan are now accessible for the application of liquid and the use of the brushes for scrubbing loose the caked rouge, the runner frame being rotated from time to time to bring the various blocks successively over the pan. After the cleaning operation, the latches 36 are released and the runner frame is moved back to operative position and secured in place by means of the caps 33. The arrangement not only affords opportunity for cleaning the runner blocks, but also for convenient access in order to replace or repair blocks or the felts carried thereby. The invention is not limited to the use of the link 23 with its latches 36 for holding the surfacing unit in the inclined position shown in the dotted lines as any other suitable means might be employed for maintaining the parts in this position during the cleaning operation.

What I claim is:

1. In combination in a glass surfacing machine, a framework, a surfacing unit mounted for vertical movement with respect to the framework and for lateral swinging movement about its upper end, and comprising an upright supporting member, a vertical shaft journaled therein, and a runner secured to the lower end of the shaft, driving means for the shaft, releasable means for holding the lower end of said unit against lateral movement, means for carrying the glass to be surfaced laterally beneath the runner, and means for holding the unit in inclined position after said last means are released and the lower end of the unit swung laterally.

2. In combination in a glass surfacing machine, a framework, a lever pivotally mounted thereon for movement in a vertical plane, a surfacing unit comprising an upright supporting member pivotally supported at its upper portion on the lever, a runner shaft journaled in the supporting member, a runner carried by the shaft, releasable guide means carried by the framework for guiding the lower end of said supporting member, means for carrying the glass to be surfaced laterally beneath the runner, and means for holding said supporting member in an inclined position when said guide means are released and the lower end of the supporting member is swung laterally.

3. In combination in a glass surfacing machine, a framework, a surfacing unit comprising a support, a vertical runner shaft journaled therein, a runner secured to the lower end of the shaft and means for driving the shaft, a pair of link members pivoted to the framework one above the other for supporting and guiding the unit in its movements up and down, one of said members comprising a lever upon which said support is pivoted at its upper end for lateral swinging movement, means for adjusting the lever about its pivot, means for carrying the glass to be surfaced beneath the runner, and means for holding said support in inclined position when it is swung laterally about its pivotal support on said lever.

4. In combination in a glass surfacing machine, a framework, a surfacing unit comprising a support, a vertical runner shaft journaled therein, a runner secured to the lower end of the shaft and means for driving the shaft, a pair of link members pivoted to the framework one above the other for supporting and guiding the unit in its movements up and down, one of said members comprising a lever upon which said support is pivoted at its upper end for lateral swinging movement, means for adjusting the lever about its pivot, means for carrying the glass to be surfaced beneath the runner, and means carried by the lower link for holding said support in inclined position when it is swung laterally about its pivotal support on said lever.

5. In combination in a glass surfacing machine, a framework, a surfacing unit comprising a support, a vertical runner shaft journaled therein, a runner secured to the lower end of the shaft and a motor for driving the shaft upon the upper end of said support, a pair of link members pivoted to the frame, one above the other, for supporting and guiding the unit in its movements up and down, one of said members comprising a lever upon which said support is pivoted below the motor for lateral swinging movement, means for adjusting the lever about its pivot to raise and lower the surfacing unit, means for carrying the glass to be surfaced beneath the runner, and means for holding said support in inclined position when it is swung laterally about its pivotal support on said lever.

6. In combination in a glass polishing machine a supporting framework, a self contained surfacing unit comprising a motor, runner shaft, runner and bearings, a vertically swinging lever mounted on the

framework and pivotally supporting the unit intermediate its end to permit the unit to swing laterally, means for adjusting the lever to raise and lower the unit, a link pivoted to the framework for guiding the lower end of the unit, means for carrying the glass to be polished beneath the runner, and releasable means for securing the unit in inclined position after swinging it laterally about its pivotal support on said lever.

In testimony whereof, I have hereunto subscribed my name this 29th day of May, 1923.

JOHN H. FOX.