

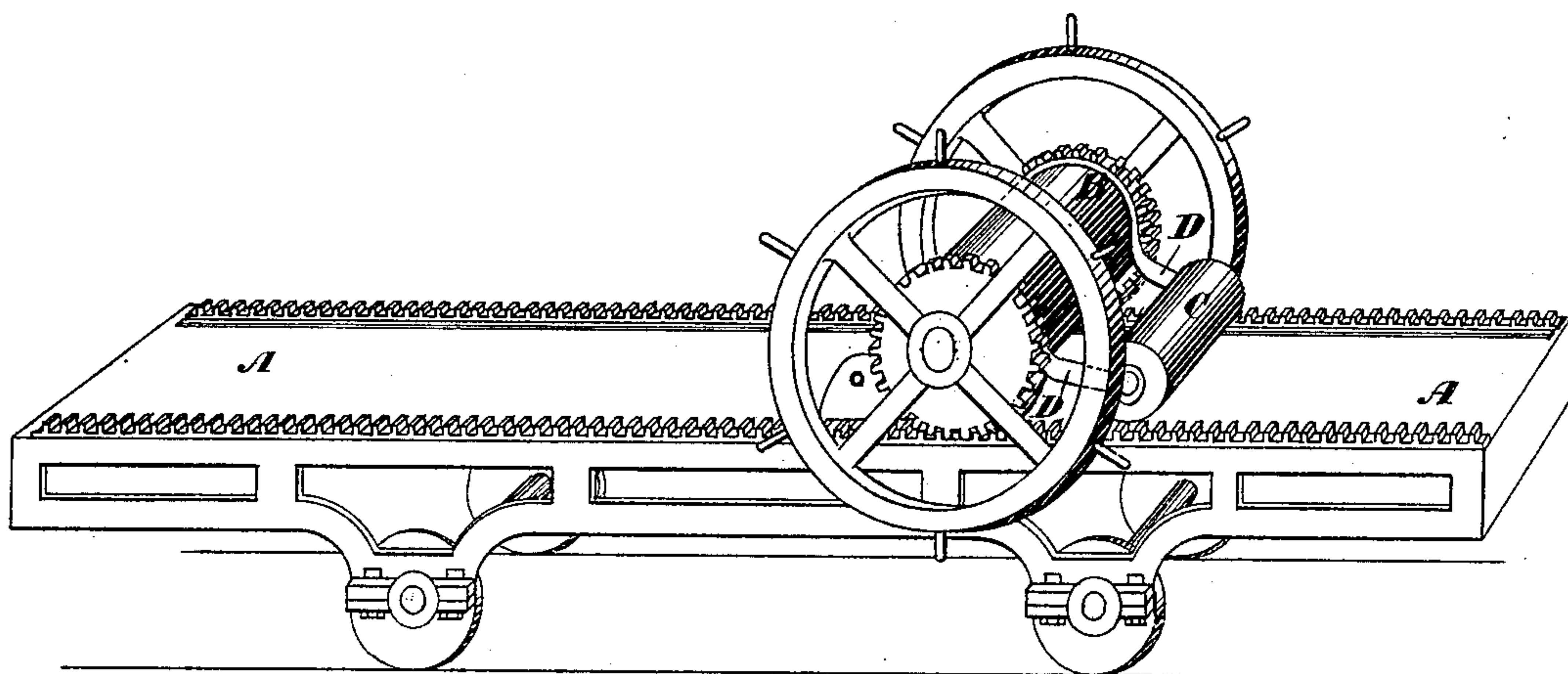
(No Model.)

A. D. BROGAN & A. M. MALLOCH.

APPARATUS FOR ROLLING GLASS.

No. 370,177.

Patented Sept. 20, 1887.



Witnesses
H. B. Knight
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UNITED STATES PATENT OFFICE.

ANTHONY D. BROGAN AND ANDREW M. MALLOCH, OF FIRHILL, GLASGOW,
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APPARATUS FOR ROLLING GLASS.

SPECIFICATION forming part of Letters Patent No. 370,177, dated September 20, 1887.

Application filed March 14, 1887. Serial No. 230,878. (No model.)

To all whom it may concern:

Be it known that we, ANTHONY DIXON BROGAN and ANDREW MURRAY MALLOCH, citizens of the United Kingdom of Great Britain and Ireland, residing at Firhill, Glasgow, in the county of Lanark, Scotland, have invented new and useful Improvements in Apparatus for Rolling Glass; and we do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the manufacture or art to which it relates to make and use the same.

Our invention relates to the class of apparatus employed in rolling glass known as "casting-tables," whereon molten glass is rolled into sheets or plates by means of a roller caused to travel over a smooth table; and the invention has for its object to insure greater uniformity of thickness and flatness of surface of the rolled glass and the avoidance of the crumpled surface which is produced by the pressure of the roller on the glass. To that end we furnish the ordinary casting-table with two or more rollers, one of which corresponds to the ordinary roller, and is provided, as usual, with toothed wheels gearing with racks on the table, and with handing-wheels, whereby it is actuated, while the other or others is or are connected to the first-mentioned roller by side links attached to the spindle of the follower, and having arms passing over the main roller, whereby said auxiliary roller or rollers is or are drawn behind the main roller over the sheet of glass rolled out by it, and inequalities in thickness or on the surface are removed. The accompanying drawing represents in

perspective a casting-table, A, furnished with two rollers, of which B is the main roller, and C the auxiliary roller, the rollers being connected by side links, D; but any other convenient means for connecting the rollers which will permit of the auxiliary roller following in the wake of the main roller and rise and fall independently thereof in the operation of rolling out the glass may be employed.

Having now described the invention, what we desire to claim and secure by Letters Patent is—

1. In an apparatus for rolling glass, the combination, with the table and the main roller adapted to traverse the surface of the glass, of an auxiliary roller movable vertically independently of the main roller and adapted to follow in its wake, substantially as set forth.

2. The combination, with the table and the main roller adapted to traverse the surface of the glass, of an auxiliary roller and links connecting said rollers, whereby one is adapted to rise and fall independently of the other, substantially as set forth.

In witness whereof we have hereunto set our hands this 1st day of March, 1887.

A. D. BROGAN,
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