(No Model.) 2 Sheets—Sheet 1.

R. THIRSK.

FEED APPARATUS FOR GLASS POLISHING MACHINES.

No. 386,417. Patented July 17, 1888.

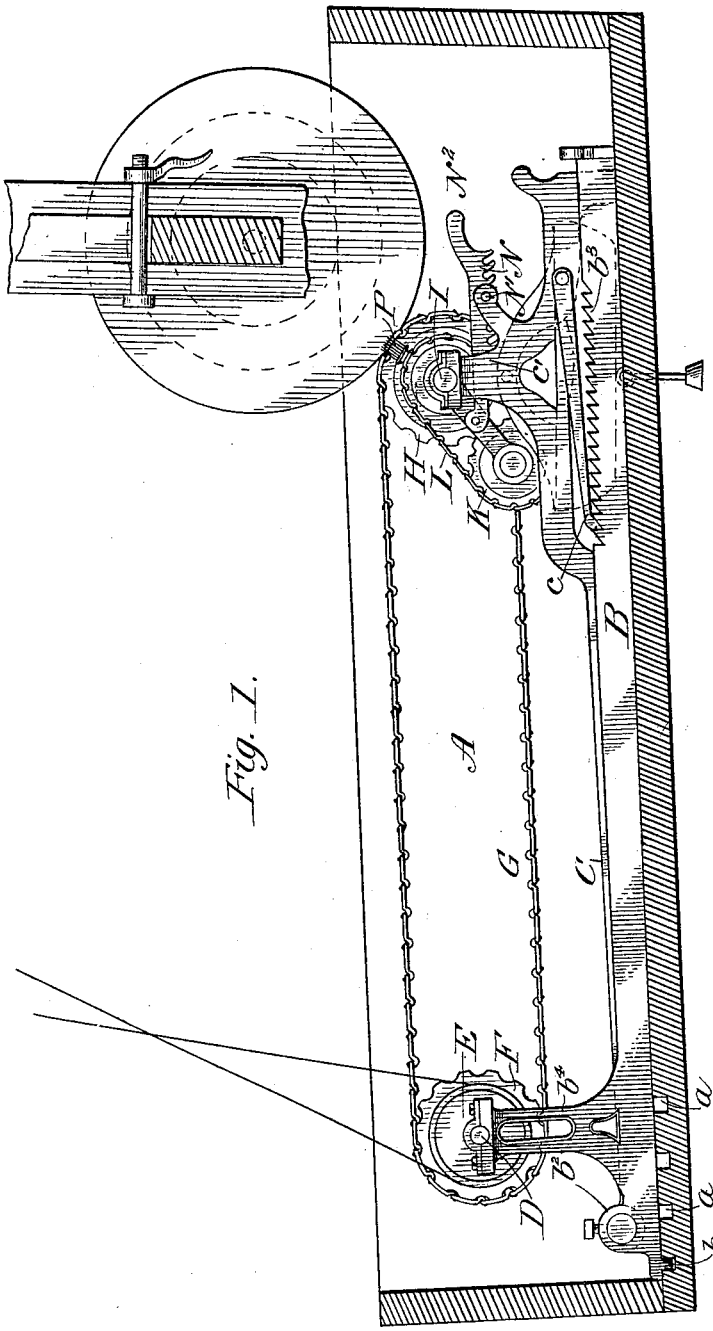

Fig. 1.

Witnesses.
Morris A. Clark.
Wm. J. Rittree,

Inventor:
Richard Thirsk.
by L. W. Seely.
Atty.

(No Model.) 2 Sheets—Sheet 2.

R. THIRSK.

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Fig. 2.

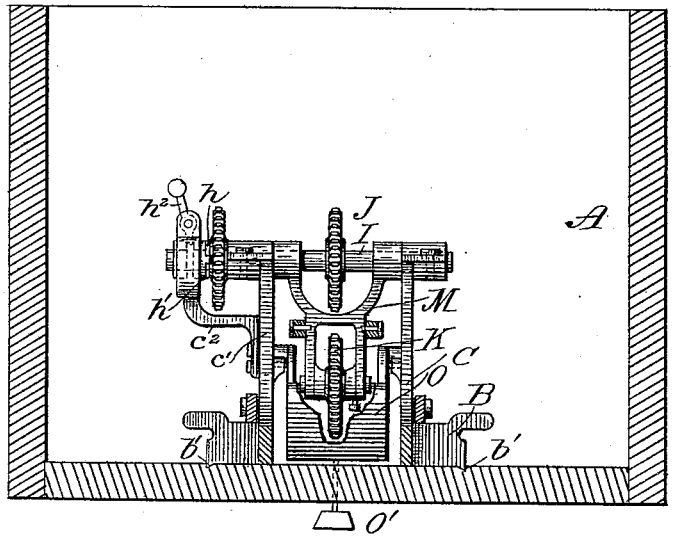
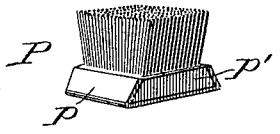


Fig. 3.



Witnesses.

Norris A. Clark

Wm. J. Cattree,

Inventor:

Richard Thirsk,

by L. W. Seely. Atty

UNITED STATES PATENT OFFICE.

RICHARD THIRSK, OF HONESDALE, ASSIGNOR TO LOUIS J. DORFLINGER, OF WHITE MILLS, PENNSYLVANIA.

FEED APPARATUS FOR GLASS-POLISHING MACHINES.

SPECIFICATION forming part of Letters Patent No. 386,417, dated July 17, 1888.

Application filed February 12, 1887. Serial No. 227,421. (No model.)

To all whom it may concern:

Be it known that I, RICHARD THIRSK, a citizen of the United States, residing at Honesdale, in the county of Wayne and State of Pennsylvania, have invented certain new and useful Improvements in Feeding Apparatus for Glass-Polishing Machines; and I do hereby 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.

The operations of cutting and polishing glassware are usually performed by means of wheels running at high speed, against the periphery of which the article is held. The polishing material must be constantly supplied. Otherwise friction results, and the heat engendered thereby is liable to crack the glass, and in case of valuable objects of glassware the loss is serious.

Heretofore it has been common to employ a boy, who, under the supervision of the cutter, supplies the polishing material or paste to the wheel with a brush. This method is objectionable for many reasons. It exposes one more person at each machine to the injurious effects of the poisonous materials used, and at the same time any carelessness or inattention on the part of the attendant is liable to result in the loss above referred to.

My invention relates to means for supplying polishing-powder to the tool, and its object is to apply such powder continuously by means of mechanism controlled by the workman.

My invention consists in novel mechanism for supporting a feeding-brush, and also for adjusting such brush so that it may act upon any one of a series of polishing-wheels of different sizes. Such mechanism will be fully hereinafter described, and afterward specifically claimed, and it is fully illustrated in drawings accompanying this specification.

In the drawings, Figure 1 represents a vertical longitudinal section of the entire invention, showing the driving-belt and the polishing-wheels. Fig. 2 is an elevation, partly in section, of the front of the machine, and Fig. 3 represents a brush and one of the clips by which it is held in place on the chain belt.

A represents a deep oblong box, above which the usual cutting and polishing wheels are supported upon a shaft, which itself is held in ordinary bearings in standards or hangers. These wheels are driven by a belt in the usual way. In the box is placed a frame of cast-iron for my improved machine. This frame is rectangular in shape, and may be of a single casting or made of several parts securely bolted together. The side and the forward end pieces have their greatest thickness in a vertical direction; but the rear piece is thinner in its vertical direction and projects rearwardly in a plane with the bottom of the frame. Beneath this rearward extension and midway thereof is a downwardly-projecting lug, *b*, forming a pivot-center, upon which the frame may be swung laterally, so as to have considerable range of movement at its forward end. This lug rests in sockets *a a* in the bottom of the box, of which several may be used, as seen in Fig. 1, and by means of which it can be held in different longitudinal positions. The front end piece of the frame projects outward in either direction, the projections being formed into handles, by which the frame may be raised and shifted. On the under side of the front piece are lugs or prongs *b' b'*, which enter the bottom of the box A, and by means of which the weight of the frame and the structure it supports contribute to hold it firmly in position.

At the rear of the frame and directly above the rear end piece is a shaft turning in ears b^2 on the side pieces. To this shaft are secured the side pieces of a second integral frame, C, which is thereby adapted to be swung vertically upward at its forward end, and which may be held at any desired height by means of a pawl, *c*, pivoted to it and engaging with a series of teeth, b^3, on the upper edge of the frame B. There may be one of these pawls on each side of the frame connected together. The devices so far described provide for vertical, lateral, and longitudinal adjustment of the forward part of the interior frame and for holding it securely in any position.

On the sides of the outer frame, B, and near its rear end, are standards b^4, which may be cast integral with it or not, as most convenient. These standards at their tops are formed into bearings for a shaft, D, which is held in place in the usual way by top boxes securely bolted

to the standards. The shaft projects at either end beyond the bearings and bears a driving-pulley, E, which is connected by a belt with a main shaft or other source of power. On the other end of the shaft is a sprocket-wheel, F, connected by a chain belt, G, with a similar sprocket-wheel, H, on a shaft, I, supported on standards c' of the interior frame. These standards have their tops formed into boxes for the shaft, and ordinary top boxes are used securely bolted. The wheel H turns loosely on the shaft, but is provided with a half-clutch, the counterpart of which is on a collar, h', secured to the shaft by a spline, so as to revolve with it but be capable of shifting thereon, as is well understood.

To an arm, c^2, of one of the standards c' is secured a lever, h^2, the lower and shorter arm of which engages a groove in the collar h' and the upper end of which is formed into a ball, as shown in Fig. 2. The object of this is to give the clutch a sudden throw into or out of engagement as soon as in shifting it passes the perpendicular position. It will thus be seen that while the sprocket-wheel F continues in motion the shaft I may be thrown into and out of connection at will.

Upon the shaft I and midway thereof is secured a sprocket-wheel, J, which is connected with another sprocket-wheel, K, by a chain belt, L, as shown. This wheel K is held in swinging bearings which consist of a U-shaped frame, M, (shown clearly in Fig. 2,) the extremities of which form collars upon the shaft I and within which it freely turns, the wheel J coming between the arms of the U. From the middle of this frame project arms or hangers, the ends of which are formed into bearings for the journals of the wheel K. Thus the wheel K may be driven from the wheel J and at the same time may be adjusted to any position higher or lower.

In order to so adjust it and to hold it securely, I attach to each side of the swinging frame C by pivots a double rack-bar, N, of which both sets of teeth engage a horizontal bar, N', which connects the standards c' at the front of the machine. This double rack-bar has a handle, N, by which it is operated.

On the inside of the standards and cast integral therewith are ears which form supports, in which is suspended the "putty-box" O, which contains the polishing material and which is caused to find its level by its own weight, or, if necessary, by an additional weight, O', hung to its bottom.

To a link of the chain belt is secured a brush, P, by the device shown in Fig. 3, in which P is a spring-clip adapted to be riveted to a chain-link and the ends of which are bent upward, so as to form a dovetail groove. The brush-block P' is correspondingly formed. The clip is made of spring metal and so adjusted as to clasp tightly the brush-block when inserted in it. Although in the drawings only one brush is shown attached to the chain L, any number may be employed as found necessary. By adjusting the supports for the wheel by means of the rack the degree of contact of the brush with the material in the putty-box is regulated.

In operation it will be seen that the machine by means of its various adjustments can cause the brush or brushes at every revolution to make contact with any one of a series of polishing-wheels, which are usually from two to sixteen inches in diameter. Dotted lines in Fig. 1 indicate how it may make contact with a system of wheels of various diameters from eight up to sixteen inches. All these adjustments, as well as the clutch mechanism, are within the reach and control of the workman.

The speed of the brush should be about thirty revolutions per minute.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a feeding apparatus for glass-polishing machines, the combination of a longitudinally-adjustable frame, as B, a pivoted vertically-adjustable inner frame, as C, and a traveling brush-carrier, substantially as described.

2. The combination, with the internal frame vertically adjustable at its forward end, of the weighted putty-box suspended thereto, so as to retain a horizontal position in any adjustment of the frame, and the brush arranged to dip therein and carry the material to the polishing-wheels, substantially as described.

3. The combination, with the swinging frame and the brush-carrier, of the putty-box, the lever for adjusting the frame, and a locking device, substantially as described.

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

RICHARD THIRSK.

Witnesses:
ROBT. A. SMITH,
P. F. COOGAN.