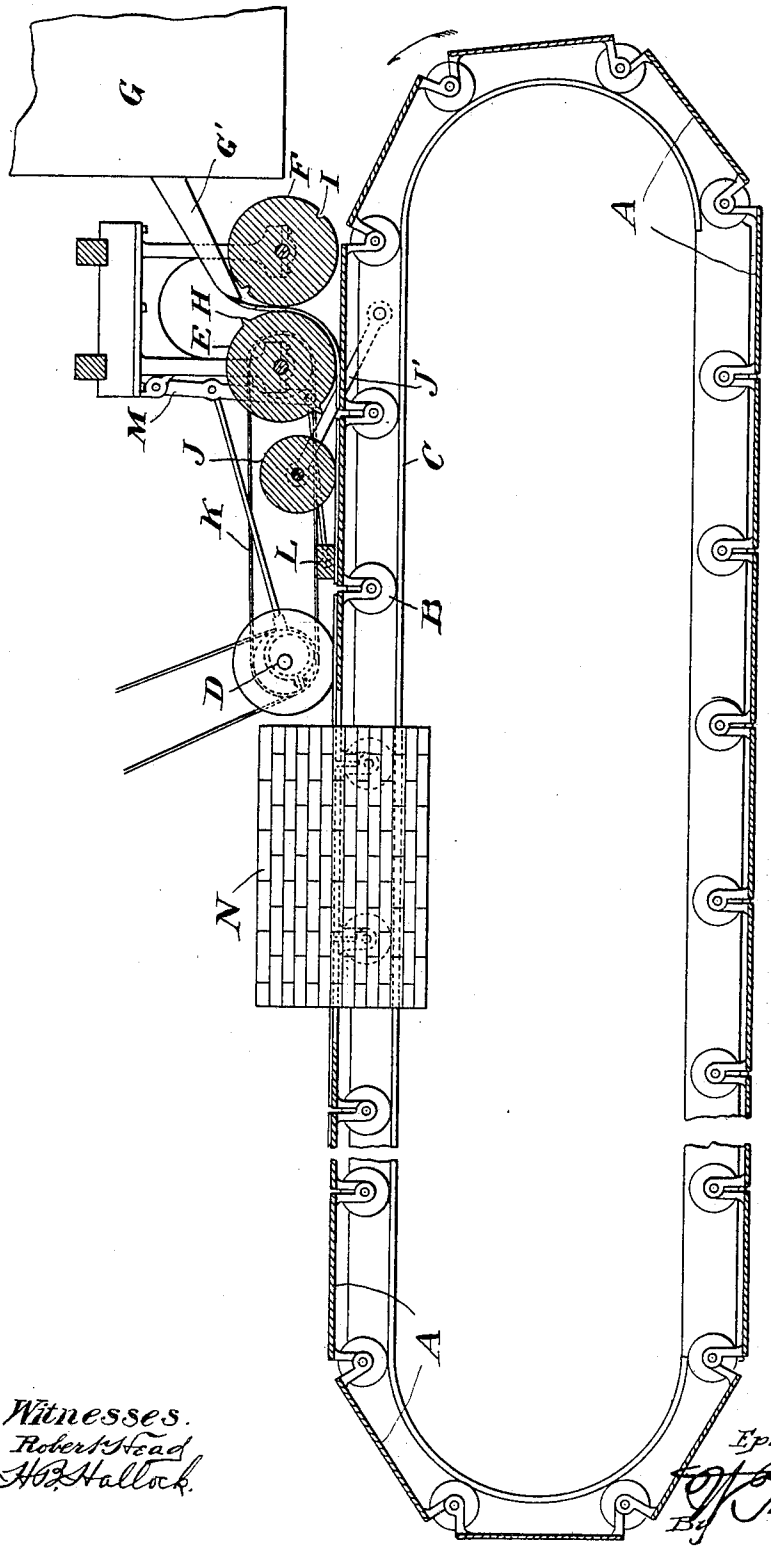
No. 775,204. PATENTED NOV. 15, 1904.

E. CHEESMAN.

WINDOW GLASS MAKING MACHINE.

APPLICATION FILED JUNE 21, 1904.

NO MODEL.



Witnesses.
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No. 775,204. Patented November 15, 1904.

UNITED STATES PATENT OFFICE.

EPHRAIM CHEESMAN, OF VINELAND, NEW JERSEY.

WINDOW-GLASS-MAKING MACHINE.

SPECIFICATION forming part of Letters Patent No. 775,204, dated November 15, 1904.

Application filed June 21, 1904. Serial No. 213,487. (No model.)

To all whom it may concern:

Be it known that I, EPHRAIM CHEESMAN, a citizen of the United States, residing at Vineland, county of Cumberland, and State of New Jersey, have invented a certain new and useful Improvement in Window-Glass-Making Machines, of which the following is a specification.

My invention relates to a new and useful improvement in window-glass-making machines, and has for its object to provide a machine by which window-glass may be rolled into a flat sheet instead of being blown into a cylinder as is now commonly done, and said window-glass is rolled, flattened, polished, and annealed all in one operation.

With these ends in view this invention consists in the details of construction and combination of elements hereinafter set forth and then specifically designated by the claims.

In order that those skilled in the art to which this invention appertains may understand how to make and use the same, the construction and operation will now be described in detail, referring to the accompanying drawing, forming a part of this specification, in which is illustrated a longitudinal section through my improved machine.

In the drawing, A represents a series of platforms or plates which are hinged together underneath, and rollers or wheels B are journaled at the points where said platforms or plates are hinged together, said rollers or wheels B adapted to rest and travel upon a track C, and as all the plates are hinged together in one continuous chain an endless conveyer is thus provided, and the track C being straight along its upper and lower side and rounded at the ends the glass is adapted to be rolled and formed upon the upper run of the plates, and this endless chain of plates may be driven in any manner desired, either by having a rack upon each plate meshing with the revolving gear-wheels, by a friction arrangement, or by sprocket-wheels.

D represents the power-shaft, from which the chain and other operating parts may be driven.

E and F represent two rolls arranged slightly above the plates A at the beginning of the upper run of said plates. The rolls E and F are a slight distance apart and the molten glass is adapted to pass from the tank through the flume G′ downward in between the rolls E and F and onto the plates A, the glass passing underneath the roll E, and the distance the roller E is above the plates determines the thickness of the glass. One of the rolls E and F is provided with projections or blades H, adapted to pass into grooves I, formed in the opposite roll, so as to cut the molten glass into such lengths as will just fit the plates A, so that after the plates A pass forward of the rolls E and F each plate will have a sheet of glass lying upon the upper surface of the same.

J is a roll arranged in advance of the roll E and adapted to float upon the sheets of glass for the purpose of keeping said sheets flat upon the plates A. Said roll is journaled to one end of a link J′, the other end of said link being pivoted to the framework of the machine. The roll E is adapted to be driven from the power-shaft D either by a chain or belt K.

L is a flattening-bar or polisher arranged in advance of the roll J and adapted to rest by gravity upon the sheets of glass. This flattening-bar or polisher is adapted to be reciprocated back and forth upon the surface of the glass in any manner, (here shown as being connected to the lower end of a lever M,) said lever pivoted to the framework at its upper end and being connected intermediate of its two ends to an eccentric upon the shaft D. After the glass passes from underneath the polishing-bar or flattener L it may pass through an annealing-furnace or leer N, and after passing from said furnace the glass may be removed from the plates finished.

It will thus be seen that by this construction of machine window-glass may be manufactured in flat sheets or rolled, flattened, and annealed all automatically and at one operation.

Of course I do not wish to be limited to the exact construction here shown, as slight modifications could be made without departing from the spirit of my invention.

Having thus fully described my invention, what I claim as new and useful is—

1. In a window-glass-making machine, an endless conveyer composed of a number of flat plates hinged together, two rolls arranged above the beginning of the upper run of said conveyer a slight distance apart, the glass adapted to pass from a tank downward and between the two rolls and underneath the forward roll upon the conveyer, means for severing the glass in lengths the same as the plates, a roll adapted to float upon the sheets of glass in advance of the other two rolls, a flattening and polishing bar resting upon the glass by gravity in advance of the floating roll, and means for reciprocating said bar, as and for the purpose specified.

2. In a window-glass-making machine, a series of flat plates each one hinged to the other to form an endless conveyer, rollers carried by the plates, a track upon which the rollers are adapted to run, the upper run of the track being straight and horizontal, two rolls arranged a slight distance apart and above the beginning of the upper run of the plates, the molten glass adapted to pass from the tank downward between said rolls onto the plates and be carried forward underneath the forward roll, the distance the forward roll is above the plates determining the thickness of the glass, knives extending outward from one of the rolls adapted to fit in grooves in the other roll so as to sever the glass in lengths corresponding to the lengths of the plates, a roll in advance of the two rolls adapted to float upon the top of the glass, a flattening and polishing bar resting upon the glass by gravity forward of the floating roll, means for reciprocating said bar and a leer or annealing-chamber through which the plates pass after leaving the polishing and flattening bar, as specified.

3. In combination with a machine of the character described, a continually-revolving conveyer composed of flat plates hinged together in an endless chain, the upper run of said plates being straight and horizontal, means for depositing the glass upon said plates to uniform thickness, a polishing and flattening bar resting upon said sheets of glass after they have become somewhat cooled, a lever pivoted to the framework, a rod connecting said lever with the bar, a power-shaft, an eccentric secured upon the upper shaft, and a rod connecting the eccentric with the lever so as to cause the polishing and flattening bar to be reciprocated upon the surface of the glass, as and for the purpose specified.

In testimony whereof I have hereunto affixed my signature in the presence of two subscribing witnesses.

EPHRAIM CHEESMAN.

Witnesses:

GARFIELD PANCOAST,

HERBERT C. BARTLETT.