

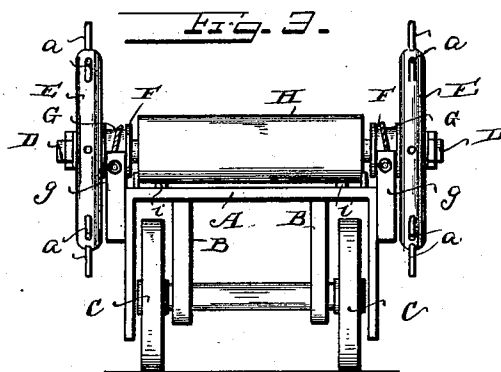
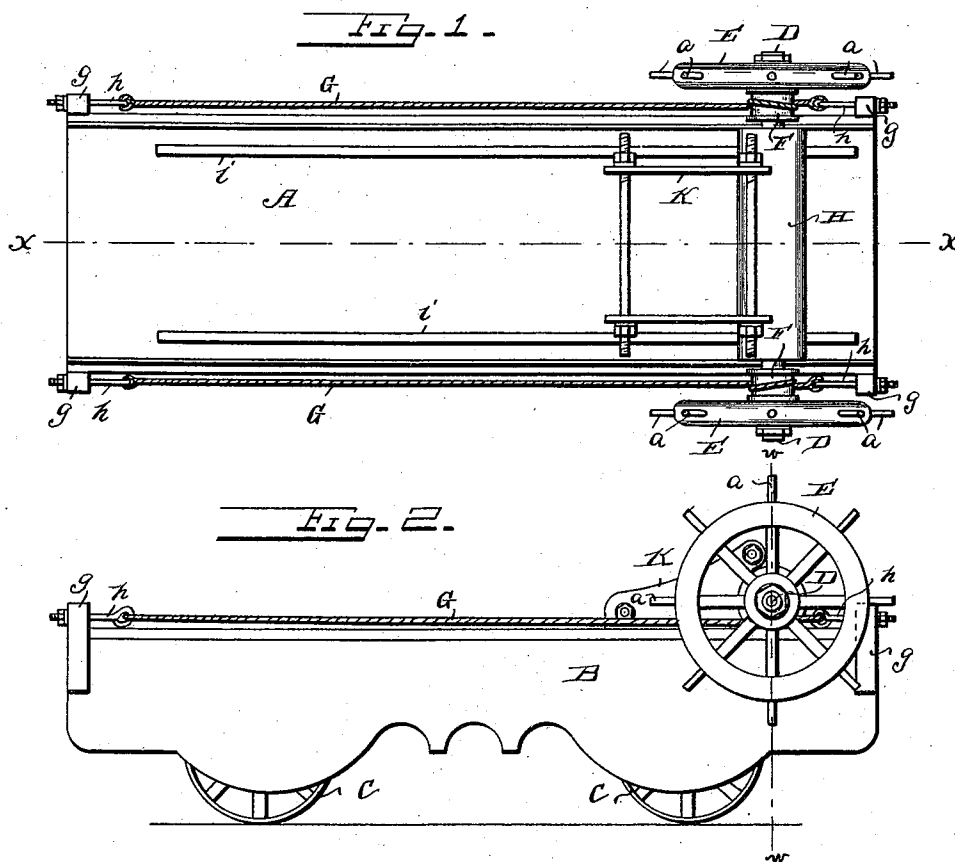
(No Model.)

2 Sheets—Sheet 1.

R. GRAY.
DEVICE FOR ROLLING GLASS.

No. 510,338.

Patented Dec. 5, 1893.



WITNESSES

Jesse Heller.
Phil Masi

INVENTOR

Ralph Gray.

by E. W. Anderson,
his Attorney

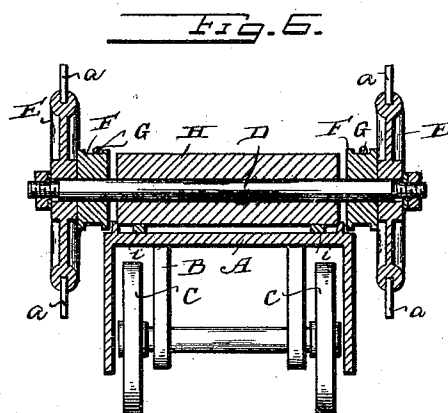
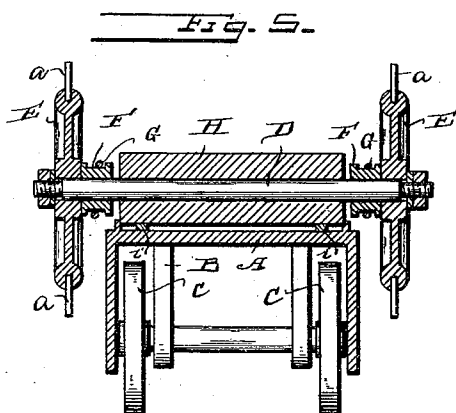
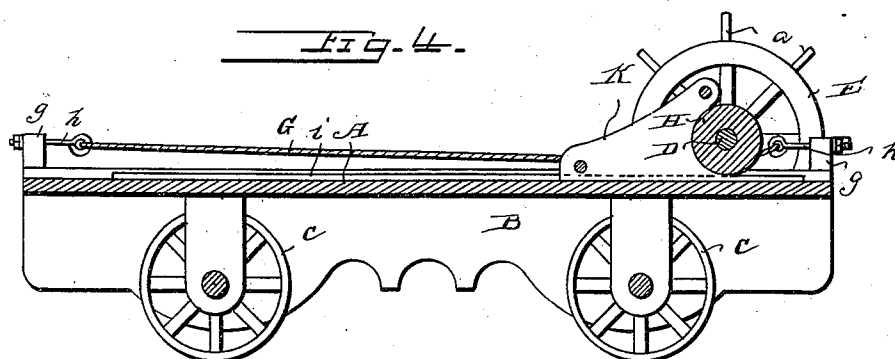
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WITNESSES

Jesse Heller.
Phillips

INVENTOR

Ralph Gray,
by E. W. Anderson,
his Attorney

UNITED STATES PATENT OFFICE.

RALPH GRAY, OF ANDERSON, INDIANA.

DEVICE FOR ROLLING GLASS.

SPECIFICATION forming part of Letters Patent No. 510,338, dated December 5, 1893.

Application filed March 23, 1893. Serial No. 467,359. (No model.)

To all whom it may concern:

Be it known that I, RALPH GRAY, a citizen of the United States, and a resident of Anderson, in the county of Madison and State of Indiana, have invented certain new and useful Improvements in Devices for Rolling and Rippling Glass; and I do 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, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

Figure 1 of the drawings is a top plan view of the machine. Fig. 2 is a side view of same. Fig. 3 is an end view. Fig. 4 is a vertical section on line *x x* Fig. 1. Fig. 5 is a transverse section on line *w w* Fig. 2 showing drums of reduced diameter; and Fig. 6 is a similar view showing drums of increased diameter.

This invention has relation to a new and useful device for the manufacture of certain kinds of glass, the object being to provide a new and useful means for rolling glass while in a heated state, and for imparting thereto various designs forming a product known as "rippled glass;" and the invention consists in the novel construction and combination of parts, all as hereinafter specified and pointed out in the claims.

Referring to the accompanying drawings, the letter A designates the bed or table upon which the glass is rolled and rippled, said table being of any well known and suitable material.

B is the supporting frame for said table, and in the drawings, this frame is shown as carried upon wheels or rollers C.

D designates a shaft arranged transversely across the table, the length of said shaft being sufficiently greater than the width of the table to cause its ends to project laterally thereof at each side; and on each end portion of said shaft is a wheel E, having its periphery provided with a series of hand spikes *a*. Just inside of each of said wheels, the shaft is provided with a short drum F, and coiled one or more times around each of said drums is a belt, chain or cable G, the respective ends

of which are attached to lugs *g* projecting laterally from the corner portions of the table, the attachment being made by means of screw-eyes *h*, working in said lugs and providing means for adjusting the tension of said belts, chains or cables. Sleeved upon the central portion of said shaft, between the drums F, is a roller H. Said roller is arranged to travel upon trams or tracks *i* upon the surface of the bed or table, and by the use of trams or tracks of different heights, the production of plates of different thicknesses is provided for.

K designates the gun, where the melted glass is poured in, and which may be adjusted to make a plate of any width.

The operation is as follows:—An operator is stationed at each side of the machine, and after the glass has been poured upon the table, the hand wheels E are revolved by said operators, causing the shaft with the roller H to travel along the table on the chains, belts, or cables. Upon arriving at one end of the table, the operators shift around to the opposite sides of the wheels, and facing the roller as before, move the roller back in the reverse direction; and this operation is repeated until the glass is rolled. When the glass is to be rolled plain, without rippling, the drums F and the roller H are made of the same diameter, as shown in Fig. 6, so that they revolve equally; but when the glass is to be rippled, the drums are made of less diameters than the rollers, as shown in Fig. 5, so that they will revolve in less time, causing said roller to slip and drag, which gives the effect desired to the glass.

By working different batches of glass at different temperatures, and by varying the power exerted by the operators, different designs may be produced, thereby saving the expense of cutting each design upon a separate roller.

Having described this invention, what I claim, and desire to secure by Letters Patent, is—

1. In a machine for rolling glass, the combination with a bed or table, of a shaft situated transversely above the table, a drum on said shaft near each end portion, an elongated roller carried by said shaft between said drums, and cables passed around said drums,

and secured at their ends, substantially as specified.

2. In a machine for rolling glass, the combination of the bed or table, the roller adapted
5 to traverse said table longitudinally, the shaft carrying said roller, the drums on said shaft and of less diameter than said roller, the cables, and means for rotating said shaft, substantially as specified.

10 3. In a machine for rolling glass, the combination of the bed or table, the roller adapted

to traverse said table longitudinally, the track strips, the drums on the shaft of said roller and of less diameter than said roller, the cables, the hand wheels, and the gun, substantially as specified. 15

In testimony whereof I affix my signature in presence of two witnesses.

RALPH GRAY.

Witnesses:

WILLIAM J. DOVE,
D. C. CHIPMAN.