

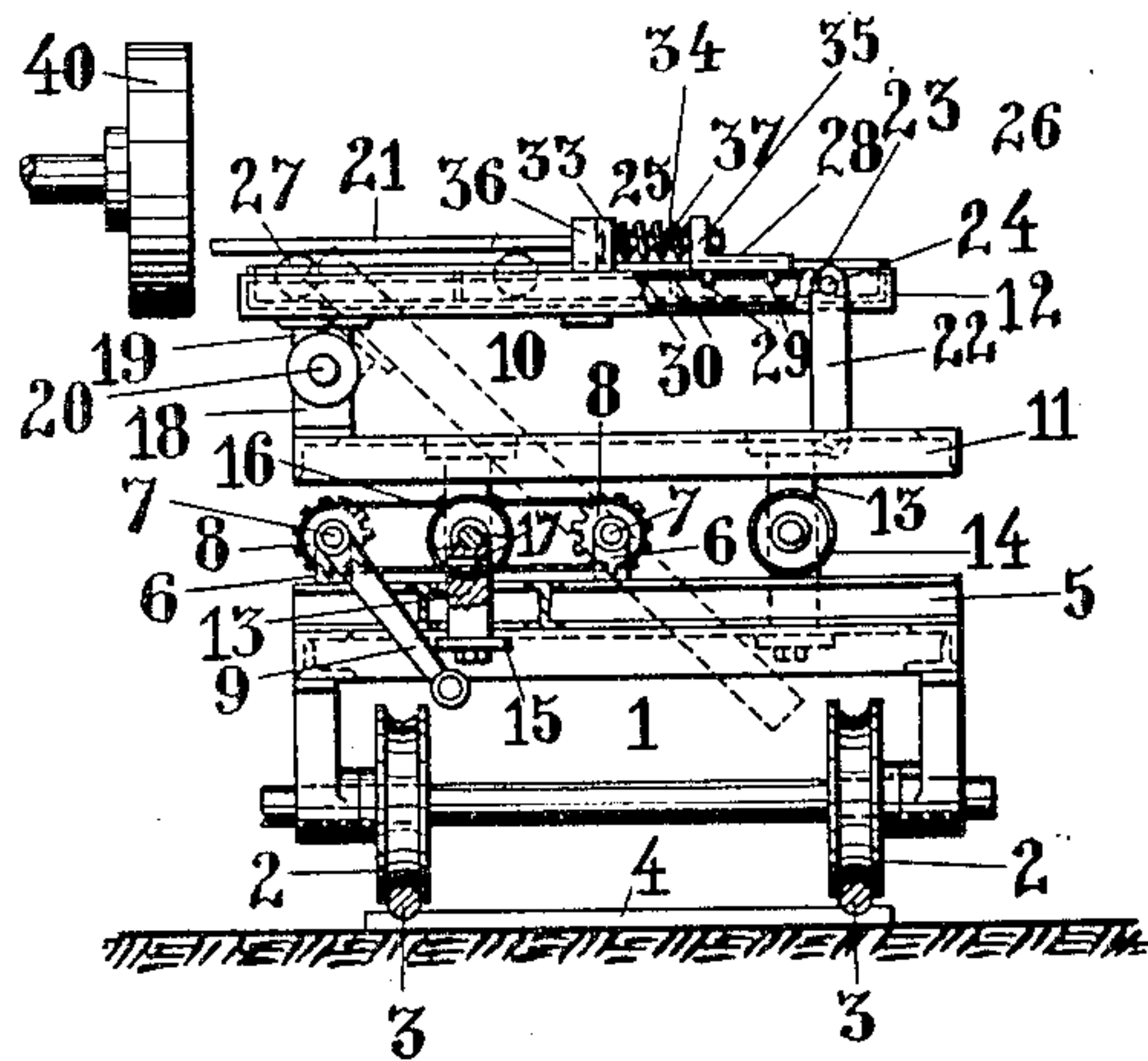
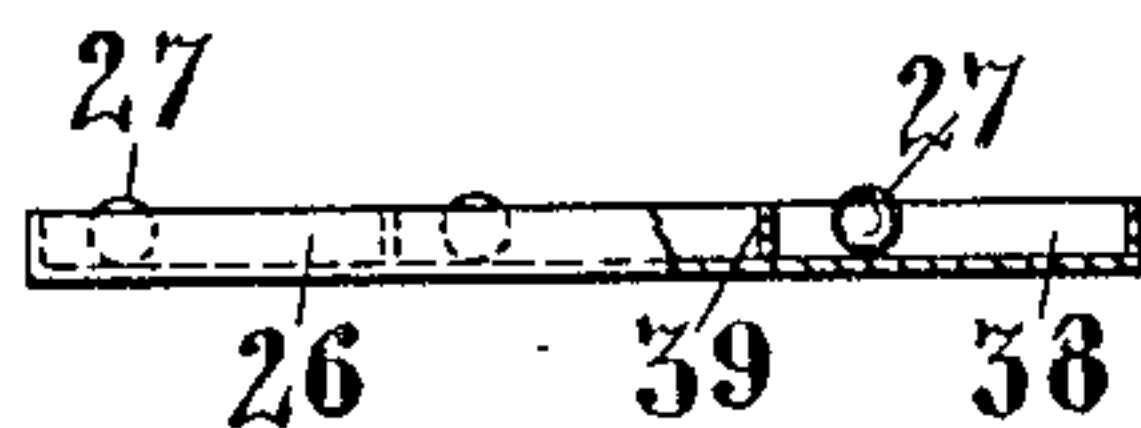
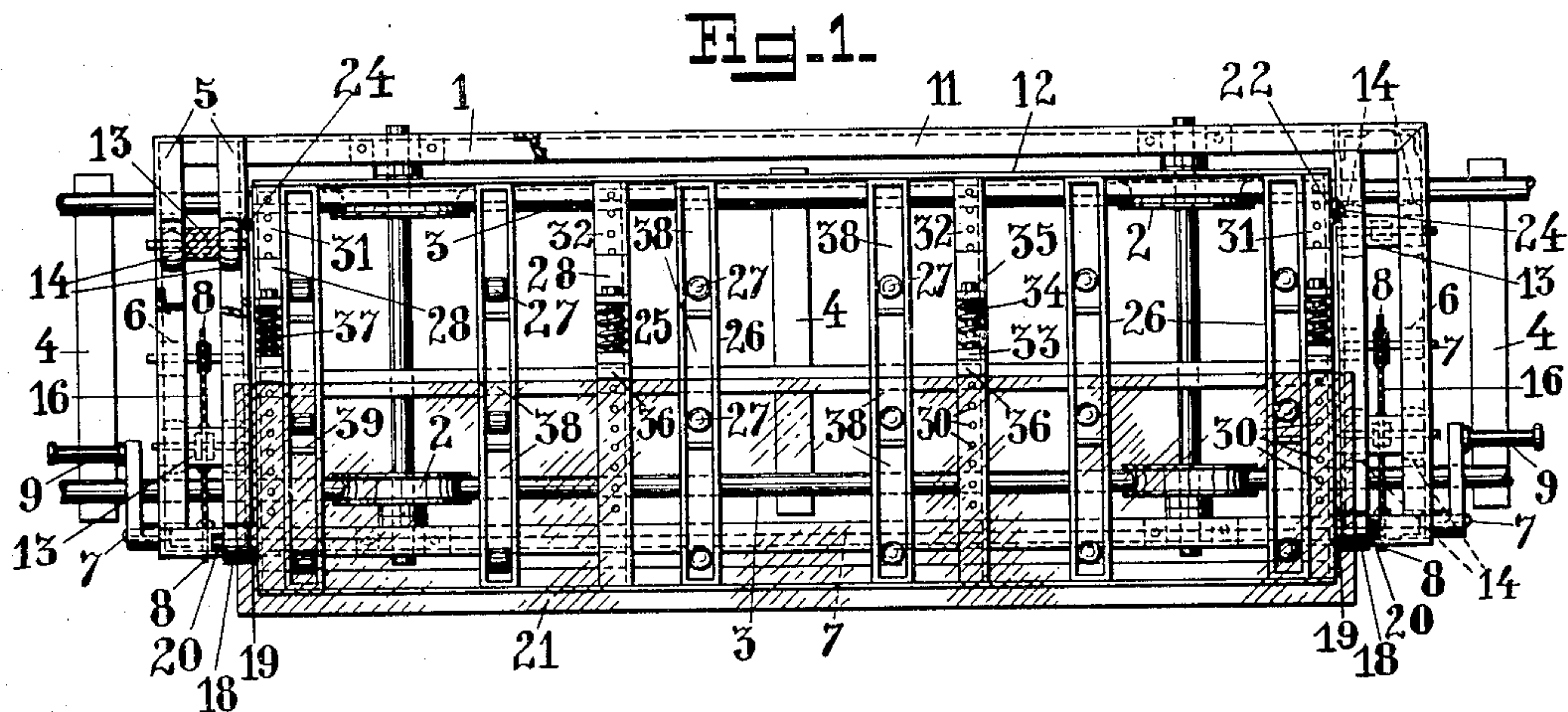
No. 882,115.

PATENTED MAR. 17, 1908.

V. KINON.

MACHINE FOR GRINDING AND POLISHING THE EDGES OF PLATES OF GLASS,  
MARBLE, AND THE LIKE.

APPLICATION FILED FEB. 18, 1907.



Witnesses:  
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# UNITED STATES PATENT OFFICE.

VICTOR KINON, OF AIX-LA-CHAPELLE, GERMANY.

MACHINE FOR GRINDING AND POLISHING THE EDGES OF PLATES OF GLASS, MARBLE AND THE LIKE.

No. 882,115.

Specification of Letters Patent.

Patented March 17, 1908.

Application filed February 18, 1907. Serial No. 357,873.

*To all whom it may concern:*

Be it known that I, VICTOR KINON, plate-glass manufacturer, a subject of the King of Prussia, residing at Aix-la-Chapelle, No. 19 Johanniterstrasse, in the Kingdom of Prussia, Empire of Germany, have invented certain new and useful Improvements in Machines for Grinding and Polishing the Edges of Plates of Glass, Marble, and the Like; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My present invention relates to a machine for grinding and polishing the edges of plates of glass, marble and the like, but more particularly to the work-holder of said machine.

The object in view is to provide a work-holder which can not only be adjusted on the carriage of the machine at right angles to the direction of travel of said carriage, but is also provided with resilient abutments and rotatable elastic work-piece carriers arranged upon the work-table, so that the work-piece can back out when the grinding disk encounters rougher projections on the edges of the plate, and simultaneously therewith the friction between the work-piece and its support is reduced to a minimum, and the difficulties hitherto encountered in providing plates of larger dimensions with ground edges without breaking them are wholly removed.

In the accompanying drawing:—Figure 1 is a plan-view of the machine, partly in section. Fig. 2 is a side-elevation of a carrier-race with parts of its walls removed. Fig. 3 is an end-view of the machine, with parts of the work-table shown in section.

The carriage 1 of the machine is provided with wheels 2, which run on the rails 3 connected at intervals by sleepers 4. The flanges of said wheels are provided with semi-circular grooves which snugly embrace the tread of the correspondingly shaped rails 3 in order to prevent any lateral play of the carriage. Near each end of the latter cross-rails 5 are arranged in pairs and provided with brackets 6 in which the shafts 7 of the sprocket-wheels 8 are journaled. The shafts 7 of the foremost sprocket-wheels 8 merge into a single shaft, which extends throughout the whole length of the carriage and carries at each end a crank 9. On top of said cross-rails 5 the work-holder 10 is arranged which

consists of a frame 11 and the work-table 12 hinged to said frame. The bottom-side of the frame 11 is at each end provided with two downwardly projecting arms 13 of which each carries two caster-wheels 14 and thus support the frame 11. To prevent the latter from leaving the cross-rails 5 the arms 13 are made sufficiently long to allow their retainer-plates 15 to project beneath said cross-rails and thus retain the work-holder on said cross-rails. At each end of the frame 11 the ends of a sprocket-chain 16 driven by the two sprocket-wheels 8 are attached to the arm 13 located between them, whereas the intermediate part of said chain passes through the aperture 17 of said arm, Fig. 3.

From the foregoing it will thus be seen that in order to move the work-holder back and forth on said cross-rails it will be necessary to turn one or the other of the cranks 9 in the required direction.

In order to hinge the work-table 12 to the frame 11, brackets 18 are secured to the latter, and eyes 19 to the under side of the work-table 12, and then these brackets and eyes pivotally connected by means of the pins 20, Fig. 3. This arrangement greatly simplifies the handling of the work-piece 21. To secure the work-table 12 in a horizontal position an arm 22 is hinged to each end of the frame 11 and provided with a lateral slit 23 for the reception of the pintles 24 which project from the ends of the work-table. When these arms 22 are thrown back the work-table 12 may be brought into the position indicated by dotted lines in Fig. 3.

The upper face of the work-table carries the abutments 25 and the carrier-races 26 for the carriers 27 made of elastic material. Each abutment 25 consists of an angular shoe 28 adjustably secured to the work-table by means of pintles 29 which fit into any of the holes 30 arranged in the end-bars 31 and in the intermediate bars 32 of the work-table, and of a head 33 whose stem 34 is guided in the vertical leg 35 of the shoe 28. To the front of the head 33 is secured an elastic cushion 36, against which one edge of the work-piece is pressed during the grinding or polishing operation, and between the rear of said head and the vertical leg 35 a helical spring 37 is arranged upon said stem 34. Between the bars 31 and 32 the carrier-races are movably arranged at intervals and in the



different subdivisions 38 formed by the division-walls 39 the elastic work-piece carriers 27 are placed. These carriers may have the shape of balls or of rollers, as indicated in Fig. 1.

The arrangement of abutments on the perforated bars 31 and 32, and the arrangement of elastic work-piece carriers in races which may be shifted to any suitable position on the work-table, make it possible that plates of various dimensions can be accommodated on the work-table in a manner to practically do away with all breakages, because the resilient abutments and the elastic carriers will destroy any shocks and vibrations most effectually, no matter in which direction they may act. If now for instance a plate of glass is to be provided with ground edges, it is simply placed on the elastic carriers 27 and pushed back against the cushions 36, without securing it in any way, and then the work-holder advanced against the grinding-disk 40 operated in any suitable manner, by means of turning one of the cranks 9. Should the grinding-wheel encounter exceptionally large projections on the edge of the glass-plate, the latter would be pressed back against the pressure of said helical springs 37 and then gradually pressed forward again by them into its original position as soon as the projections have been removed by the grinding-disk.

I claim:—

1. A machine of the character described, provided with a work-holder capable of being wheeled across the face of the carriage of said machine, resilient abutments arranged upon the face of said work-holder, and rotatable elastic work-piece carriers likewise arranged upon the face of said work-holder.

2. A machine of the character described, provided with a work-holder capable of being wheeled across the face of the carriage of said machine at right angles to the direction of travel of said carriage, resilient abutments adjustably attached to the face of said work-holder, carrier-races likewise adjustably attached to the face of said work-holder, and rotatable elastic work-piece carriers running in said carrier-races.

3. A machine of the character described, provided with a work-holder mounted upon

the carriage of said machine to be wheeled on rails across the face of said carriage at right angles to the direction of travel of said carriage, resilient abutments detachably and adjustably secured to the top of said work-holder, trough-shaped carrier-races detachably and adjustably mounted on said work-holder, and rotatable elastic work-piece carriers guided in said carrier-races.

4. A machine of the character described, provided with a work-holder consisting of a frame adapted to travel upon the carriage of said machine at right angles to the direction of travel of said carriage and a work-table hinged to said frame and held in a horizontal position by arms pivotally connected with said frame, resilient abutments faced with elastic cushions and detachably and adjustably connected with said work-holder, carrier-races provided with sub-divisions and adjustably mounted on said work-holder, and rotatable elastic work-piece carriers separately guided in the sub-divisions of said carrier-races.

5. In a machine of the character described, the combination with the carriage thereof, of rails entering with their tread into the grooves of the wheels of said carriage, cross-rails arranged in pairs upon the top of said carriage, a work-holder consisting of a frame and a work-table hinged to the latter, arms on said frame passing in a downward direction between said cross-rails, caster-wheels on said arms for providing a rolling contact between the frame of said work-holder and said cross-rails, means for preventing said work-holder from accidentally leaving said carriage, means for moving said work-holder to and fro on said cross-rails, resilient abutments adjustably connected with the table of said work-holder, carrier-races subdivided and adjustably mounted upon the table of said work-holder, and rotatable elastic work-piece carriers separately guided in the subdivisions of said carrier-races.

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

VICTOR KINON.

Witnesses:

HENRY QUADFLIEG,  
WILLIAM J. REUTERS.