

(No Model.)

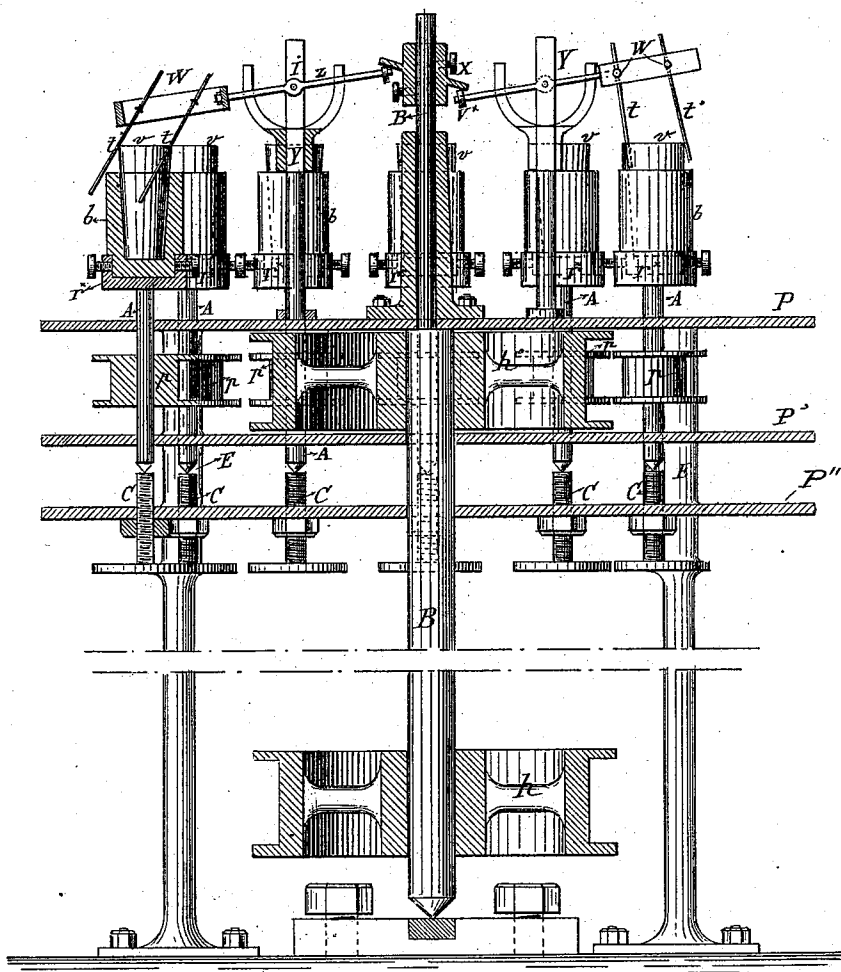
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L. HAVAUX.
FINISHING OF TABLE GLASSES, &c.

No. 550,504.

Patented Nov. 26, 1895.

Fig. 1.



Witnesses:
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Inventor:
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by *Chas. Church*
his atty

(No Model.)

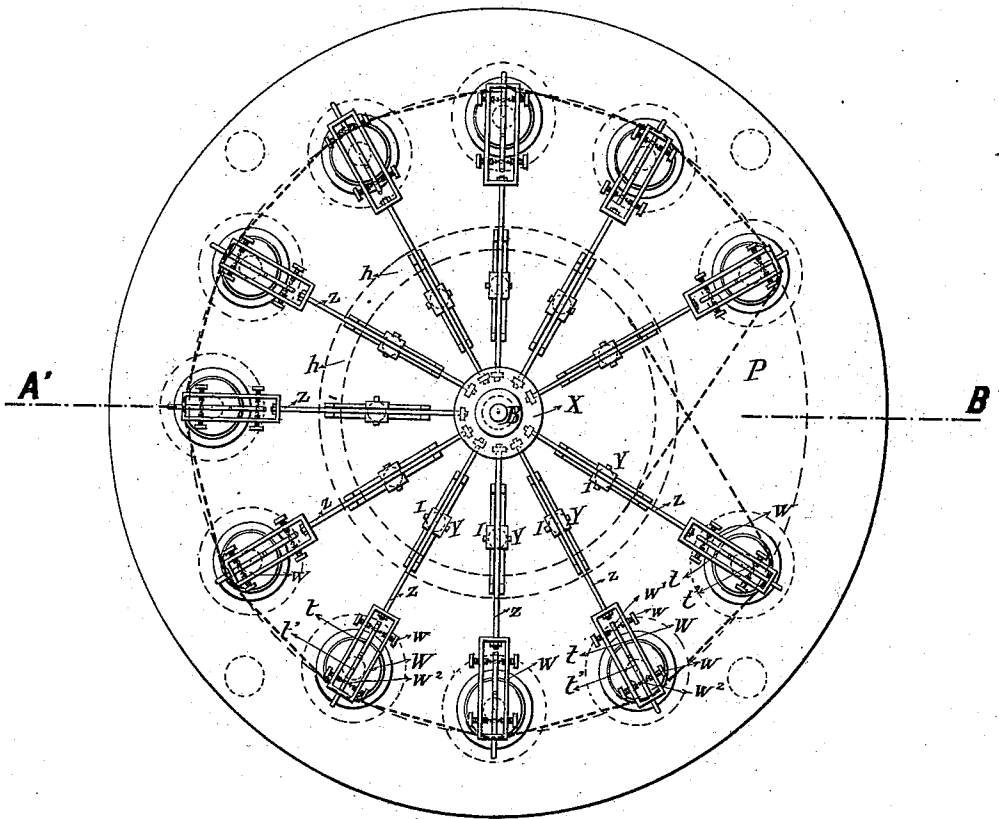
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Fig. 2.



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No. 550,504.

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Fig. 3

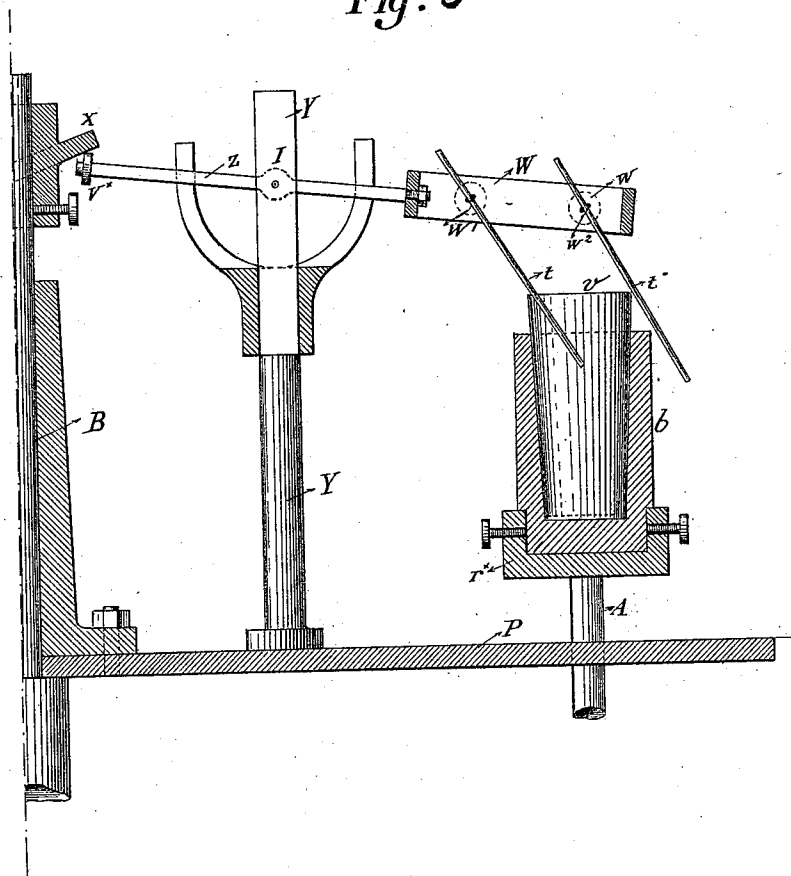
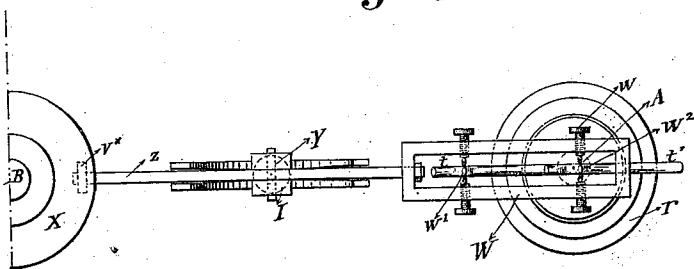


Fig 4



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UNITED STATES PATENT OFFICE.

LEON HAVAUX, OF ST. GHISLAIN, BELGIUM.

FINISHING OF TABLE-GLASSES, &c.

SPECIFICATION forming part of Letters Patent No. 550,504, dated November 26, 1895.

Application filed July 25, 1893. Serial No. 481,451. (No model.)

To all whom it may concern:

Be it known that I, LEON HAVAUX, a subject of the King of Belgium, residing at St. Ghislain, Belgium, have invented certain new and useful Improvements in or Relating to the Finishing of Table-Glasses and the Like and in Apparatus Therefor, of which the following is a specification.

The object of this invention is to round off and polish the edges of table-glasses, such as tumblers, previously cut by any means or process, and especially those cut by my electric process.

The invention consists, essentially, in an apparatus for grinding and polishing the edges of glasses with tools to which are given an intermittent or a continuous movement with a view to prevent their wear from localizing itself at any particular points, while the glass to be so treated is caused to rotate.

In the accompanying drawings, Figure 1 is a vertical section on the line A' B' of Fig. 2 of the apparatus carrying the tools to round off and polish the edges of the glasses. Fig. 2 is a plan of the same. Fig. 3 is a vertical section, drawn to a larger scale than Figs. 1 and 2, of portion of the apparatus, showing only a single device at work. Fig. 4 is a plan of Fig. 3.

In carrying the invention into practice I employ a table consisting of three circular, horizontal, superimposed plates P P' P'', preferably of iron, and supported by, say, four feet and held apart by distance-pieces E.

Any desired number of vertical spindles A are supported in suitable bearings provided in the plates P P' and at their lower pointed ends on screws C, screwed through the plate P'' and provided with hand-wheels or heads and jam-nuts. These screws C serve to raise or lower the spindles A, which are provided with pulleys secured thereon, and carry at their upper ends rimmed disks or cups r^x , provided each with, conveniently, three set-screws. Upon these disks or cups are fixed the wooden cups b , destined to hold the glasses to be operated upon.

A vertical shaft B is provided with two horizontal pulleys h h' , whereof the former, h , by a belt is driven from a motor and the

second, h' , is arranged to drive all the pulleys p by a single belt, as shown in Fig. 2.

The shaft B is prolonged above the plate P for the purpose of carrying a cam X, which may be fixed at any desired height by means of one or more set-screws, and which serves to impart vertical oscillating motion to the levers z , pivoted on columns Y, mounted upon radial lines running from the axis of the shaft B to the axes of the spindles A. These levers z carry at their inner ends small rollers V^x , which rest upon the cam X, and at their outer ends, conveniently, iron frames W.

Four screws w , with hooked ends, hold two rubber rings $w'w^2$, Figs. 2, 3, and 4, in the inside of each frame and allow these to be submitted to a certain amount of torsion. These rings are traversed by tubes or rods $t t'$, which rest one against the inner edge of the lip of the tumbler to round it off and the other against the outer edge of the same, as shown in Figs. 1 and 3. The pressure of these rods or tubes against the tumbler is obtained through the torsion of the rubber rings $w'w^2$.

In order to place a glass, whereof the edges are to be rounded off, in its cup b , the frame W of the corresponding lever z is first lifted by hand and then the rods or tubes $t t'$ are placed against the interior and exterior edges of the tumbler-lip, while at the same time lowering the form W, so that the roller V^x is again brought into contact with the cam X and the oscillatory movement of the lever Z is resumed.

The rods or tubes $t t'$ rub against the edges of the tumbler-lip by an up-and-down movement in a vertical plane passing through their axes and oscillating round the point at which they are attached to the rubber ring, and it is by this special movement that they grind away and polish the edges of the lip.

For rounding the tumbler edges the rods or tubes $t t'$ are constructed of hard glass or equivalent, and for polishing they are of wood fitted with pieces of cork covered with damp tripoli. It is by the rapid rubbing of this cork against the edges to be polished that the brilliance, of which it has been deprived by the preceding apparatus, is restored to the glass.

The construction of the apparatus may be modified in various ways. For instance, the vertical shafts A may be rotated by substituting for the pulley *p* in each case a number of disks in frictional contact with a large central disk mounted on the shaft B.

I claim—

1. In apparatus for finishing the edges of table glasses, the combination with a revoluble glass holder and operating mechanism therefor, of a reciprocable frame, operating mechanism for the frame, rods or tubes mounted in the frame, and india rubber bands or rings connecting the rods to the frame; substantially as set forth.

2. In apparatus for finishing the edges of table glasses, the combination with a revoluble glass holder, a reciprocable frame, rods or tubes mounted in the frame, india rubber bands or rings, hooked screws for connecting

the bands to the frame, and operating mechanism for the glass holder and frame; substantially as set forth.

3. In apparatus for finishing the edges of table glasses, the combination of a revoluble glass holder, a reciprocable frame, rods or tubes mounted in the frame, india rubber bands or rings through which the rods are passed, hooked screws for regulating the torsion of the bands, a lever carrying the frame, a cam operating the lever, and operating mechanism for the cam and glass-holder; substantially as set forth.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

LEON HAVAUX.

Witnesses:

GEORGE BEELE,
GREGORY PHELAN.