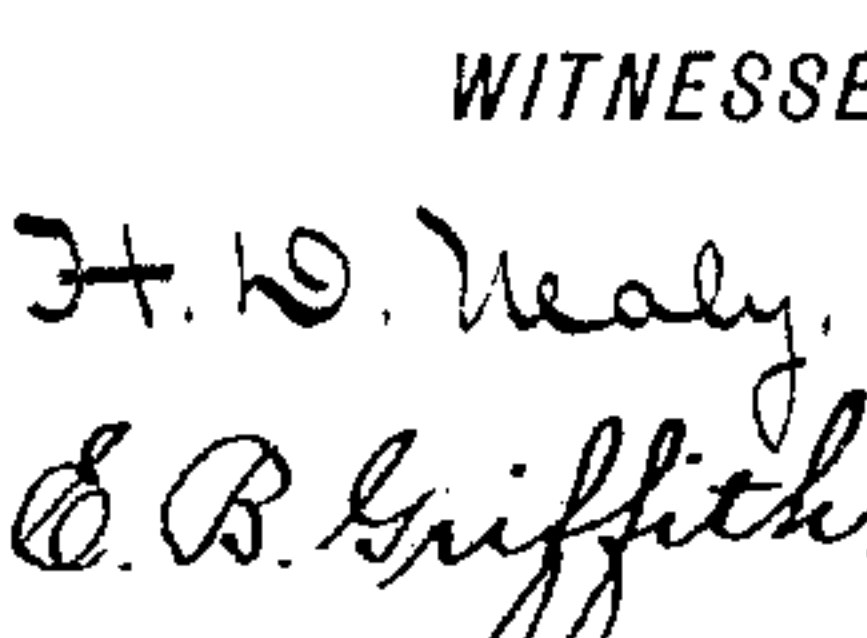


3 Sheets—Sheet 1.

No. 437,028.

Patented Sept. 23, 1890.



INVENTOR
Roderick G. Lyndhill,
by
C. P. Jacobs.
ATTORNEY.

(No Model.)

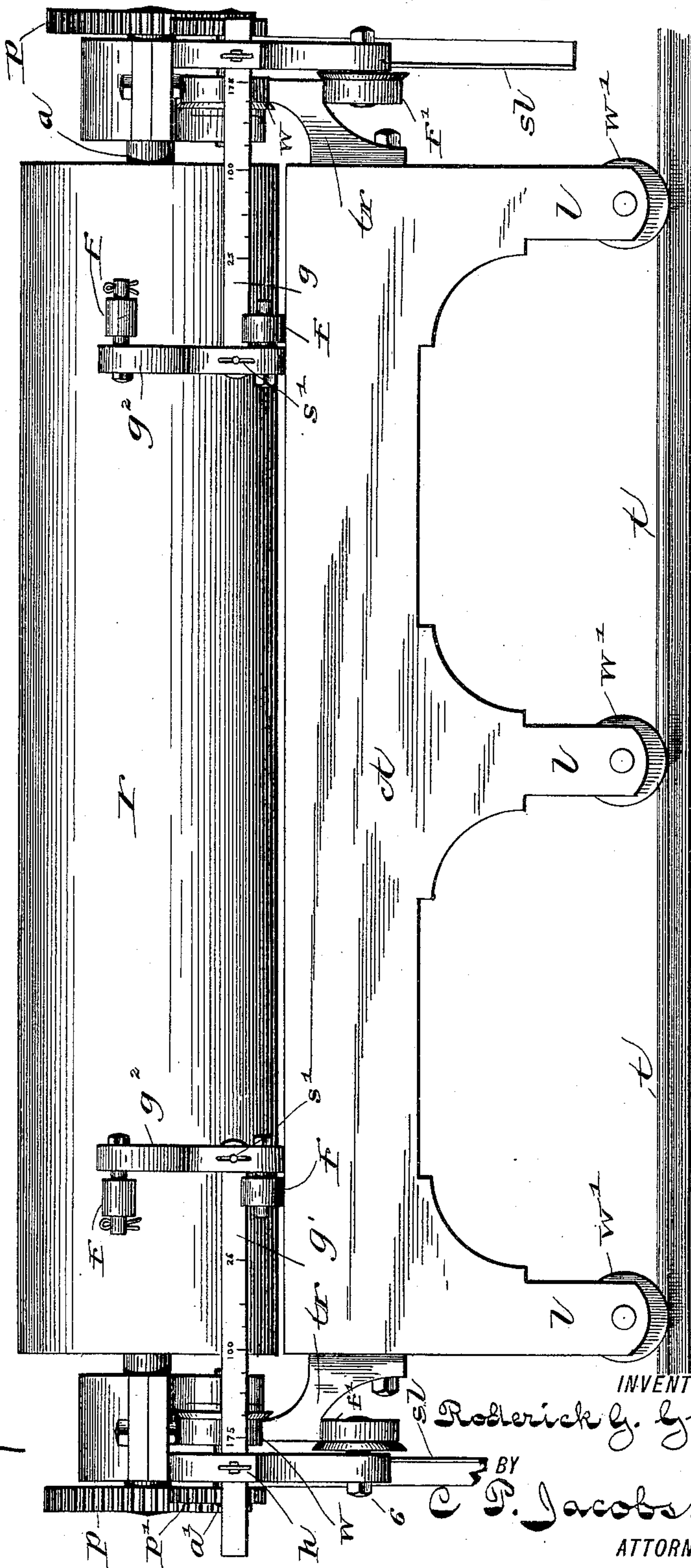
3 Sheets—Sheet 2.

R. G. GUPTILL.
PLATE GLASS ROLLING MECHANISM.

No. 437,028.

Patented Sept. 23, 1890.

Fig. 3.



WITNESSES:

H. D. Neely
C. B. Griffith.

INVENTOR

Roderick G. Gupta.

BY

C. P. Jacobs.

ATTORNEY

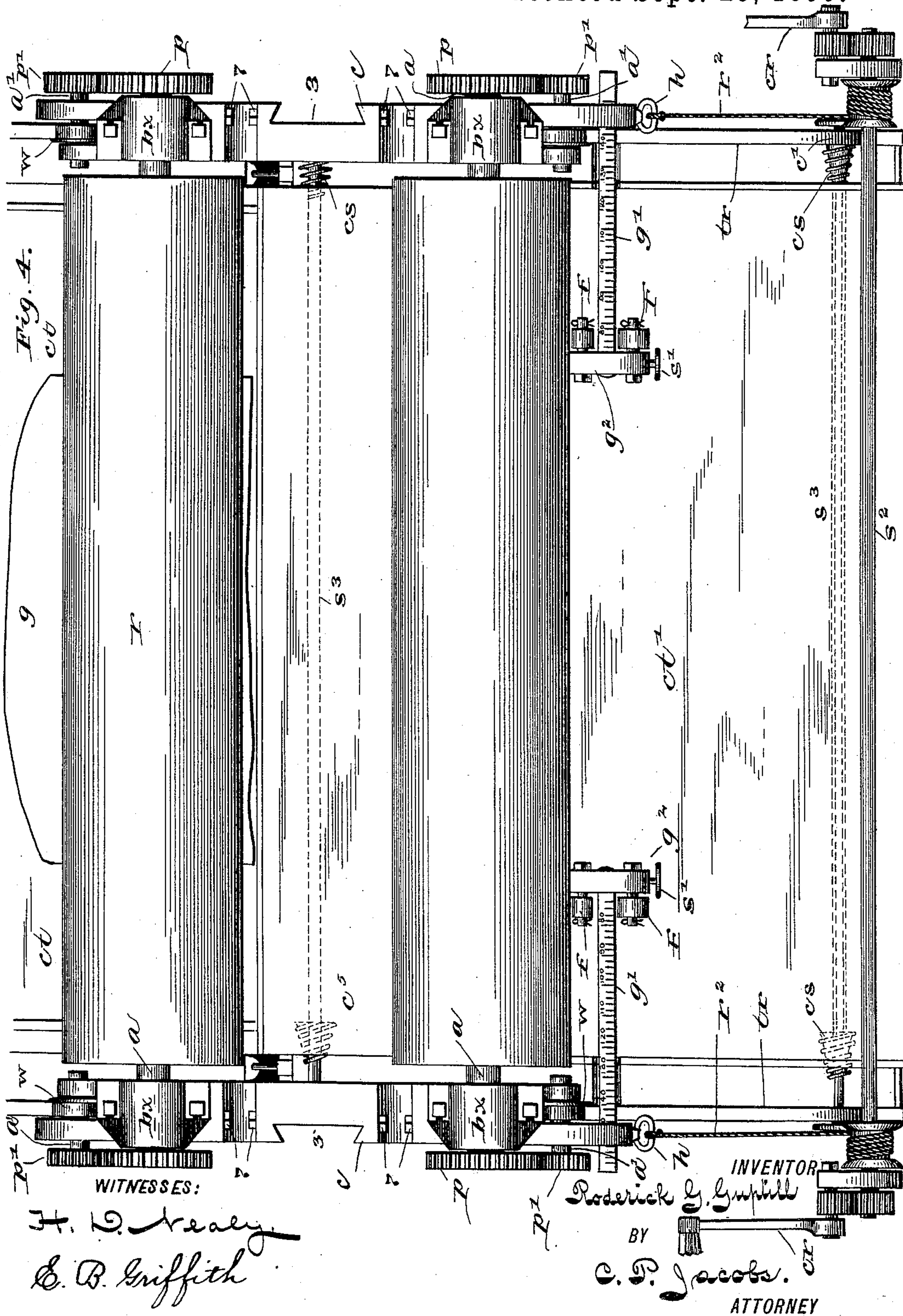
(No Model.)

3 Sheets—Sheet 3.

R. G. GUPTILL.
PLATE GLASS ROLLING MECHANISM.

No. 437,028.

Patented Sept. 23, 1890.



UNITED STATES PATENT OFFICE.

RODERICK G. GUPTILL, OF ELGIN, ILLINOIS, ASSIGNOR OF ONE-FOURTH
TO LEON O. BAILEY, OF INDIANAPOLIS, INDIANA.

PLATE-GLASS-ROLLING MECHANISM.

SPECIFICATION forming part of Letters Patent No. 437,028, dated September 23, 1890.

Application filed December 28, 1889. Serial No. 335,290. (No model.)

To all whom it may concern:

Be it known that I, RODERICK G. GUPTILL, of Elgin, county of Kane, and State of Illinois, have invented certain new and useful Improvements in Plate-Glass-Rolling Mechanism; 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 letters and figures refer to like parts.

My invention relates to the construction of mechanism for rolling, beveling, and ornamenting plate-glass at one and the same operation, and will be understood from the following description.

In the drawings, Figure 1 is a side view of the rolling mechanism, a part of the casting-table, and the carriage-table. Fig. 2 is a plan view of the beveling and ornamenting roller. Fig. 3 is an end view of the casting-table, showing the front roller in position and the gagging mechanism for regulating the width of the sheet of glass. Fig. 4 is a top view, showing a pair of rollers mounted upon the carriage in the act of passing over the glass forming the plate.

In detail the machine comprises a carriage *c*, in the frame-work of which are movable slides *sl*, which may be adjusted to any height and fastened with the screws 7 and 8. The axles *a* of the hollow metal rollers *r* are journaled on the tops of the slides *sl*, and these slides move in correspondingly-shaped openings in the sides of the carriage-frame.

At 3 is shown a bearing for an intermediate roller like that shown in Fig. 2, and 4 are slots in which may be set additional idlers similar to *p'* for gearing with the main pinions *p*, mounted on the axles of the rolls. This arrangement insures simultaneous action of all the rolls.

p are pinions mounted on the ends of the axles of the rolls, and which are adapted to engage with the idlers *p'*, which are mounted on the ends of the axles *a'* of the carriage-wheels *w*. These wheels move upon the track-rails *tr*, which are bolted at 5 to the side of the casting-table, as shown in Fig. 3.

f' are friction-wheels, which are mounted on short axles 6, mounted in slides in the car-

riage-frame, having adjusting screws *s*³, these friction-wheels bearing against the under side of the track-rail, preventing the carriage from jumping or jolting and holding the rolls down firmly upon the surface of the glass during the operation of rolling.

ct' is the carriage-table, which is connected by a link or coupling 9 to the casting-table *ct*, so that the carriage will run off upon it from the casting-table when the rolling is completed. The side rails of this carriage-table are pivoted at *p*², and when the carriage-wheels pass this point it rises, the rails *sr* being inclined, and when the carriage-wheel *w* drops into the cavity *c'* the opposite end of the side rail *sr* will be tipped, elevating the carriage and its rolls, so that the plate may be "teamed" or slid under the carriage into the annealing-oven.

*s*² is a shaft journaled in bearings in the upper end of the carriage-table *ct'*, on the outer ends of which are mounted pinions *p*⁴, engaging with small pinions *p*³, also mounted in bearings in the carriage-table, and to the axle of this smaller pinion is connected a crank *cr*, and by the revolution of this crank the shaft *s*² is revolved, winding up a rope *r*², which extends backward and is fastened to a handle *h*, which also operates as a locking-screw for the gage *g'*, and by this means the carriage may be drawn in the proper direction, one of these being set upon each side that it may be operated by two or more men.

g' are gages, the outer ends of which pass through the carriage-frame near the handle *h*, and this, as has been said, operates as a set-screw for locking this gage at any desired point. These gages are indexed in opposite directions and carry on their inner ends gunwales *g*² of the shape shown in Fig. 1, and at the upper ends of these gunwales are adjustably mounted friction-wheels *f*, which bear against the periphery of the rolls, and at their lower ends are similar friction-wheels *f*, which bear against the periphery of the rolls and also upon the casting-table, these friction-wheels being placed outside the gunwales, the inner faces of the gunwales regulating the width of the plate which is being rolled. This plate is shown at *g* in Fig. 4, the irregular up-

per end showing the part of the material which has not been passed over by the rolls. The gages g' are adjusted at the inner end by means of thumb-screws s .

5 The boxings of the rolls are constructed in the manner shown in Figs. 2 and 4, the upper half having an open slot to admit the neck of the bolt, and by loosening the nut this may be shoved back toward the rolls and the latter removed and a different roll substituted
10 without any difficulty.

The body of the beveling-roll r' , Fig. 2, is made hollow in the same manner as the other rolls, and the beveling strips or rings v are
15 placed upon the roll and secured by pins, screws, or bolts, holes being made at suitable distances through the shell of the roll to admit these. In Fig. 2 the parts v are intended for beveling the ends and sides of different-
20 sized plates, the intermediate ring v' is for lettering, and the parts marked v^2 are for paneling the plates of glass. By this construction the beveling and ornamenting bands or rings may be adjusted on the same roller
25 to work different sizes of glass, and by removing them it may be used as an ordinary plain roll.

The mechanism operates as follows: The pot containing the molten mass is carried
30 upon the traveler, as shown in my former application, filed December, 1889, Serial No. 335,287, and the metal is poured upon the top of the casting-table by tilting the pot in the manner therein shown and described, and the
35 operators then taking hold of the cranks cr , the carriage, with its rolls, is drawn forward from the carriage-table down upon the casting-table and over the outspread mass. This being poured upon the table in front of the
40 forward roll, the rolls are passed over the molten material, the thickness of the plate being determined by the adjustment of the slides sl , which carry the rolls, and when adjusted the carriage is held in place between
45 the wheels w , which move upon the top, and the friction-wheels f' , which move beneath the bottom of the track-rails. For ordinary work but two rolls are used, as shown in Fig. 4, and in such case the forward roll serves to
50 spread the glass to an approximate thickness, the rear roll following and removing the waves, leaving it of uniform thickness, completing the operation. When it is desired to bevel, ornament, or letter the glass, the roll r'
55 is set in the bearing 3, and in such case the rear roll may either be removed altogether or raised by means of the adjustable slides sl , so that it will pass over the surface of the glass without touching. The slides sl are made of

extra length to allow the necessary adjust- 60 ment when the beveling and ornamenting roll is required to be of unusual size for working large sheets of glass, and in such case this larger beveling-roll will be mounted in the rear bearing. The elevation of the bed 65 of the carriage-table, so as to bring the plate into proper position for putting it into the oven, is accomplished by turning the hand-wheels hw , which are mounted on shafts s^3 , having cone-screws cs at each end, these 70 screws passing underneath the carriage-table frame, which is cut out to make an even bearing on the screw. The carriage-frame may be lengthened in removing the glass by the common expedient of folding leaves or 75 other suitable means. A track-rail similar to that of the casting-table is continued on the carriage-table. Both the casting-table ct and the carriage-table ct' have legs l , in the ends of which are mounted track-wheels w' , which 80 run upon tracks t laid upon the floor.

What I claim as my invention, and desire to secure by Letters Patent, is the following:

1. A plate-glass-rolling machine comprising a casting-table mounted on trucks, track-rails 85 connected thereto on either side, a roll-carriage with one or more rolls mounted in bearings adjustable as to height, the axles of the rolls carrying pinions engaging with others carried on the axles of the carriage-wheels, 90 whereby motion from the one is transmitted to the other, friction-wheels beneath the track-rails, and gages for determining the width of the sheet adjustably connected to the carriage-frame in front of the rolls, all 95 combined substantially as shown and described.

2. In a plate-glass-rolling machine, a beveling and paneling roll comprising a cylindrical body, with beveling, paneling, or ornament- 100 ing bands or rings removably set therein, substantially as shown and described.

3. A carriage-table for plate-glass-rolling mechanism, having its side rails pivoted at or near their centers, whereon they may be 105 tipped by the weight of the roll-carriage, substantially as described.

4. A carriage-table for plate-glass-rolling mechanism, having pivoted side rails and a movable bottom, all combined, with means 110 for elevating the same, substantially as described.

In witness whereof I have hereunto set my hand this 20th day of November, 1889.

R. G. GUPTILL.

Witnesses:

C. P. JACOBS,

E. B. GRIFFITH.