S. L. VAN DER MEULEN.

APPARATUS FOR GRINDING FACETS OF A PREDETERMINED WIDTH ON GLASS PLATES.

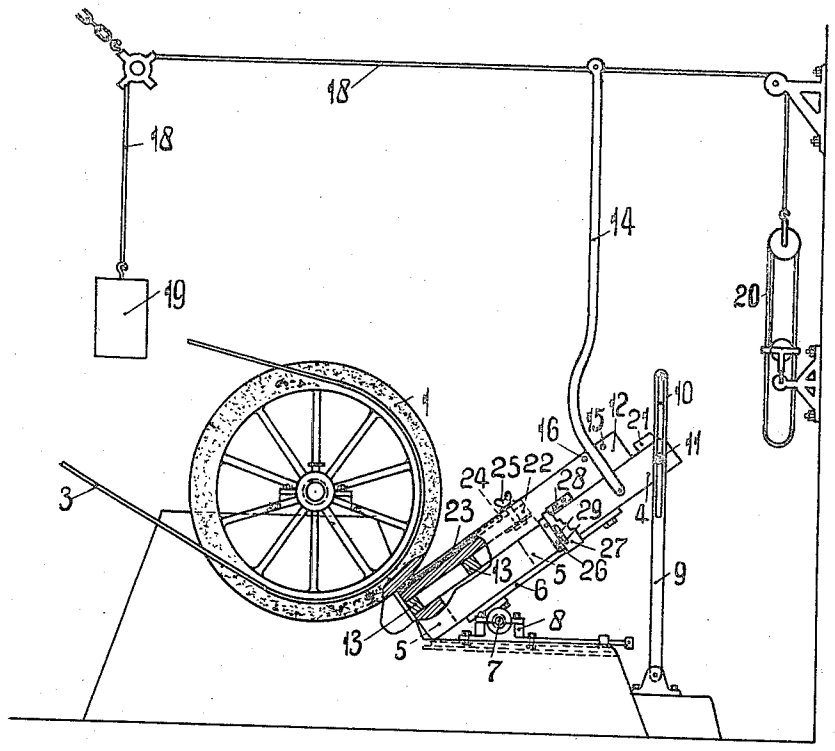
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1,310,263.

Patented July 15, 1919.

2 SHEETS—SHEET 1.

Fig. 1.



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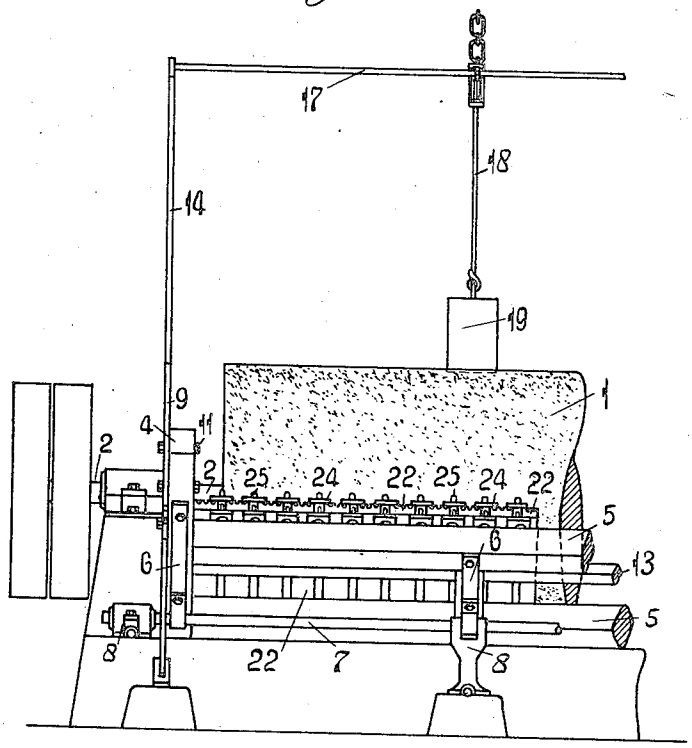
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2 SHEETS—SHEET 2.

Fig. 2.



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APPARATUS FOR GRINDING FACETS OF A PREDETERMINED WIDTH ON GLASS PLATES.

1,310,263. Specification of Letters Patent. Patented July 15, 1919.

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To all whom it may concern:

Be it known that I, SYBRANDUS LAURENTIUS VAN DER MEULEN, a citizen of the Kingdom of the Netherlands, residing at Leeuwarden, Grachtswal 97–99, Netherlands, have invented certain new and useful Improvements in Apparatus for Grinding Facets of a Predetermined Width on Glass Plates, of which the following is a specification.

The invention relates to an apparatus for grinding facets of a predetermined width on glass plates, which is, in a well-known manner provided with a horizontal grinding roller, traveling longitudinally to and fro and with a framework for supporting the glass plates, coöperating with the roller and which can be adjusted under different angles with regard to the roller.

According to the invention the glass plates, to be ground, are carried by a sledge sliding across the framework toward the roller.

The glass plates are fixed on the sledge, in a direction opposite to the rotation of the roller, by adjustable binding blocks or the like. The sledge is moved by a lever, movably connected with the framework, the free end of the lever being actuated to one side by a tackle, to the other side by a balance weight. The position of the sledge at the beginning of the operation is determined by a fixed stop of the framework, to which the sledge can be brought by the tackle, the position to which the sledge is moving under the influence of the weight being determined by a lug on the sledge and by a stop plate with steps, which may be adjusted on the framework according to the desired width of the facets. As the glass plates lie on a sledge, which is moved down, together with the glass plates across the framework, the position of the glass with regard to its support remains unaltered during the grinding period, which excludes damage of the glass surface.

With the apparatus it is possible to grind a number of glass plates of different sizes at the same time without prolix adjustment of levers, while the device can be arranged for any desired facet depth, simply by adjusting the apparatus with steps at the framework.

Moreover it is immediately evident if the facets have obtained their desired depth. As soon as the lug on the sledge has firmly caught one of the steps of the stop plate, the grinding period is finished. The invention is illustrated in the accompanying drawings in which:

Figure 1 is a side view, partly in section of the apparatus and

Fig. 2 is a view of part of Fig. 1 as seen from the right.

In the drawings 1 is the grinding roller, fixed on a horizontal shaft 2, which can be driven for instance by a pulley with belt.

During the grinding the roller can be slid to and fro in the direction of the shaft 2 in a well-known manner which is not further shown in the drawings. The framework supporting the glass plates under treatment is arranged adjacent to the roller. This framework consists in side pieces 4 and length beams 5, connecting the side pieces with brackets 6, turning around a shaft 7 which is supported by bearings 8 on sliding rails. By fitting these bearings on sliding rails, it is possible to remove the framework with appurtenances after wearing of the roller.

As the framework is rotatably mounted on the shaft 7, it may be brought in different angular positions with regard to the roller by means of rods 9 on both sides of the framework, which enables the grinding of more or less sloping facets.

The rods 9 are pivotally mounted at their lower ends and are provided with a regulating slot 10 and bolt 11, coöperating with the upper ends of the side pieces 4.

According to the invention the framework is carrying a sledge consisting of side pieces 12 and length beams 13 connecting the side pieces. This sledge can be raised or lowered by two levers 14, one on each end applicating on bolts 15 and 16. Both levers 14 are connected with each other by a rod 17, on which is working at one side a weight 19 by means of a rope 18 and at the other side a Weston tackle 20. The sledge can be slid till the back part is stopped by a stop 21 of the framework. Battens 22 having grooves 23 are fixed on the sledge for supporting the glass plates under treatment. Binding-blocks 24 are found between the grooved battens which can be fixed by bolt and thumb nut arrangements 25 in any height of the battens.

The framework is further on both sides provided with a fixed plate 26 where along a brake plate 27 with steps, for a lug 28 at

both sides of the sledge, can be adjusted by bolt and slot 29 so that the lug 28 comes to a rest against one of the steps of the brake or stop plate in dependency of the adjustment.

The apparatus works as follows:

By the Weston tackle 20 the levers 14 are drawn to the right side and thereby the sledge is raised till its back-end is stopped against the stop 21 of the framework then the glass plates are laid on the grooved battens with their surfaces to be ground in contact with the roller and thereupon the blocks 24 are fixed against the outer sides of the glass plates by the bolts and winged nuts. When the sledge is wholly covered with glass plates in this manner, the tackle is given so much play, that the weight 19 can exercise its influence. The sledge with the glass plates fixed upon it will then be pressed down with the glass against the roller and the glass will be ground away till the lugs 28 come to a rest against the steps of the stopping plates 27 of the framework which have beforehand been adjusted.

This plate has in the represented engine four steps for the grinding of facets of for instance 3, 2½, 2 and 1½ centimeter depth.

What I claim is:

1. In an apparatus of the character described, the combination with a rotatable grinding roller and a frame mounted so it may be swung toward and from the roller, of a sledge shiftable on the frame, plate-glass supporting and clamping means on the sledge, levers pivotally connected to the opposite ends of the frame and operably associated with the sledge and having the upper ends connected together, means associated with the levers to cause shifting of the sledge toward and away from the roller, means on the frame for limiting outward movement of the sledge and coöperative stop means mounted on the sledge and frame for limiting the inward movement of the sledge and adjustable to vary the size of the facets ground by the roller.

2. In an apparatus of the character described including in combination with a rotatable grinding roller and a frame mounted so as to be swung toward and away from the roller, a sledge mounted on the frame and capable of being shifted toward or away from the roller, battens carried by the sledge for supporting pieces of plate-glass, binding blocks for preventing accidental displacement of the glass, levers pivoted to the ends of the frame and operably associated with the ends of the sledge, a rod connecting the upper ends of the levers, a cable connected to the rod, a tackle connected with one end of the cable and operable to swing the levers and consequently shift the sledge outwardly on the frame, a weight connected with the opposite end of the cable for holding the glass in close relation to the roller, a stop on the frame for limiting outward movement of the sledge, stop-plates provided with steps and adjustably connected to the ends of the frame, and lugs on the ends of the sledge for coacting with any of the steps on the stop-plates for limiting inward movement of the sledge.

In testimony whereof, I affix my signature.

SYBRANDUS LAURENTIUS VAN DER MEULEN.