

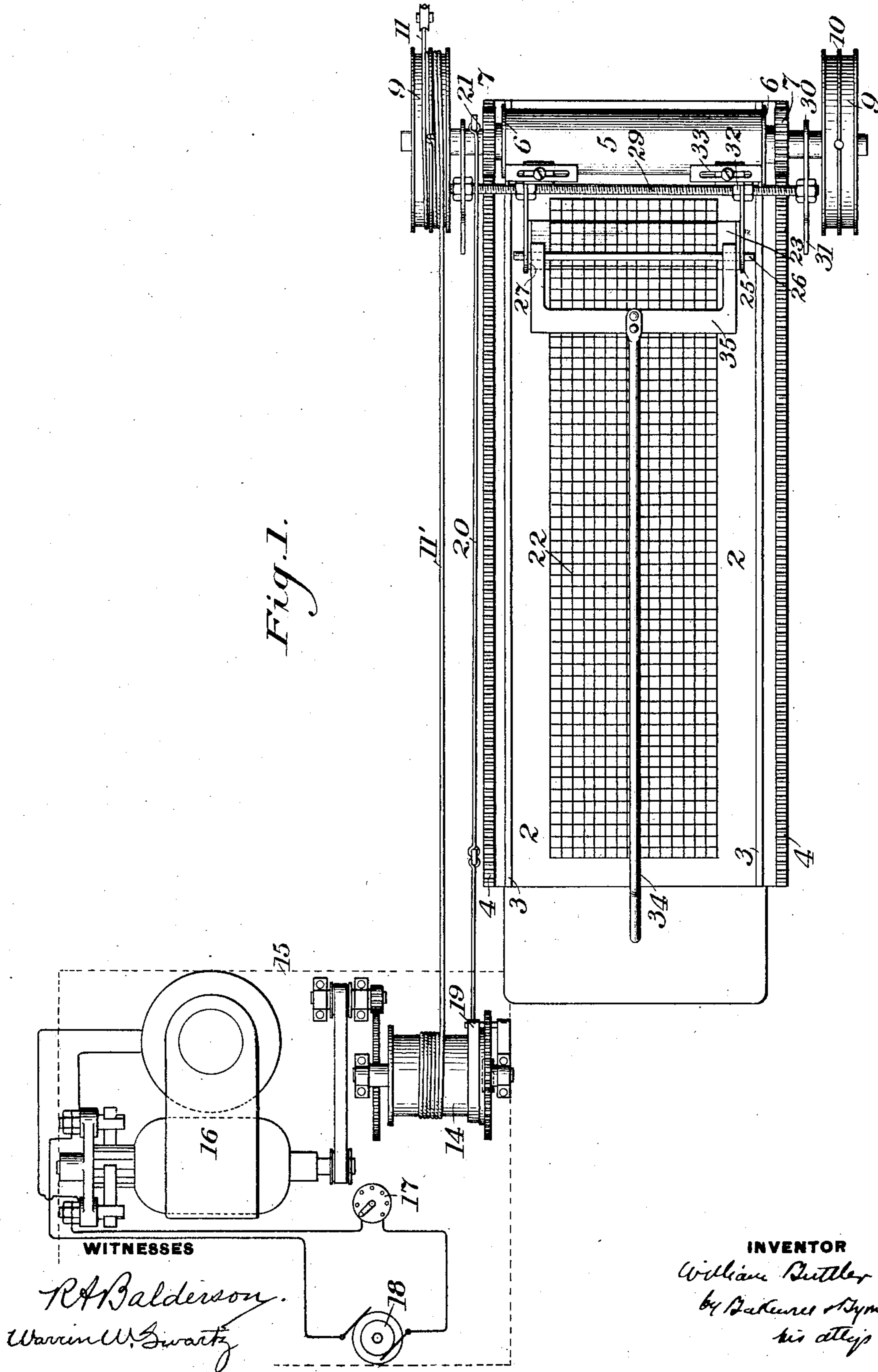
No. 814,515.

PATENTED MAR. 6, 1906.

W. BUTTLER.
APPARATUS FOR MAKING WIRE GLASS.

APPLICATION FILED AUG. 8, 1905.

3 SHEETS—SHEET 1.



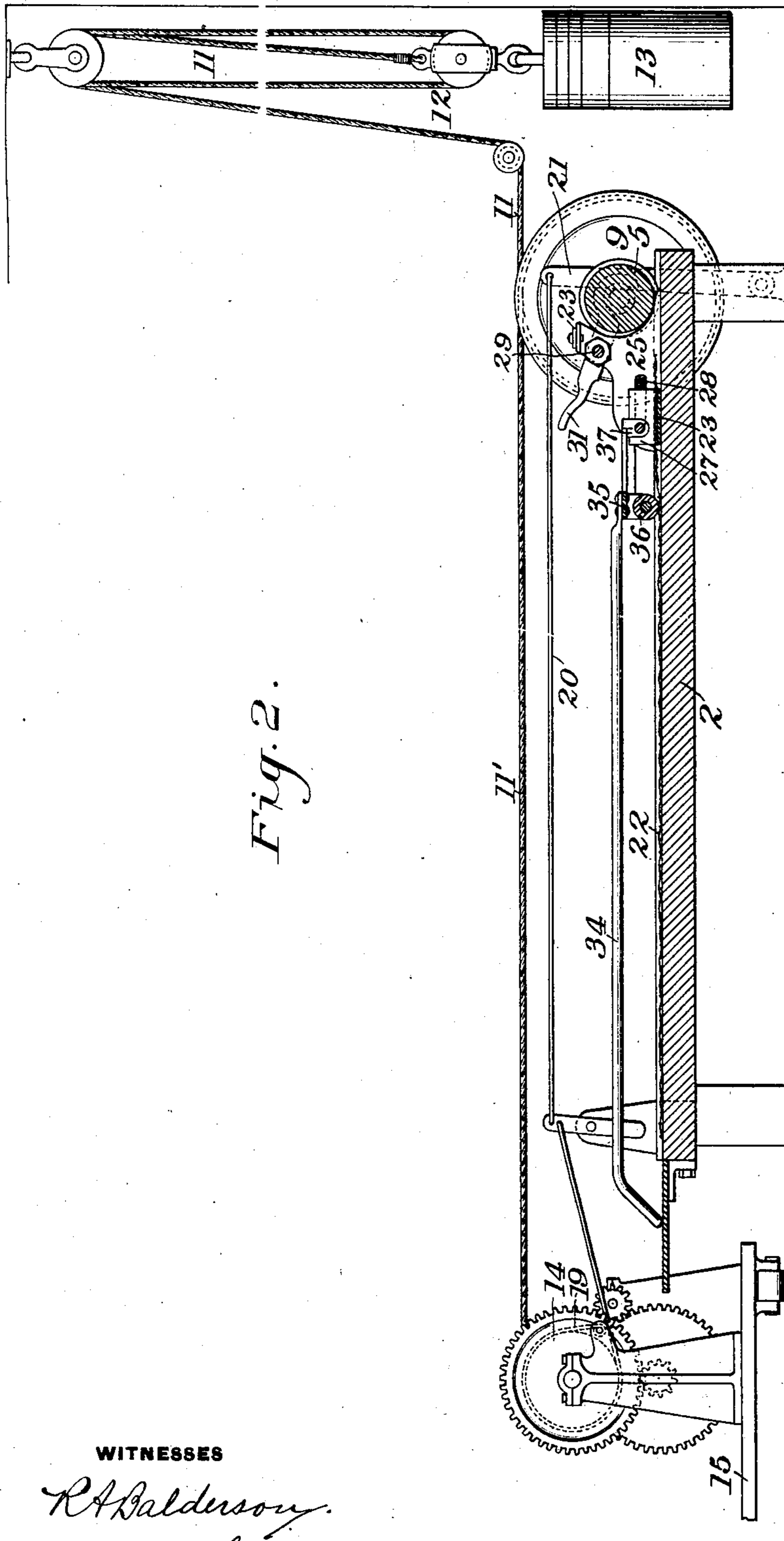
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Fig. 2.



WITNESSES

R. A. Balderson
Warren W. Swartz

INVENTOR

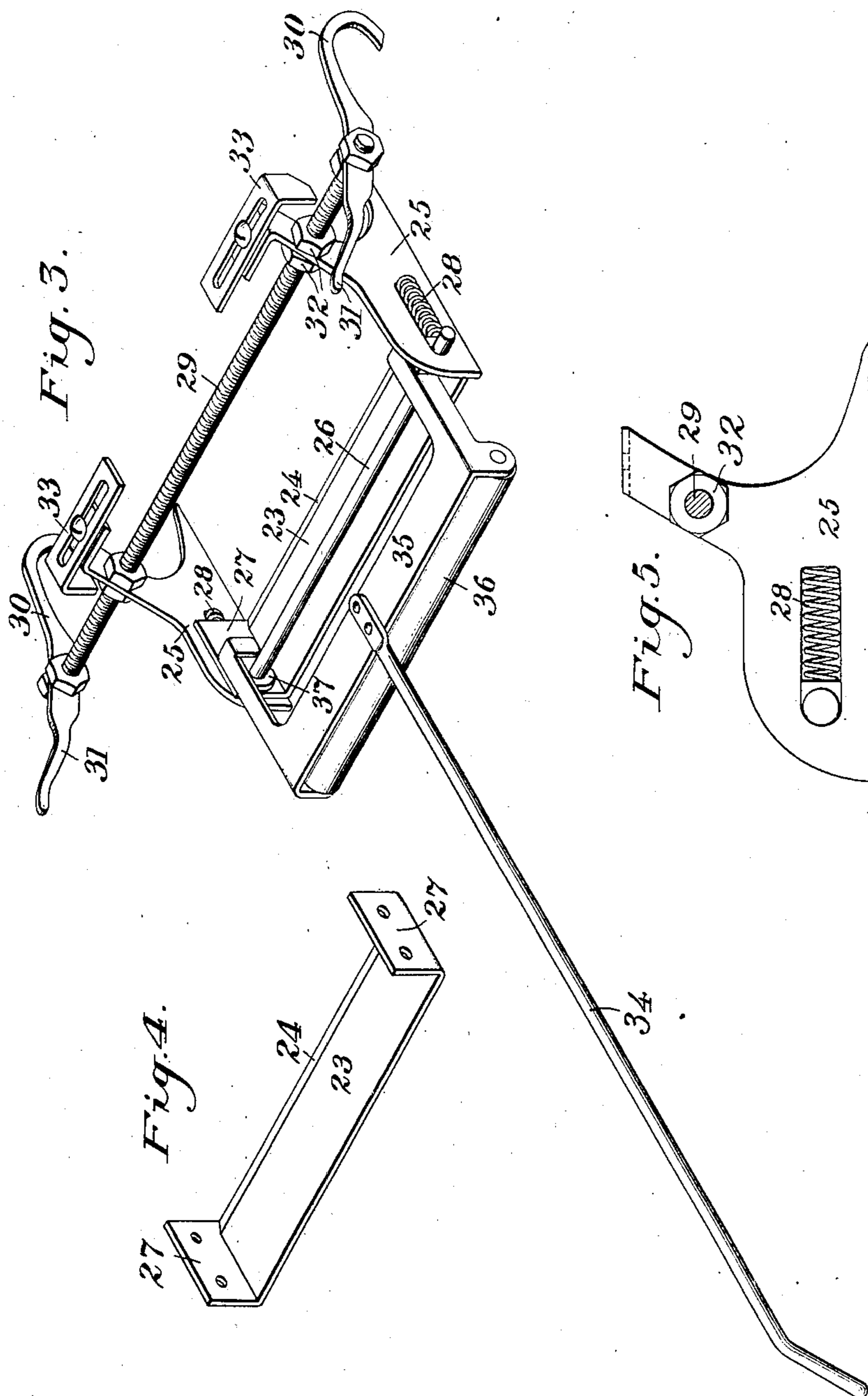
William Butler
by Parker & Holmes
his attys

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3 SHEETS—SHEET 3.



WITNESSES

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Warren W. Swartz

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UNITED STATES PATENT OFFICE.

WILLIAM BUTTLER, OF INDIANAPOLIS, INDIANA.

APPARATUS FOR MAKING WIRE-GLASS.

No. 814,515.

Specification of Letters Patent.

Patented March 6, 1906.

Application filed August 8, 1905. Serial No. 273,247.

To all whom it may concern:

Be it known that I, WILLIAM BUTTLER, of Indianapolis, Marion county, Indiana, have invented a new and useful Apparatus for Making Wire-Glass, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a plan view of my improved apparatus. Fig. 2 is a sectional side elevation. Fig. 3 is a perspective view of the lifting-shoe and roller, and Figs. 4 and 5 are detail views hereinafter referred to.

My invention relates to the manufacture of wire-glass, and is designed to provide a simple and improved apparatus therefor.

The object of the invention is to provide simple means for lifting the wire fabric to the proper elevation above the table as the glass is rolled, also to provide means for mechanically and also automatically returning the roller, and, further, to provide improved electrical operating mechanisms by which the glass is rolled. It is also designed to provide means for thrusting the glass against the pressing-roller as the glass decreases in volume during the rolling.

In the drawings, 2 represents a table on which the glass is rolled, this table having the raised side strips or ribs 3 3 and the outer racks 4 4. The roller 5 is provided with disks 6 6, which travel along the outer edges of the ribs, the roller-shaft having the pinions 7 7, which travel on the side racks.

The roller-shaft projects beyond the sides of the table and is provided at one or both ends with a pulley 9. This pulley is preferably divided into two parts by an intermediate rib or web 10, one part receiving a rope 11, the front end of which is fastened to the drum or pulley 9, while the other end extends to a tackle system 12, having a weight 13. The weight 13 normally holds the roller at one end of the table, as shown. The other part of the pulley receives a rope 11', one end of which is secured to the pulley, while the other end extends to the winding-drum 14 for moving the roller along the table. The two ropes are arranged on the drum 9 so that one is wound up thereon as the other is unwound. The drum 14 is preferably mounted on a truck or movable platform 15, which also preferably carries the motor 16 and the controller or switch mechanism 17. 18 represents diagrammatically the current-generator by which electric current is supplied

through flexible wires to the motor which drives the drum 14 through suitable slow-motion-gearing connections.

The pressing-roller is moved along the table in one direction by the motor and in the opposite direction by the counterweight in the form shown. The winding-drum and motor being mounted on a truck or platform may be shifted or moved about for different tables or for repairing or replacing a table. The winding-drum is preferably provided with a brake 19, having a flexible connection 20, leading to a lever 21, which is actuated by the roller-shaft when the roller reaches its return position. By this lever the brake is set, thus stopping the roller in the proper place.

The wire fabric 22 is laid on the table with its front end extending over the lifter bar or plate 23. This plate is preferably provided with a beveled or knife edge 24 on the side next to the roller and is preferably supported from the side shoes or ploughs 25 by a rod 26, extending through holes in the end flanges 27 and through slots in the shoes. Springs 28 in the slots act to normally force the lifter backwardly away from the roller. The shoes 25 are pivoted to the screw-rod 29, which at its end is provided with the pivoted hooks 30, adapted to hook over the roller-shaft. These hooks have suitable hand-levers 31, by which they may be brought into or out of engagement with the shaft. The shoes may be adjusted toward or from each other by the nuts 32 and are held in proper place by the adjustable gages 33.

In order to force the lifter toward the roller as it moves along the table, I provide the long handle or bar 34, one end of which is secured to the tilting frame 35, having the friction-roller 36, which travels over the wire fabric. This frame is provided with side ears 37, which are pivoted on the rod 26, so that the rod and lifter-bar may be forced toward the roller against the action of the spiral springs.

In the operation of the device the parts are placed in the position of Figs. 1 and 2. The glass is then deposited in a space between the roller 5 and the lifter-bar 23. The electric motor is then energized and acts to draw the roller along the table through the drum connections. As the roller moves the wire fabric is successively lifted by the lifter-bar, so that it is embedded to the proper depth in the plate of glass which is formed by the roller. As the roller travels along the amount of

glass between it and the lifter-bar is of course lessened greatly by the amount of glass already rolled, and during the rolling the operator from the handle-bar 34 gradually forces the lifter-bar toward the roller, thus holding the mass of glass in contact with the roller and insuring proper action thereof. This moving of the lifter-bar may of course be carried out automatically by yielding pressure or otherwise instead of by hand. As soon as the sheet of glass is rolled the operator cuts off the current to the motor and the weights return the roller to its original position, moving it back over the sheet. As soon as the current is cut off the operators can go to the next table and begin rolling a sheet thereon while the weights are returning the first roller.

The advantages of my invention will be apparent to those skilled in the art. The operation may be rapidly and uniformly carried out, the roller being automatically returned to its original position when the current is cut off from the motor. The number of men employed is decreased by about four to the turn and the output is greatly increased, especially where several tables are used. The men may be constantly employed, and no waits are necessary for part of them while the roller is being returned. The shoes and lifter may be easily detached from the roller by means of the simple hook-levers. The adjusting of the lifting-bar toward the roller insures proper rolling and a good quality of glass. The automatic return device may be varied and may be attached to the drum at either end of the roller-shaft, as may also the roller, actuating-drum, and connections.

Many variations may be made in the form

and arrangement of the parts without departing from my invention.

I claim—

1. In glass-rolling mechanism, a roller having automatic return mechanism, and a brake operated by the roller and arranged to stop the roller at a predetermined point on its return; substantially as described.

2. In apparatus for making wire-glass, a lifting plate or bar movable with the roller, and means for adjusting the same toward the roller during the rolling operation; substantially as described.

3. In apparatus for making wire-glass, a lifting plate or bar movable with the roller, springs for normally forcing said bar away from the roller, and means for forcing said bar toward the roller against the action of the springs; substantially as described.

4. In apparatus for making wire-glass, the combination with a table and a roller arranged to move thereover, of side shoes or plows, a lifting-bar supported by the shoes or bars, and means for forcing the lifting-bar toward the roller during the rolling operation; substantially as described.

5. In apparatus for rolling glass, the combination with a table and a roller, of a lifting-bar movable with the roller, a supporting-rod for said bar, a tilting frame pivoted to the rod and carrying a friction-roller arranged to travel over the fabric, and a handle connected to the frame; substantially as described.

In testimony whereof I have hereunto set my hand.

WILLIAM BUTTLER.

Witnesses:

CHARLES KERNER,
JACOB M. MARKLEY.