Nov. 27, 1923. 1,475,742

C. BROWN

MACHINE FOR SMOOTHING AND POLISHING BEVELS

Filed March 18, 1922 2 Sheets-Sheet 1

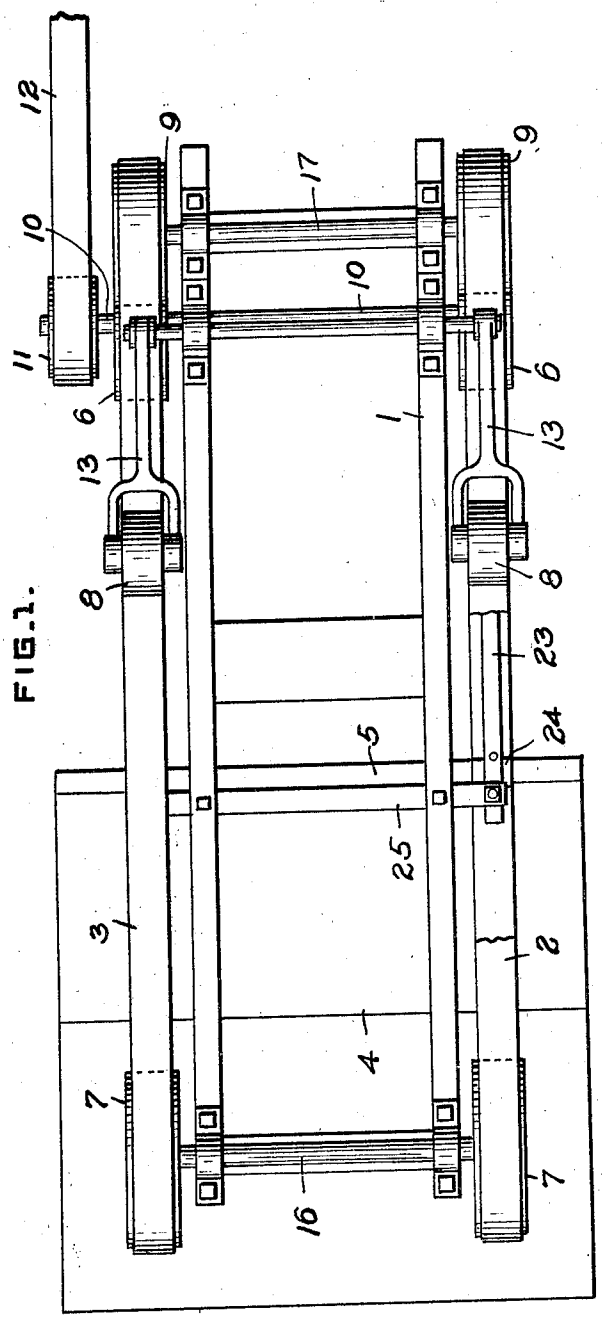


FIG. 1.

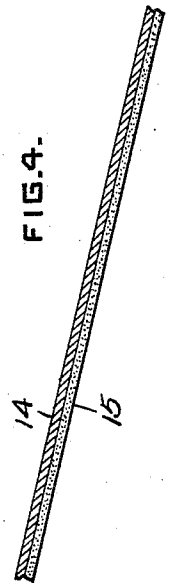


FIG. 4.

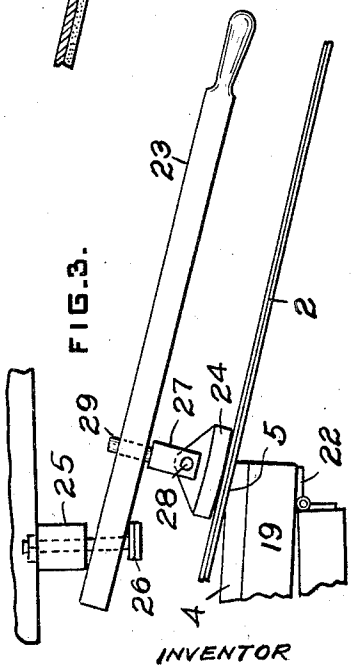


FIG. 3.

INVENTOR

Christopher Brown

by James C. Bradley

atty

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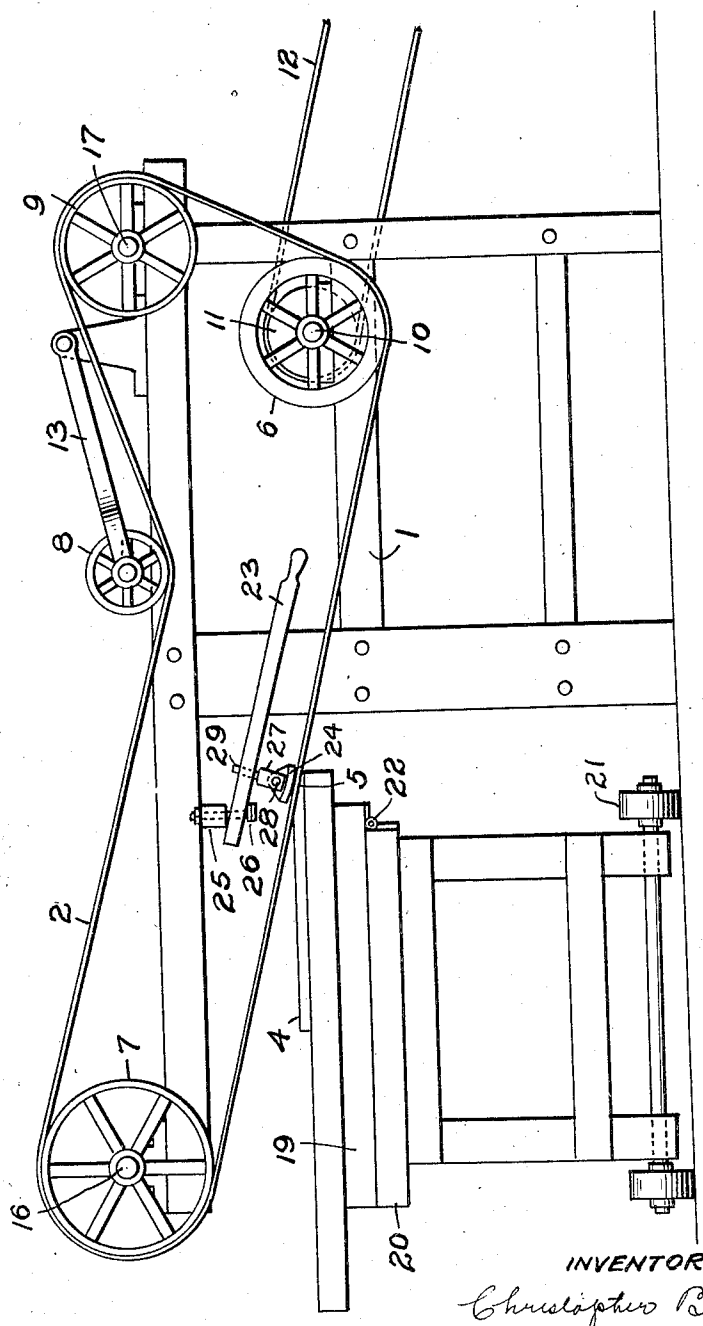


FIG. 2.

INVENTOR

Christopher Brown.

by James C. Bradley

Atty.

Patented Nov. 27, 1923. 1,475,742

UNITED STATES PATENT OFFICE.

CHRISTOPHER BROWN, OF CHARLEROI, PENNSYLVANIA, ASSIGNOR TO PITTSBURGH PLATE GLASS COMPANY, A CORPORATION OF PENNSYLVANIA.

MACHINE FOR SMOOTHING AND POLISHING BEVELS.

Application filed March 18, 1922. Serial No. 544,305.

To all whom it may concern:

Be it known that I, CHRISTOPHER BROWN, a citizen of the United States, and a resident of Charleroi, in the county of Washington and State of Pennsylvania, have made a new and useful Invention in Machines for Smoothing and Polishing Bevels, of which the following is a specification.

The invention relates to a machine for smoothing and polishing bevels on the edges of sheets or blocks of material. The machine illustrated and described is employed for smoothing and polishing the bevels on carrara glass, but the invention is applicable to a wide range of material. In the use of the machine in connection with glass, the plates come to the machine with the bevels already ground roughly, and the function of the machine is to first smooth the bevels and then polish them. This is accomplished by two belts, one of which has an abrading surface to produce the so called "smooth" and the second of which has a polishing surface and is used with rouge or other suitable polishing material to give the smoothed glass the necessary polish. The number of belts may be multiplied to suit requirements. Different bevels are taken care of by tilting the table which carries the glass plate beneath the belts and by manipulating the presser device back of the belt which forces the belt against the bevels. One embodiment of the the invention is illustrated in the accompanying drawings, wherein:

Figure 1, is a plan view of the machine. Fig. 2 is a side elevation of the apparatus. Fig. 3 is a side elevation of the presser lever and block on an enlarged scale. Fig. 4 is an enlarged section through the polishing belt.

Referring to the drawings, 1 is the framework of the machine which may be constructed of wood or iron, and 2 and 3 are the belts which are employed for smoothing and polishing the bevels on the sheets of glass, one of which sheets 4 is shown in position to receive the smoothing action of the belt 2 upon its bevel 5. The belt 2 is made of leather or fabric with its inner surface coated with a suitable abrading material such as carborundum. This belt passes around the pulleys 6, 7, 8 and 9, the pulley 6 being mounted upon shaft 10 driven from the pulley 11 by the belt 12 as indicated in Fig. 1. The pulley 8 is mounted upon the pivoted frame 13 and acts as a belt tightener.

The belt 3 which constitutes the polishing element consists of an outer layer 14 of fabric or leather and an inner layer 15 preferably of felt or other material suitable for polishing glass. This belt passes around four pulleys which are duplicates of the pulleys 6, 7, 8 and 9 and are similarly designated, the pulleys 6, 6, 7, 7, and 9, 9 being mounted on the shafts 10, 16 and 17.

The sheet of material 4 whose bevel is to be smoothed rests upon a framework 19 carried by the table 20, and the table 20 is provided with wheels 21 so that the beveled edge of the plate may be carried beneath the two belts. The framework 19 which supports the plate 4 is secured to the table 20 by means of the hinges 22 so that the framework may be tilted to take care of plates having different degrees of beveling.

In order to press the belts against the edge of the plate and thus secure the desired smoothing and polishing effect, the lever 23 and presser block 24 carried thereby are employed, the construction as far as these parts are concerned being the same for both belts. The lever 23 preferably lies substantially parallel to the belt immediately thereabove and is fulcrumed at one end to the cross frame member 25 (Fig. 3) by means of the bolt 26. This connection is relatively loose, so that the lever may move up and down as well as sideways. The presser block 24 is secured to the lever by means of a yoke 27 which fits around the block and is secured to the block by means of the transverse bolt 28. The yoke is provided with a pin 29 extending through a vertical perforation in the lever handle 23. The block 24 is in this way mounted for substantially universal movement and can be moved back and forth across the belt and up and down and may accommodate itself to varying degrees of bevels where the divergence is not too great, so that different bevels may be smoothed without tilting the framework 19 about its hinges 22. In those cases in which the difference in angle of succeeding bevels is large the framework should be tilted to correspond, but for slight changes of bevel this is not necessary as the block will adjust itself. The presser block has its lower side faced with leather

and is slightly curved as indicated in Fig. 3.

In operaton the sheet 4 is placed upon the framework 19 and moved back and forth under the belt 2 several times, the lever 23 being pressed down by the operator to force the belt against the bevel 5 and give the necessary smoothing action. After this smoothing action is completed the table is pushed from beneath the belt 2 and under the polishing belt 3. The manipulation of the handle and presser block as the plate is moved back and forth beneath this belt is the same as in the case of the abrading belt, the action being continued until the necessary polish has been secured. In order to promote the polishing action, a suitable polishing material is employed upon the felt such as rouge, putty powder or the like. A rapid and effective smoothing action is in this way secured, and the work of the operator reduced to a minimum.

What I claim is:

1. In combination in a bevel treating machine, a sheet or block support, an endless belt having an outer reducing surface and mounted to run transversely of the sheet carried on the support, means for driving the belt, and means for causing the belt to engage the bevel of the sheet comprising a lever back of the belt and parallel thereto and mounted to swing toward the belt, and a presser block supported by the lever and pivoted to rock on an axis transverse to the belt and to the lever and also pivoted to turn on an axis at substantially right angles to the face of the belt.

2. In combination in a bevel treating machine, a sheet or block support, an endless belt having an outer reducing surface and mounted to run transversely of the sheet carried on the support, means for driving the belt, and means for causing the belt to engage the bevel of the sheet comprising a lever back of the belt and mounted to swing in a vertical plane toward and from the belt, and a presser block mounted on the lever so as to turn on substantially a vertical axis and to rock on a horizontal axis transverse to the belt.

3. In combination in a bevel treating machine, a sheet or block support, an endless belt having an outer reducing surface and mounted to run transversely of the sheet carried on the support, means for driving the belt, and means for causing the belt to engage the bevel of the sheet comprising a lever back of the belt and mounted to swing in a vertical plane toward and from the belt and also transversely of such plane, and a presser block mounted on the lever so as to turn on substantially a vertical axis and to rock on a horizontal axis transverse to the belt.

In testimony whereof, I have hereunto subscribed my name this 24th day of Feb., 1922.

CHRISTOPHER BROWN.