

Sept. 2, 1924.

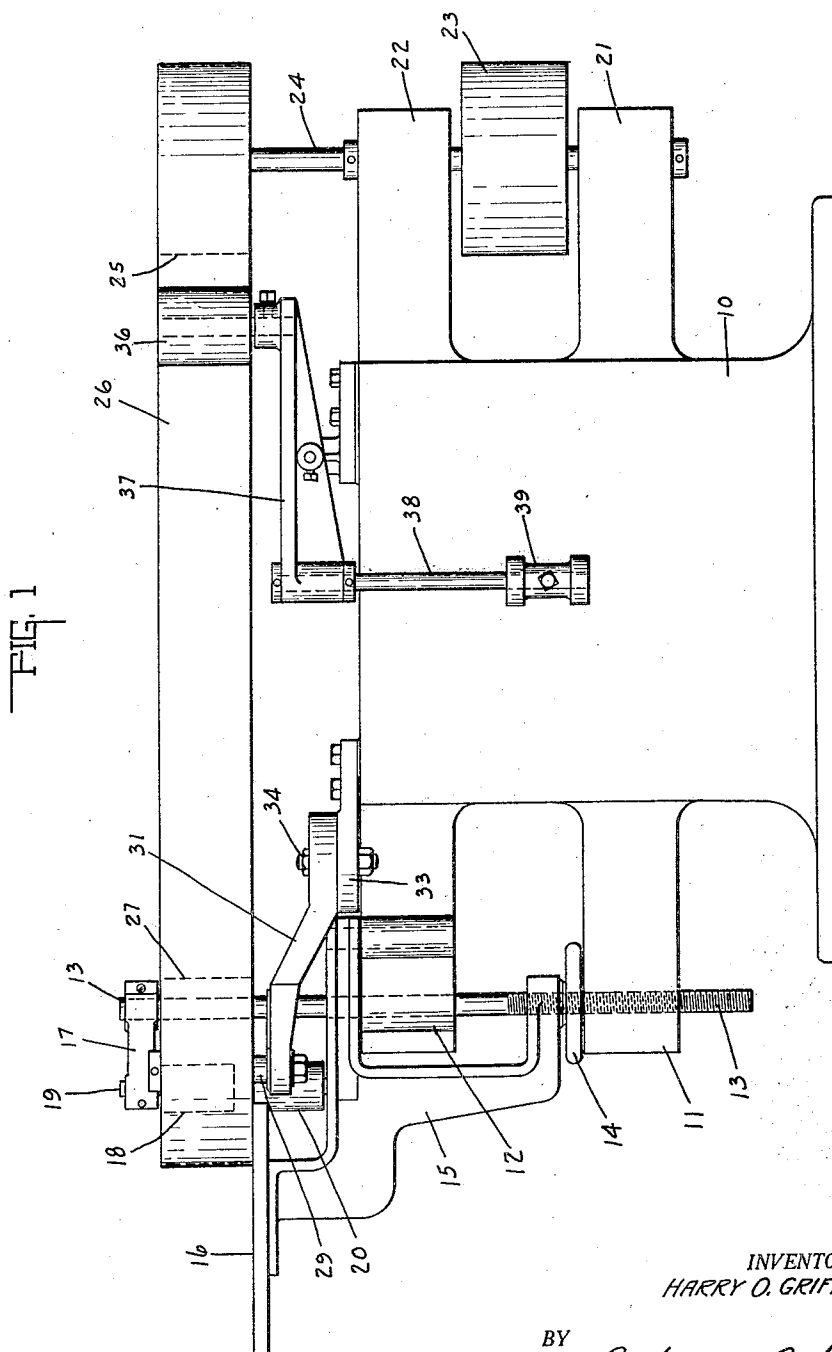
1,506,745

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CORNER SMOOTHING MACHINE FOR GLASSWARE

Filed Nov. 15, 1922

2 Sheets-Sheet 1



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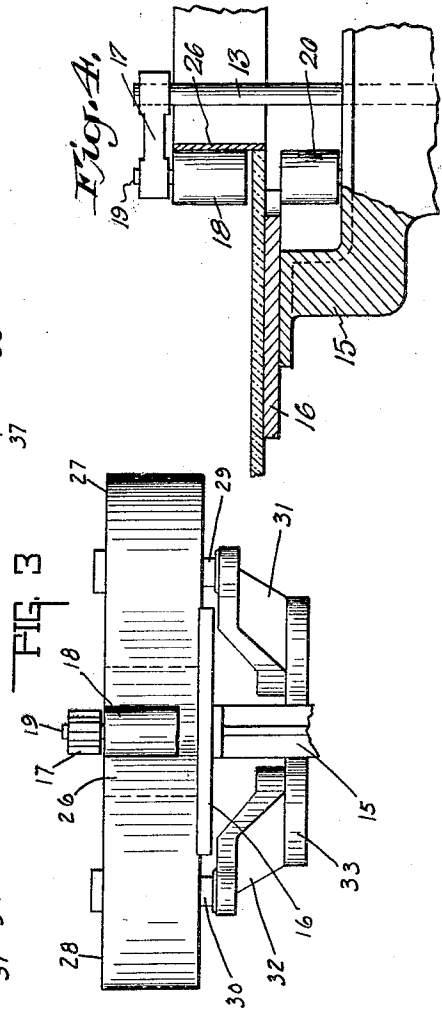
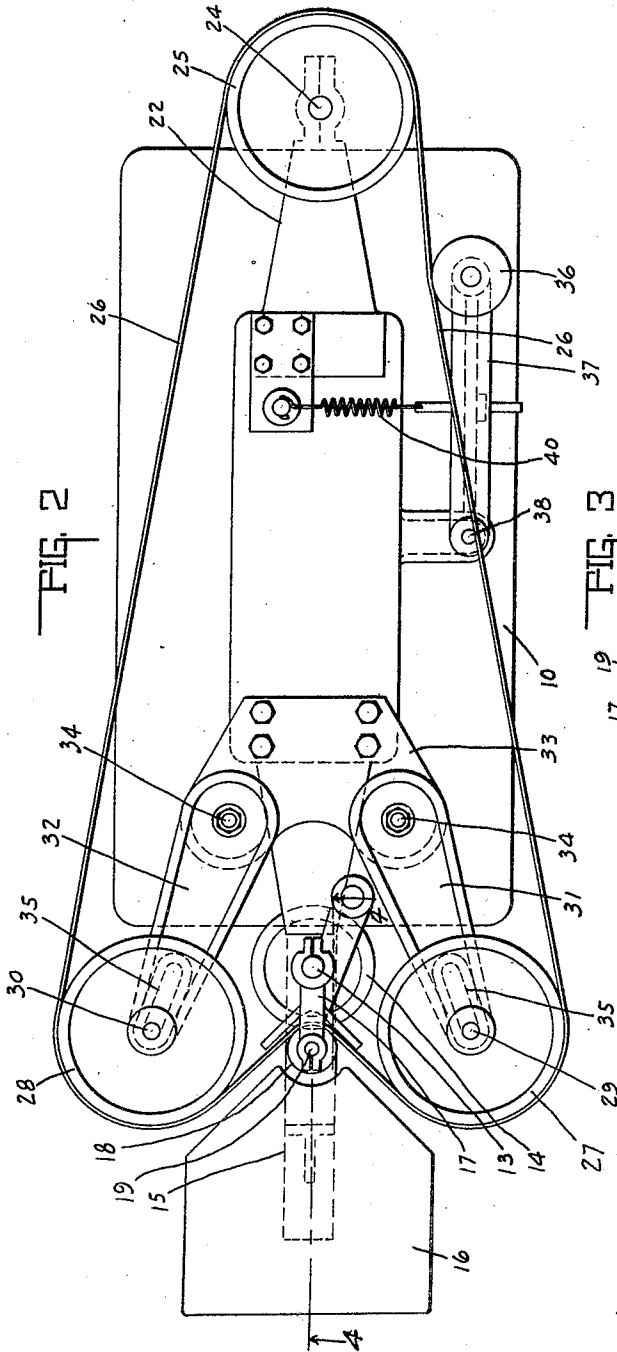
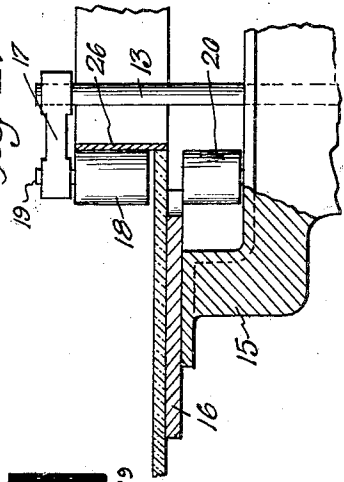


Fig. 4.



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UNITED STATES PATENT OFFICE.

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CORNER-SMOOTHING MACHINE FOR GLASSWARE.

Application filed November 15, 1922. Serial No. 601,183.

To all whom it may concern:

Be it known that I, HARRY O. GRIFFITH, a citizen of the United States, and a resident of Indianapolis, county of Marion, and State of Indiana, have invented a certain new and useful Corner-Smoothing Machine for Glassware; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, in which like numerals refer to like parts.

This invention relates to a machine for smoothing the corners on glassware or the like.

When it is desired to round off the corners of a glass table top, counter top, panel or the like, it has heretofore been customary for the operator to hold the piece of glass against a rotating smoothing wheel or belt, gradually turning the glass so as to give the proper curvature to the corner. It is the main object of this invention to provide a machine for smoothing such corners whereby the glass plate need only be set on the machine and removed by the operator, the machine performing the function of uniformly smoothing the corner to a given curvature.

The full nature of this invention will be understood from the accompanying drawings and the following description and claims.

In the drawings Fig. 1 is a side elevation of the machine. Fig. 2 is a plan view of the machine. Fig. 3 is a front elevation of the upper portion thereof. Fig. 4 is a section taken on the line 4-4 of Fig. 2.

In the drawings there is shown a machine mounted upon the base 10, at the front end of which there are provided outwardly extending supporting arms 11 and 12. Extending vertically through the arms 11 and 12 there is a supporting screw shaft 13 which is raised and lowered by the hand wheel 14 threaded thereon.

Mounted on said machine, by means of the shaft 13, there is a supporting bracket 15 which supports the table 16. This arrangement is such that, upon turning the hand wheel 14, the shaft 13 is raised up and down so as to vertically adjust the table 16 with respect to the body of the machine. Mounted upon the upper end of the shaft 13 there is a supporting arm 17 rigidly secured thereto from which the pulley 18 depends,

said pulley being rotatably mounted upon the shaft 19, fixedly secured to said arm. Said pulley 18 extends downwardly perpendicular to the table 16 to a point sufficiently spaced from the plane of said table to permit the free positioning of the plate of glass therebetween. A corresponding pulley 20 is mounted upon the bracket 15 so as to freely rotate thereon, said pulley 20 being identical in size and shape with the pulley 18 and having its axis in alignment with the axis thereof, as best shown in Fig. 1. The pulley 20 extends near to the plane of the table 16 and is, therefore, spaced from the lower end of the pulley 18, so that the plate of glass may freely pass between the ends of said pulleys.

At the opposite end of the base of the machine, there are arms 21 and 22 similar to the arms 11 and 12 between which is mounted a driving pulley 23 adapted to be driven by a belt from any suitable source of power. Said pulley 23 is keyed upon the shaft 24 mounted in suitable bearings and extending vertically of said machine. At the top of the shaft 24 and spaced above the base there is a pulley 25 adapted to drive the smoothing belt 26. The belt 26 is provided with a prepared surface for smoothing or polishing the corner of the plate of glass upon its being engaged thereby. The belt 26 passes forwardly about the idler pulleys 27 and 28, said pulleys being mounted on the spindles 29 and 30 respectively, which are vertically supported upon the arms 31 and 32 respectively. Said arms are pivotally mounted upon the plate 33 which is rigidly secured to the top of the machine, and are locked in position by the lock nuts 34. The supporting arms 31 and 32 extend outwardly at an angle to each other, as shown in Fig. 2, so as to support the pulleys 27 and 28 on each side of the rollers 18 and 20 and table 16, as shown in Fig. 2. The arms are adjustable and provided with suitable slots 35, shown in dotted lines for the adjustment of said pulleys therein, whereby they may be so positioned with respect to the plate of glass supported upon the table as to properly cause the smoothing of the corner thereof by means of said belt.

For maintaining the moving belt 26 taut about the pulleys and rollers, and permitting it to be readily mounted on or re-

moved therefrom, there is provided an idler pulley 36 mounted upon the arm 37 which is secured upon the shaft 38 mounted in the bearing 39 on the side of the base. For
5 yieldingly maintaining the idler 36 against the belt there is provided a spring 40 secured at one end to the top of the machine and at the other end to the arm 37.

In operation the plate of glass is laid
10 upon the table 16 so that the corner to be smoothed extends between the ends of the pulleys 18 and 20, and engages the smoothing surface of the belt 26 therebetween, as said belt moves about the rear surface of
15 said pulleys. As the belt is rapidly driven by the pulley 25 it engages and grinds the corner of the plate of glass so as to smooth the same to a predetermined curvature, giving it a finished radius of curvature equal
20 to the radius of the belt as it passes around said pulleys.

For adjusting the radius of curvature to which the corners of the glass are to be smoothed down, various sized pulleys 18
25 and 20 are mounted upon the machine, so that with one set of pulleys all plates of glass smoothed thereon will have their corners given the same curvature. By the adjustment of the pulleys 27 and 28 upon
30 their respective supporting arms 31 and 32, and the adjustment of said arms with respect to the body of the machine, the belt may be positioned to avoid engaging the straight edges of glass having adjacent sides
35 varying from an acute angle to an obtuse angle, as the case may be. As shown in Fig. 2 the pulleys 27 and 28 are set for smoothing the corners of a plate of glass having its adjacent sides at right angles to each
40 other. Inasmuch as the straight edges of the glass are easily smoothed on another machine, it is not necessary that the pulleys be so set that the straight edges thereof will be engaged by the belt. It will, therefore,
45 be understood that after once setting the position of the pulleys 27 and 28 and mounting the pulleys of proper diameter therein, quantities of glass plates may have their corners smoothed down to predetermined and definite curvatures of equal
50 radii.

In order to enable the entire width of the smoothing belt 26 to be utilized, the table 16 and pulleys 18 and 20 may be raised and
55 lowered by the hand wheel 14, as above described.

This permits the corner of the glass plate to engage the belt at varying positions with respect to the width thereof so that a belt
60 need not be discarded until the entire surface thereof has been utilized.

The invention claimed is:

1. A machine of the character described, comprising an endless abrasive belt, means
65 for driving said belt, corner pulley about

which said belt is adapted to pass, and a third pulley positioned intermediate said corner pulleys and engaging the opposite abrasive surface of said belt for maintaining
70 said belt in a given curvature against which the corners of the work may be engaged.

2. A machine of the character described, comprising an endless abrasive belt, means
75 for driving said belt, a pair of pulleys pivotally mounted on said machine about which said belt is adapted to pass, means for adjusting the position of said pulleys, and a third pulley positioned intermediate said pulleys out of the plane therebetween and
80 engaging the opposite abrasive surface of said belt for maintaining the same at a given curvature for grinding the corners of the work to the curvature thereof.

3. A machine of the character described, comprising an endless abrasive belt supported horizontally on said machine, means
85 for driving said belt, corner pulleys about which said belt is adapted to pass, and a third pulley positioned intermediate said corner pulleys and extending only partly
90 across the width of said belt for maintaining it at a given curvature while leaving a portion of the adjacent surface free to engage and grind the corners of the work to the
95 same curvature.

4. A machine of the character described, comprising an endless abrasive belt, means
100 for carrying and driving said belt, and means mounted on said machine and forming a part thereof for engaging said belt and imparting thereto a predetermined curvature for receiving the corners of the work to be
105 operated upon thereby.

5. A machine of the character described, comprising an endless abrasive belt, means
110 for driving said belt, a pulley mounted on said machine and forming a part thereof about which said belt is adapted to pass for maintaining a given work engaging curvature, and a pulley mounted on each side of
115 said first-mentioned pulley about which said belt is adapted to pass for carrying the same forwardly thereof, substantially as and for the purpose described.

6. A machine of the character described, comprising an endless abrasive belt, means
120 for driving said belt, a pulley about which said belt is adapted to pass for maintaining a given curvature for the engaging portion thereof, whereby the corners of the work engaged thereby may be ground and smoothed to equal curvatures, a pair of arms
125 pivotally secured on said machine and extending at an angle to each other on each side of said first pulley, an idler pulley mounted on each of said arms about which
130 said belt is adapted to pass for carrying the same forwardly of said first-mentioned pulley, and means for adjustably securing said

arms in adjusted position, substantially as and for the purpose described.

7. A machine of the character described comprising an endless abrasive belt supported horizontally on said machine, means for driving said belt, corner pulleys about which said belt is adapted to pass, and a pair of pulleys positioned intermediate said corner pulleys co-axial with each other and having their ends spaced apart to receive the work therebetween for maintaining said belt in a given curvature against which the corners of the work may be engaged.

8. A machine of the character described comprising an endless abrasive belt supported horizontally on said machine, means for driving said belt, corner pulleys about which said belt is adapted to pass, a pair of pulleys positioned intermediate said corner pulleys co-axial with each other and having their ends spaced apart to receive the work therebetween for maintaining said belt in a given curvature against which the corners of the work may be engaged, and adjustable means for adjusting the position of said intermediate pulleys widthwise of said

belt, whereby the work received between the ends thereof may engage different portions of the belt throughout its width.

9. A machine of the character described comprising an endless abrasive belt supported horizontally on said machine, means for driving said belt, corner pulleys about which said belt is adapted to pass, a pair of pulleys positioned intermediate said corner pulleys co-axial with each other and having their ends spaced apart to receive the work plate therebetween for maintaining said belt in a given curvature against which the corners of the work may be engaged, a supporting table for the work so positioned as to support said work so that the corner to be ground will extend between said intermediate pulleys, and means for simultaneously adjusting the position of said table and intermediate pulleys with respect to said belt as to cause the work to engage different portions throughout the width thereof.

In witness whereof, I have hereunto affixed my signature.

HARRY O. GRIFFITH.