

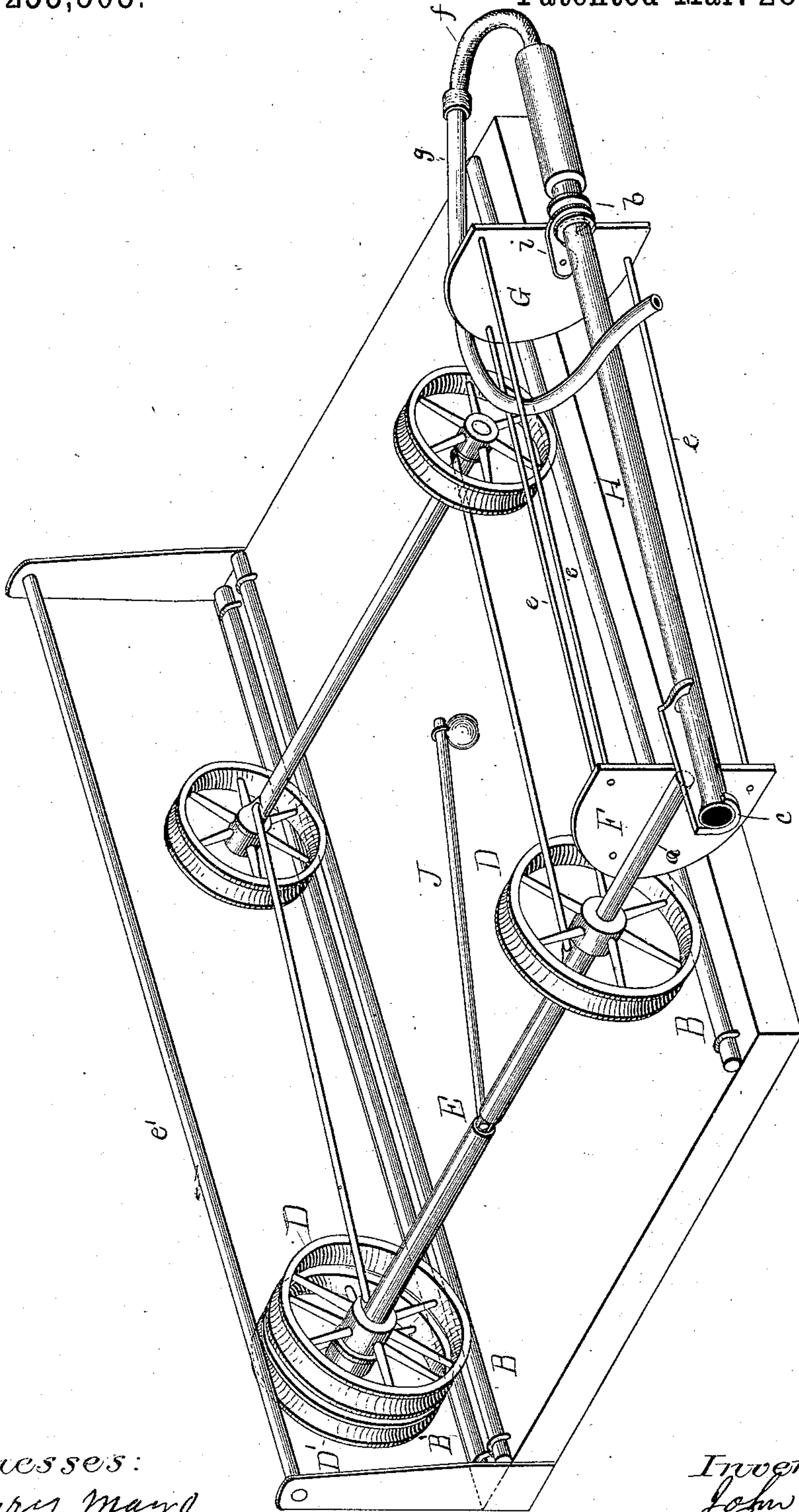
(Model.)

H. HARDS & J. & E. PHILLIPS.

MACHINE FOR BLOWING WINDOW GLASS.

No. 255,503.

Patented Mar. 28, 1882.



Witnesses:

Henry Mayo
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UNITED STATES PATENT OFFICE.

HENRY HARDS, JOHN PHILLIPS, AND EDWARD PHILLIPS, OF OTTAWA, ILL.

MACHINE FOR BLOWING WINDOW-GLASS.

SPECIFICATION forming part of Letters Patent No. 255,503, dated March 28, 1882.

Application filed July 5, 1881. (Model.)

To all whom it may concern:

Be it known that we, HENRY HARDS, JOHN PHILLIPS, and EDWARD PHILLIPS, all of the city of Ottawa, in the county of La Salle and State of Illinois, have jointly invented certain new and useful Improvements in Apparatus for Blowing Glass, of which the following is a full, clear, and exact description.

Our invention relates to certain new and useful improvements in apparatus for blowing glass; and it consists in certain novel features of construction, hereinafter more fully described.

In the drawing the figure is a perspective view of the improved apparatus constructed in accordance with our invention.

The object of our invention is to enable glass-blowers to blow larger rollers and more uniform and regular by the use of a blower attached to a car laid on a track, B B, in front of a furnace.

The axle E of the car is hollow to allow of the passage of a rod, *a*, which is so constructed as to permit the blow-pipe to swing without turning the wheels D D. A metal plate, F, welded to the rod *a* outside of said wheel D, serves as a bearing for one end of the rods *e e e*. At the other end of said rods is attached another plate, G, of the same size as the first plate, the plate G being cut or otherwise perforated to admit of the passage of the blow-pipe H through the same.

On the plate G is pivoted a hook, *i*, so attached as to hook and secure the blow-pipe H in place, the upper portion of said blow-pipe being connected with the main pipe by a small iron pipe, *g*, and rubber tube *f*, the iron pipe being fastened to two of the supporting-rods *e e e*, holding the plates F G, and the rubber portion *f* is so arranged as to admit of its being removed and replaced at will, the whole forming a curved connection of the mouth-piece or tube with the main pipe.

To the rod *a*, between the two front wheels, D D, is attached a weighted lever, J, by means of which the operator is enabled to tilt the blow-pipe and appurtenances without other-

wise disturbing the car—an important feature, as it assists materially in blowing and handling the glass rollers and placing them in position when blown without liability of breakage as heretofore.

Attached to the blow-pipe H, above and below the plate G, is a flange or washer, *b*, which prevents the blow-pipe from lateral play, and at the plate F said pipe is retained in place by iron clasp *c*, reaching half around the blow-pipe on one side and half around said pipe on the reverse side.

The grooved wheels D D are adapted to the rails.

Attached to the side of the car opposite to that on which the blow-pipe is located is an extra wheel, D', turning upon the rod *a*, said wheel D' being grooved and running upon an extra track-rail, B', said wheel D' being rendered incapable of displacement by being held in place by means of a rod, *e'*, which sets above and plays loosely in the groove of said wheel.

We are aware that it is not broadly new to use a truck mounted upon wheels in connection with glass-blowing appliances, nor to support a blow-pipe pivotally. Hence we make no broad claim to such features, and we do not claim broadly means for swinging the blow-pipe combined with a truck, as this is old; but

What we claim is—

In an apparatus for blowing glass, the combination, with a truck having a hollow axle and adapted to move on a track, of an auxiliary wheel, D', and rod *e'*, a rod, *a*, passing through the hollow axle, a weighted lever, J, secured to the rod *a*, plates F G, connected by rods *e* and secured to the rod *a*, blow-pipe having the collars *b* and secured to the plates by clasp *c*, and hook *i*, substantially as and for the purpose set forth.

HENRY HARDS.
JOHN PHILLIPS.
EDWARD PHILLIPS.

In presence of—

H. MAYO,
CHASE FOWLER.