

J. H. DEAKIN & H. SCHNELBACH.
GLASSWARE FINISHING MACHINE.
APPLICATION FILED MAY 2, 1910.

1,040,902.

Patented Oct. 8, 1912.

2 SHEETS—SHEET 1.

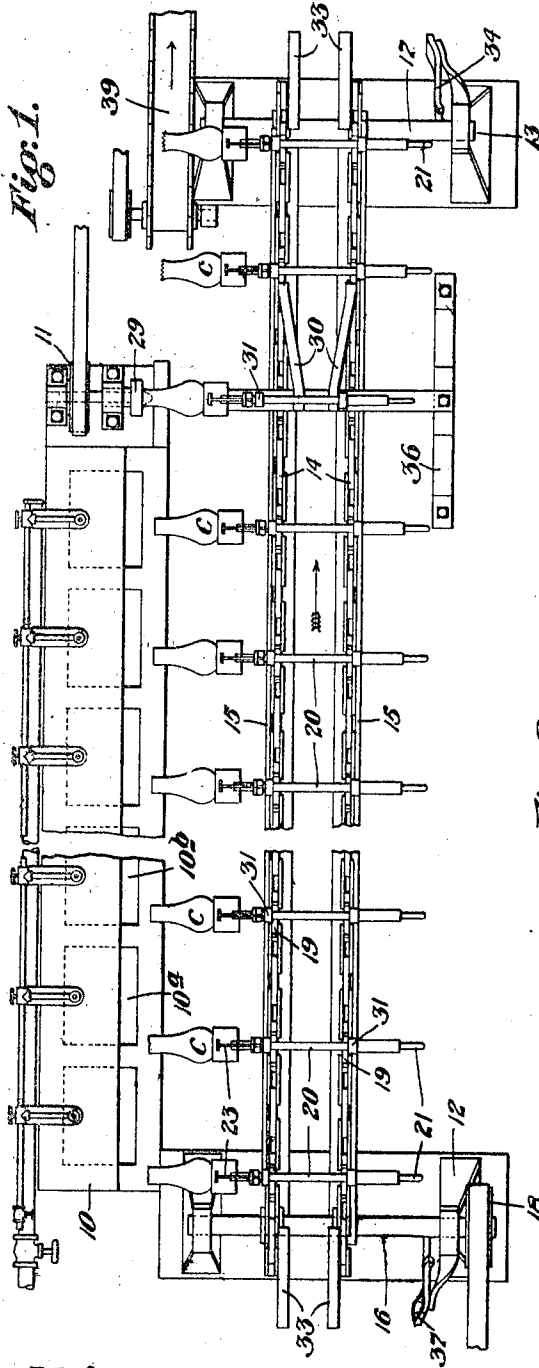
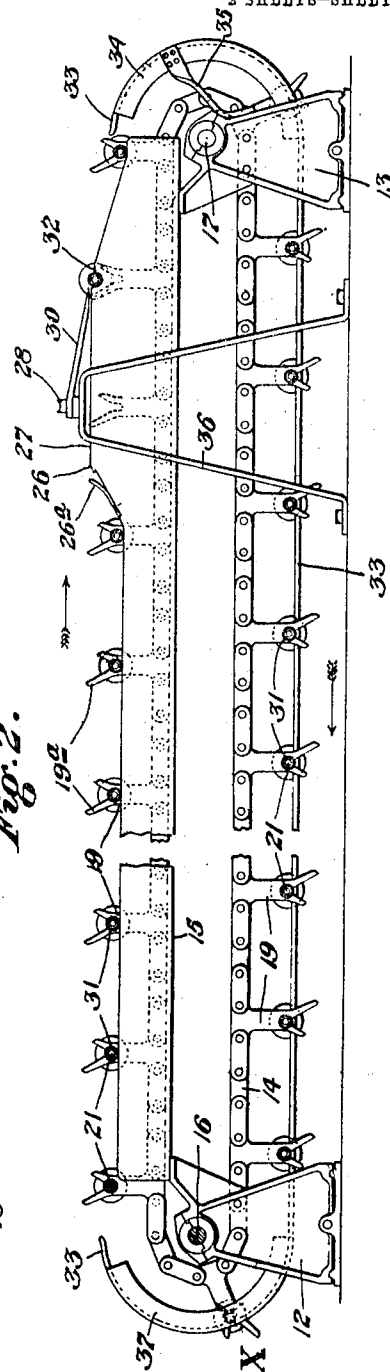


Fig. 2.



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Fig. 3.

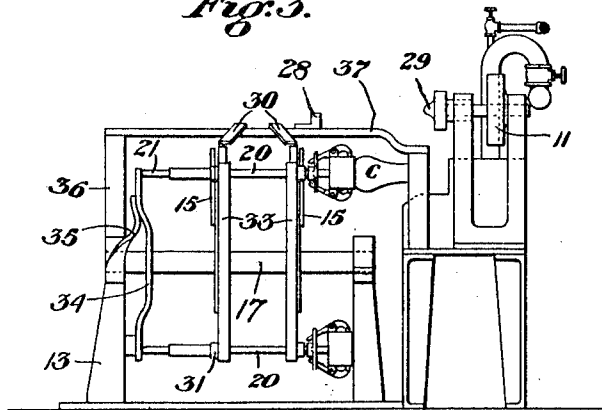


Fig. 4.

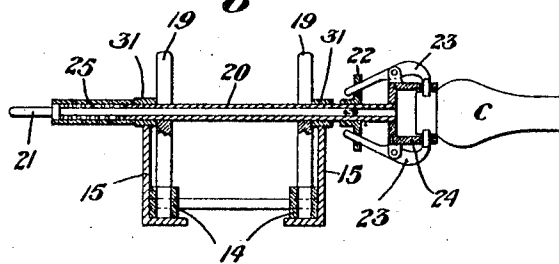
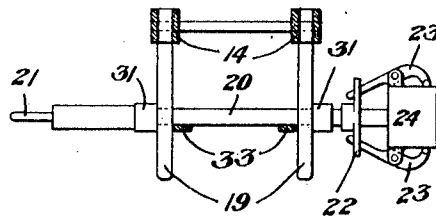


Fig. 5.



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UNITED STATES PATENT OFFICE.

JAMES H. DEAKIN, OF MARION, INDIANA, AND HENRY SCHNELBACH, OF CHARLEROI, PENNSYLVANIA, ASSIGNORS TO MACBETH-EVANS GLASS COMPANY, OF PITTSBURGH, PENNSYLVANIA, A CORPORATION OF PENNSYLVANIA.

GLASSWARE-FINISHING MACHINE.

1,040,902.

Specification of Letters Patent.

Patented Oct. 8, 1912

Application filed May 2, 1910. Serial No. 558,936.

To all whom it may concern:

Be it known that we, JAMES H. DEAKIN, residing at Marion, Indiana, and HENRY SCHNELBACH, residing at Charleroi, Pennsylvania, have jointly invented certain new and useful Improvements in Glassware-Finishing Machines, of which the following is a specification.

Our invention relates generally to apparatus for finishing such glass articles as lamp chimneys, and is in some respects an improvement upon the invention in the patent of Schnelbach No. 842,426 of January 29th, 1907.

The primary object of the invention is to automatically handle the "snaps" or holding devices for the articles, and to generally improve the construction and operation of such finishing machines.

We have illustrated the invention as applied to a lamp chimney machine, in the accompanying drawings, wherein,—

Figure 1 is a plan view of a graduated series of furnaces and the machine for carrying the articles, and Fig. 2 is a front elevation of the machine. Fig. 3 is an end elevation; Fig. 4 is a section of a snap or chimney holding tool and the supporting means for the same, and Fig. 5 is a section and elevation showing the holder in the act of returning to its initial position in the machine.

In working some kinds of glassware, it is found desirable to have an operator lift the articles and perform certain operations by hand. For example, on account of the irregularities of consistency in the fire softened ends of lamp chimneys, it is often more satisfactory to crimp the ends of the chimneys by hand operation. Our invention provides mechanism to automatically take up lamp chimneys at one end of a graduated heating furnace, pass them in order through the various heating zones, automatically discharge the chimneys when finished, and return the holding tools or "snaps" back again to the initial point to be reloaded; in the meantime the machine allows the snaps containing the chimneys to be lifted off the carrying machine at any point, and to be finished by hand, after which the machine itself again picks them up and discharges the finished chimney from the snap, and returns the snap to the starting point. Of

course, it will be understood that the improvement by which the chimneys are automatically discharged and by which the snaps are automatically returned and opened to receive a new chimney, are equally applicable to the form of machine in which the crimping or other finishing operation is automatically performed by the machine itself, as in said Schnelbach's former patent.

In the accompanying drawing we represent at 10 a furnace having a series of chambers 10^a, 10^b, etc., heated with successively varying degrees of heat, and furnishing means to gradually bring the end of the lamp chimney which has been cut off, into proper plastic state for crimping, so that it arrives at the position of the crimping machine 11, with its ends properly heated.

In front of the furnace, mounted on standards 12 and 13, we provide a continual traveler which may consist of a chain 14 riding upon a guide plate 15, driven by sprockets on the shafts 16 and 17 by any convenient means as by pulley and belt 18. This chain carries a series of forks 19 in which fit the handles of the snaps 20 (shown in detail in Fig. 4). The snaps are made so as to be opened by a simple motion, as by pushing in the internal rod 21, which operates a sliding head 22 to open and close the jaws 23 pivoted to the hollow head 24, thereby clamping the chimney C. Normally the clamping arms 23 are held in closed position by the retractile spring 25. As the snap containing the chimney moves forward on the rail 15 the rollers 31 revolve it, and when it arrives at the position of the incline 26 as shown in Fig. 2, this incline lifts the snap out of the forks 19 and the longer arm 19^a of the fork 19 pushes it up beyond the retaining spring 26^a until it rests on the raised track 27. The operator then lifts the snap and chimney, lays the handle in the rest 28, which is in line with the revolving tool 29 of the crimping machine 11. It will be understood that the chimney is given the beaded edge or so-called "crimp top", by being pushed against the knives of the crimping tool 29. The operator then lays the snap on the inclined guide rests 30, which, by means of the rollers or buttons 31 on the snap handle engaging the inclined guides 30, rights up the snap in position to again drop into forks 19, as they pass down

to the position of the slight depression 32 in track 15. The forward movement of the long prong 19^a of the fork brings the snap back to the bottom notch of the fork, as shown to the right of Fig. 2, in which position the snap passes under the guide 33 and is carried back to the initial position, retained in the fork inverted, by the guide 33,—as will be evident from inspection of the drawing. Meantime, as the snap passes over the sprocket a cam 34 mounted on a frame 35 attached to standard 13, engages the stem 21 of the snap which is thereby pushed inward, and the chimney is released and drops into a proper receptacle, such as a traveling belt carrier 39. The rest 28 and the return guide tracks 30 may be conveniently supported by standards 36 and cross-bar 37 as shown in Figs. 2 and 3. As the empty snaps on the return guide rail 33 arrive at the position shown at X at the left of Fig. 2, the cam 37 engaging the stem 21 of the snap opens the jaws 23 and an attendant places a new chimney therein, the operation above described being thereupon repeated.

It will be understood that our invention is not confined to any particular form of holder for the glass article, or mode of operating the same, nor to any particular means for re-adjusting the position of the snaps after they have been picked up and handled and again deposited on the rests. But

Having thus described our invention and its use, what we claim is the following:

1. A finishing machine for glass articles having a series of holders for the articles, mechanism to carry the articles and to open and close the holders in the carrier at two points of their travel, and mechanism to automatically release the holders from the carrier at one point of the travel.

2. A carrier machine for finishing glass articles, comprising a continuous traveler, a holder for the articles mounted on the traveler, and means to temporarily release the holders and to open and close the holders at predetermined positions when on the traveler, substantially as described.

3. A finishing machine for glass articles having a continuous traveling carrier, a series of holders bodily removably mounted on the carrier, means to lift them out of the traveling carriers and means to re-adjust their position and reinsert them in the traveling holders, when placed again on the carrier.

4. The combination of an endless carrier chain having forks, self-closing snaps in the forks, a cam arranged to open the snaps and mechanism to remove and then again align and place the snaps in said forks when replaced on the carrier chain, substantially as described.

5. The combination with a furnace having a graduated series of heating chambers, of mechanism to carry glass articles through the heating zones in succession, holders and supporting means for said glass articles permitting of the holders being removed, and means operating in conjunction with the holders and supports, after replacing the holders thereon to discharge the articles at a predetermined point.

6. A lamp chimney finishing machine having mechanism to support and translate and operate a series of snaps, with provision at one point of the path of motion, to temporarily release the snaps, and said moving means being designed to again take up the snaps when replaced thereon and eject the articles therefrom and return the empty snaps to initial position, substantially as described.

7. Apparatus for fire finishing glass articles comprising a continuous automatic carrier provided with holders for the articles, and means to temporarily eject the holders for a hand operation and then to return them to place in the carrier, when replaced on the carrier.

8. Apparatus for finishing glass articles, comprising a traveling carrier, holders for the articles removably mounted on the carrier, and means for retaining the holders on the carrier in its return travel, when replaced on the carrier.

9. In apparatus for finishing glass articles, a traveling carrier for the article, a series of holders for the article removably supported on the carrier, and mechanism on the carrier for picking up the holders and placing them in operative position thereon automatically.

In testimony whereof we have hereunto signed our names in the presence of the two subscribed witnesses.

JAMES H. DEAKIN.

HENRY SCHNELBACH.

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