

Nov. 6, 1923.

1,473,587

K. E. PEILER

APPARATUS FOR FEEDING MOLTEN GLASS

Filed Feb. 19, 1920

2 Sheets-Sheet 1

FIG. 1.

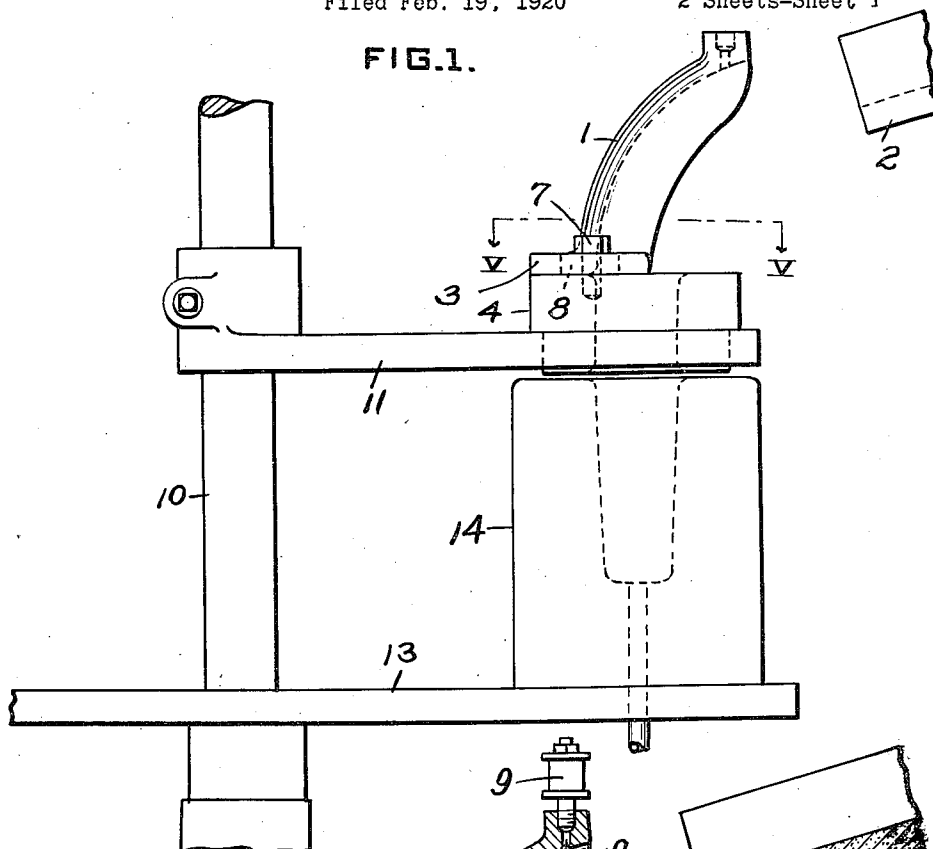
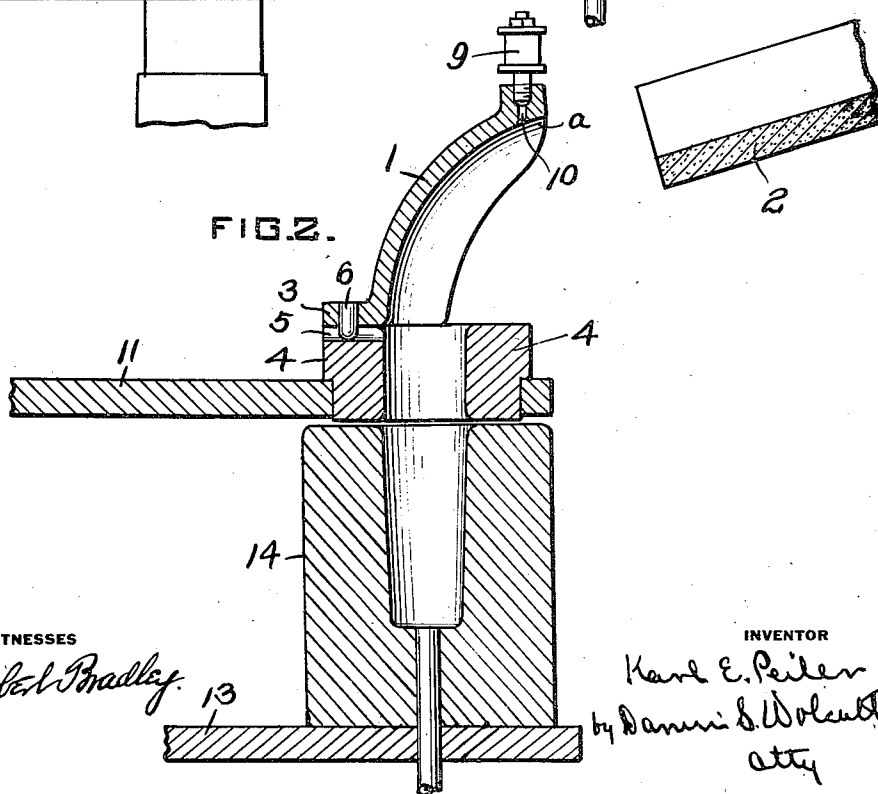


FIG. 2.



WITNESSES

*J. Herbert Bradley*

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INVENTOR

*Karl E. Peiler*  
by *Darius S. Wolcott*  
att'y

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2 Sheets-Sheet 2

FIG. 3.

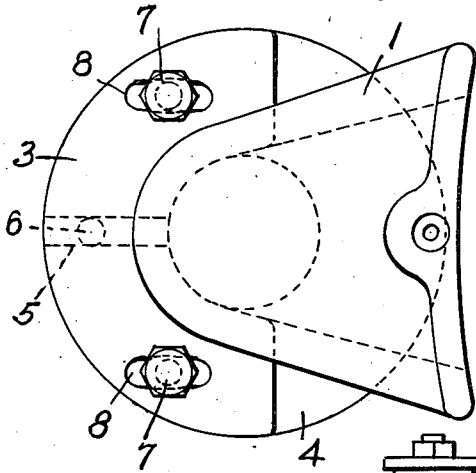


FIG. 5.

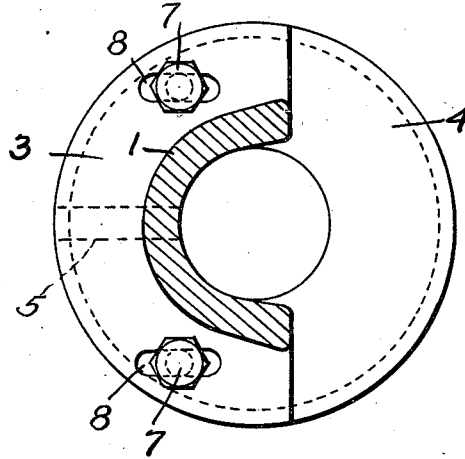


FIG. 4.

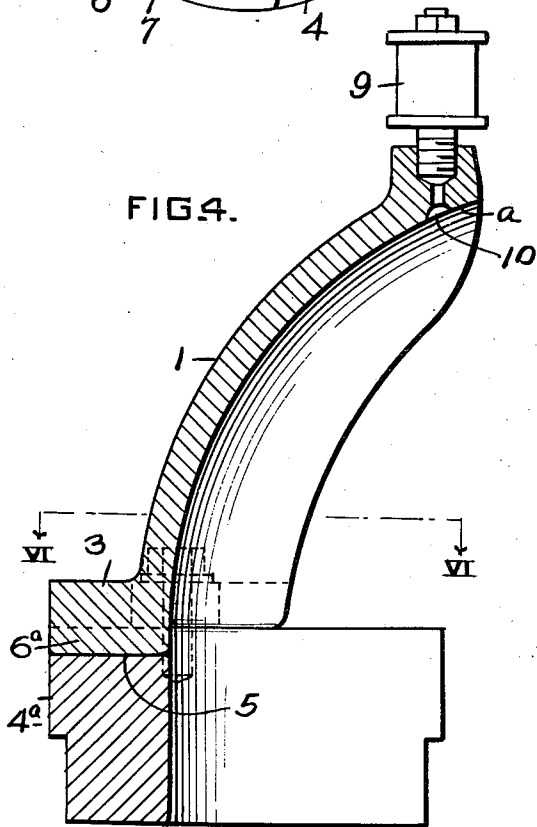
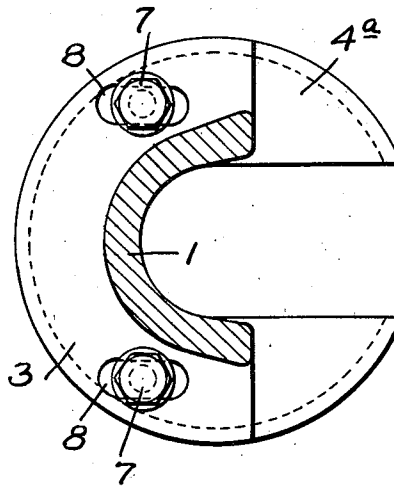


FIG. 6.



WITNESSES  
*J. Herbert Bradley.*

INVENTOR  
*Kenn E. Peiler*  
*by Dennis S. Wolcott*  
*att'y*

Patented Nov. 6, 1923.

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# UNITED STATES PATENT OFFICE.

KARL E. PEILER, OF WEST HARTFORD, CONNECTICUT, ASSIGNOR TO HARTFORD-FAIRMONT COMPANY, OF CANAJOHARIE, NEW YORK, A CORPORATION OF NEW YORK.

## APPARATUS FOR FEEDING MOLTEN GLASS.

Application filed February 19, 1920. Serial No. 359,958.

*To all whom it may concern:*

Be it known that I, KARL E. PEILER, residing at West Hartford, in the county of Hartford and State of Connecticut, a citizen of the United States, have invented or discovered certain new and useful Improvements in Apparatus for Feeding Molten Glass, of which improvements the following is specification.

10 The invention described herein relates to means to be employed for changing the direction of movement of the gobs, gathers, or mold charges of glass as they pass from their point of formation and direct the gobs or  
15 gathers centrally into the molds.

The invention described herein relates to the form or construction of a deflector capable of being easily and accurately constructed and also having its parts relatively adjustable to compensate for any inaccuracies of construction. It is also an object of the  
20 invention to so construct the deflector that there will not be any liability of its becoming clogged by a deformation of the gobs or  
25 gathers and it is a further object of the invention to provide for formation of a lubricating film between the gobs or gathers and the guiding surfaces, thereby minimizing retardation and deformation of the gobs. The  
30 invention is hereinafter more fully described and claimed.

In the accompanying drawings forming a part of this specification, Fig. 1 is a side elevation showing the improved deflector supported in position above a mold carried by a  
35 table and also a portion of a trough for gobs from the furnace toward the deflector; Fig. 2 is a sectional elevation of the deflector and mold; Fig. 3 is a top plan view of the deflector; Fig. 4 is a view partly in elevation and partly in section showing a modification of the form shown in Fig. 1; Fig. 5 is a sectional plan view on a plane indicated by the  
40 line V—V, Fig. 1; and Fig. 6 is a similar view on a plane indicated by the line VI—VI, Fig. 4.

In the practice of the invention the main deflecting portion 1 of my improvement has its inner or guiding surface curved longitudinally and transversely. This deflector is  
50 arranged in such relation to the conducting trough or member 2 which has such an inclination that the gathers or gobs will slide freely and quickly therealong and acquire  
55 sufficient momentum to carry them a sub-

stantial distance beyond the end of the conducting trough or member, as to intercept the gathers or gobs in their trajectorial movement and deflecting therefrom will direct them towards the mold. It is preferred that  
60 the longitudinal curvature of the deflecting portion should have such a length that when this curved trough-like structure is placed in operative position the guiding surface *a* at its receiving end may be approximately  
65 parallel with the path of movement of the gobs or gathers along the directing trough 2 and the delivery end of such surface is substantially parallel with the axis of the mold opening into which the gathers are  
70 to be delivered. At its receiving end the inverted trough of the deflector is made of a width not less than that of the directing trough 2 and preferably gradually diminishes in width being formed on arcs of gradually decreasing radii until at its lower end  
75 the radius of its curvature will be approximately half the diameter of the mold opening. As it is preferred that the deflecting portion should be made separable from the  
80 lower or guiding portion, the lower end of the deflecting portion is provided with a flange 3 whereby it may be secured on the upper end of the portion 4, which has an internal diameter approximately equal to  
85 twice the radius of the curvature at the lower end of the deflecting portion. In lieu of making the lower end or guiding portion 4 cylindrical as shown in Figs. 1, 2 and 5, it may be U-shaped as shown at 4<sup>a</sup> in Figs. 4  
90 and 6. It will be readily understood that by making the deflecting portion separable from the guiding portion, the shaping and finishing of each of the parts is greatly facilitated. In addition to making the deflecting  
95 portion separable from the part 4, or 4<sup>a</sup>, it is preferred that the deflecting part 1 should be adjustably mounted on the part 4. To this end one of the parts, as 4, may be provided with a radial groove 5 for the reception of the pin 6 on the flange 3, and the  
100 parts are held together by cap screws 7 passing through slots 8 in the flange and screwing into the part 4, as shown in Figs. 2 and 3. By loosening the screws the deflecting  
105 part 1 may be shifted radially of the part 4 and if the slots be made somewhat wider than the shanks of the screws as shown in Fig. 3 the deflecting part may be shifted angularly to compensate for any variation or  
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defects in the transverse curvature of the deflecting part 1. In cases where no lateral adjustment of the deflector on the part 4 is desired, a rib 6<sup>a</sup> may be substituted for the pin 6, as shown in Figs. 4 and 5, and if desired, both pin and rib may be omitted and the deflector held in position on the part 4 solely by the screws 7 as indicated in Fig. 5.

At the upper or receiving end the deflector is provided with suitable means as a sight feed oil cup 9 to supply oil or other suitable lubricant to a passage 10 extending to and through the guiding surface. From this passage from which may radiate distributing grooves, the lubricant will flow onto and be distributed in a thin film upon the deflecting surface. This lubricating film minimizes friction and allows the gobs to slide smoothly along the deflecting surface with little retardation. This tends to prevent "mushrooming" or spreading of the front end of the gobs as they are deflected and makes uniform delivery more certain.

The combined deflector and guide are supported by an arm 11 secured to the shaft 10 of the pressing or blowing machine of which the table 13 carrying the molds 14 forms a part. In the arrangement shown herein the combined deflector and guide is supported with its upper or receiving end in such position relative to the delivery or directing trough 2, that the gob will pass below the upper end of the deflector, striking the deflecting surface at a very acute angle and be gradually and progressively turned from a horizontal to a vertical position in which position it will pass through the guiding portion 4 into the mold. It has been found that the momentum acquired by the gobs is sufficient to cause them to follow and remain in contact with the deflecting surface until they have been turned to a vertical position when they will drop into the molds. In order to prevent any material retardation of the gobs by impact with the deflecting surface, the upper portion of the latter is so constructed and is so supported relative to the directing trough 2 that the entering surface of the deflector is nearly parallel with the line of movement of the gobs as they pass into the deflector, and hence as the gobs contact with such surface at a very

acute angle, there is practically no liability of any mushrooming or spreading of the front end of the gobs. If for any reason a gob should clog the deflector or the mouth of the mold, it can be reached by a hook through the open side of the deflector and quickly removed.

I claim herein as my invention:

1. In apparatus for delivering gathers of molten glass, the combination with a shaping mold, of a deflector in the form of an inverted trough positioned to receive the gather tangentially and of such longitudinal curvature that the gather is gradually deflected from its original path and follows the curved trough without deformation into the mold

2. In apparatus for delivering gathers of molten glass, the combination with a shaping mold, of a longitudinally curved deflector, open on its inner curved side and positioned to receive the gather on its open side and tangentially to the curve thereof, whereby the gather is gradually deflected into the mold by the said curved open side of the deflector.

3. In apparatus for delivering gathers of molten glass, the combination with a shaping mold for the gathers, of a deflector having a longitudinally curved guiding surface substantially semi-circular in cross section and open on the inside of the curve when in operative position to receive and deflect the gathers into the mold.

4. A deflector for directing gathers of molten glass to a mold, comprising a body having a longitudinally extending curved deflecting surface substantially semi-circular in cross section, and having a passage for delivering a lubricant, through the body to the curved surface.

5. In apparatus for delivering gathers of molten glass, the combination of a deflector having a curved guiding surface arranged to receive the gather in a substantially tangential relation to the curved surface, a guide through which the gather is discharged from the deflector, and means for supplying lubricant to the guiding surface.

In testimony whereof, I have hereunto set my hand.

KARL E. PEILER.