

No. 707,834.

Patented Aug. 26, 1902.

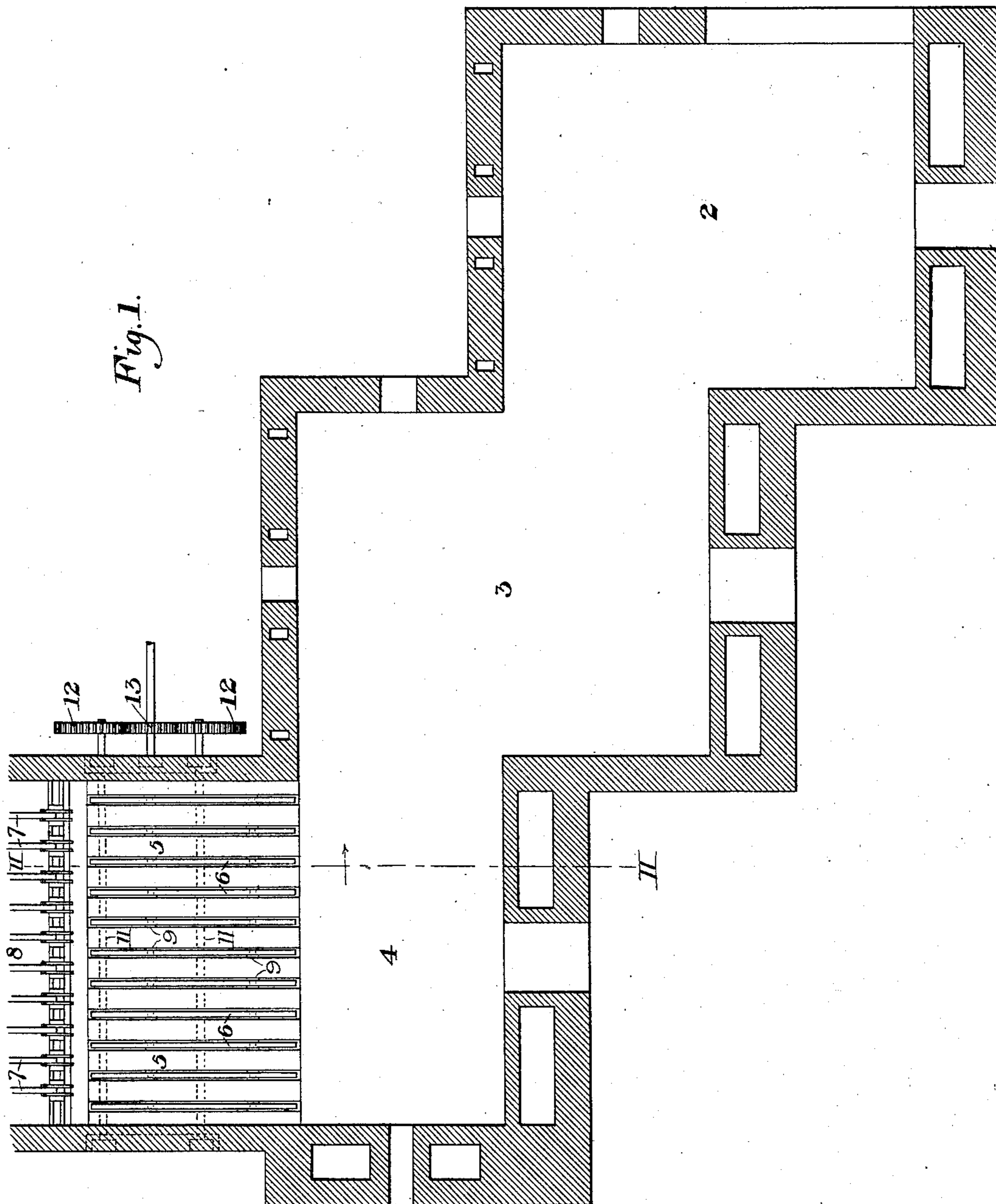
H. L. DIXON.

PLATE GLASS ANNEALING APPARATUS.

(Application filed May 6, 1901.)

(No Model.)

2 Sheets—Sheet 1.



WITNESSES

*Warren W. Swartz*  
*H. M. Corwin*

INVENTOR

*H. L. Dixon*  
*by Baker & Symes*  
*his attys.*

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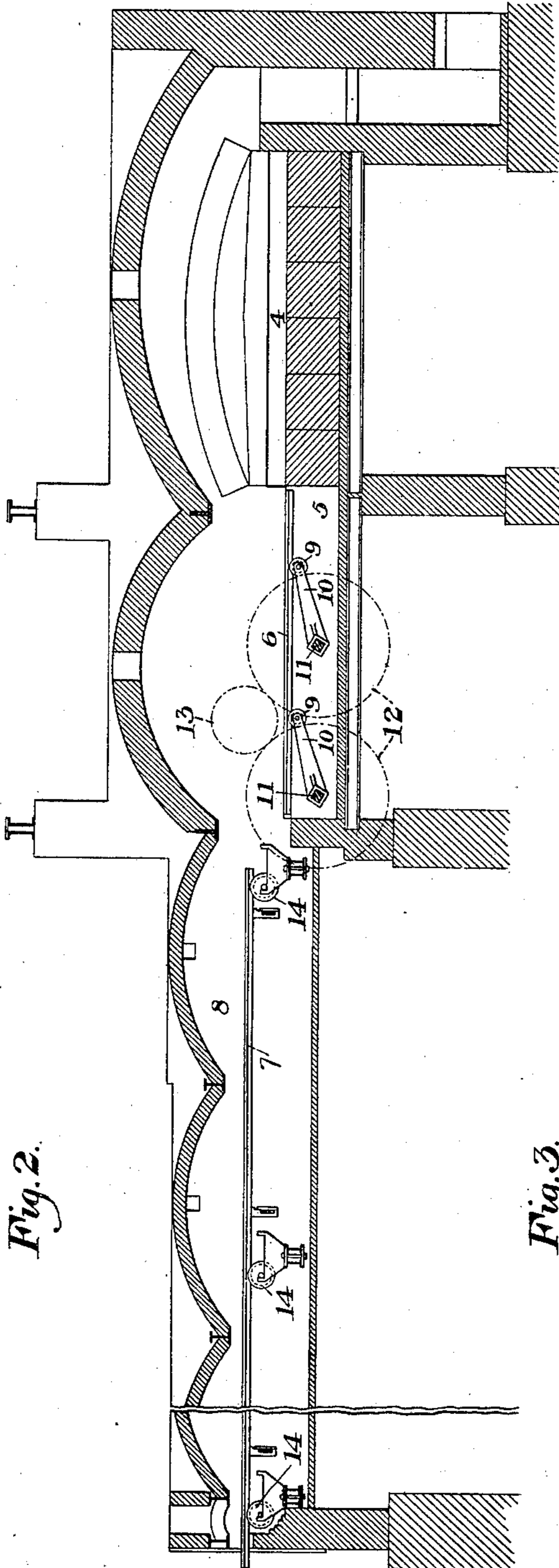


Fig. 2.

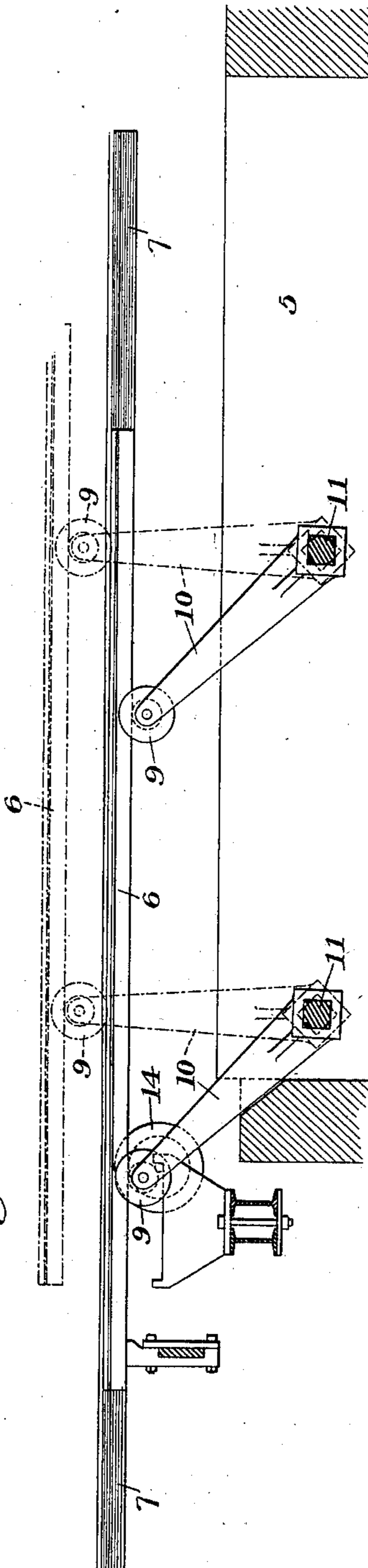


Fig. 3.

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Warren W. Swartz  
J. M. Corwin

INVENTOR

H. L. Dixon  
by Barker & Byrnes  
his attys.

# UNITED STATES PATENT OFFICE.

HENRY L. DIXON, OF PITTSBURG, PENNSYLVANIA.

## PLATE-GLASS-ANNEALING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 707,834, dated August 26, 1902.

Application filed May 6, 1901. Serial No. 58,870. (No model.)

*To all whom it may concern:*

Be it known that I, HENRY L. DIXON, of  
Pittsburg, in the county of Allegheny and  
State of Pennsylvania, have invented a new  
5 and useful Plate-Glass-Annealing Apparatus,  
of which the following is a full, clear, and ex-  
act description, reference being had to the  
accompanying drawings, forming part of this  
specification, in which—

10 Figure 1 is a horizontal section showing the  
successive annealing-chambers and the trans-  
fer-chamber. Fig. 2 is a longitudinal section,  
partly broken away, of the leer on the line  
II II of Fig. 1; and Fig. 3 is an enlarged de-  
15 tail view of the transfer mechanism.

My invention relates to the annealing of  
plate glass, and more particularly to the  
mechanism for transferring the glass from  
the floor of a cooling-chamber to the bars of  
20 the leer.

In the drawings, 2, 3, and 4 represent an-  
nealing-chambers, through which the plate is  
transferred in a zigzag path, these furnaces  
being maintained at successively lower tem-  
25 peratures. From the chamber 4 the plate is  
transferred to a series of tiles 5, which are  
spaced apart to receive transfer-bars 6, ar-  
ranged to lift the plate from the tiles and de-  
posit it upon the movable bars 7 of the leer  
30 8, which may be of any desired form. The  
transfer-bars are supported upon two series  
of rollers 9, carried in bearings at the outer  
ends of lever-arms 10, secured to rock-shafts  
11, extending transversely beneath the tiles.  
35 The projecting ends of the shafts are provided  
with toothed wheels 12, engaging a pinion 13,  
which drives them and the shafts simultane-  
ously to rock them in either direction. The  
transfer-bars are preferably made of T form,  
40 with their central webs seated in grooves of  
the rollers, so that the bars are held in proper  
position and kept in parallelism during their  
movements. The front set of rollers 14 for  
supporting the movable bars of the leer are  
45 located in front of the tiles 5, and the trans-  
fer-bars are carried up and forwardly with  
their ends in front of these supports for the  
leer-bars, as shown in Fig. 3, to carry the plate  
forwardly into the leer, so that a part of it is  
50 beyond the supports for the movable leer-  
bars. The means for operating the leer-bars

is of the ordinary construction well known in  
this art.

In operating the system the plate is moved  
through the cooling-chambers in the usual 55  
manner and is then taken from the third  
chamber and deposited upon the tiles, the  
transfer-bars at this time resting in the re-  
cesses or slots between the tiles, with their  
upper faces substantially flush therewith. 60  
The shafts 11 are then rocked upwardly into  
the position shown in dotted lines in Fig. 3,  
thus lifting the plate, and the movable leer-  
bars are then slid forward, so that their front  
end portions are between the lower face of 65  
the glass and the tiles from which it was lifted  
and intermediate of the transfer-bars 6. The  
shafts are then further rocked until the trans-  
fer-bars are lowered and carried rearwardly  
into the position shown in full lines in Fig. 70  
3, thus depositing the plate upon the movable  
leer-bars. These leer-bars are then pulled  
rearwardly to deposit the glass upon the sta-  
tionary leer-bars in front of the transfer-bars,  
which are then swung back to their normal 75  
position. These operations are repeated, the  
plates traveling through the leer in the same  
manner as glass sheets through the ordinary  
window-glass rod-leer.

The advantages of my invention flow from 80  
the use of the transfer mechanism which lifts  
the glass plate and carries it rearwardly, so  
that at least a part of it is over and beyond the  
rear leer-bar supports. I have found in prac-  
tice that where the glass is only lifted verti- 85  
cally from the tiles and the leer-bars are then  
shoved back under the plate the weight of  
this heavy glass plate will bend down these  
rear overhanging portions of the movable  
leer-bars and cause them to sag, so that when 90  
the bars are pulled forward the glass will be  
broken by reason of this bending and the  
consequent uneven supporting of the plate.  
This trouble is overcome by my improved  
transfer mechanism, which not only lifts the 95  
plate, but carries it forward, so that a part of  
the plate is beyond the leer-bar supports. In  
the form shown about a third of the length  
of the sheet is in front of these supports when  
it is deposited upon the movable leer-bars, 100  
and the additional weight of the rear portion  
is not sufficient to bend the bars. The plates

are therefore not broken in drawing them forward.

Many changes may be made in the form and arrangement of the transfer mechanism without departing from my invention, since I consider myself the first to lift the plate from the floor and carry it longitudinally to a position at least partly over the bar-supports before it is deposited upon the leer-bars.

10 I claim—

1. The combination with a leer having longitudinally-movable bars, of transfer mechanism arranged to lift a glass plate and carry it longitudinally to a position over the bar-supports; substantially as described.

2. In plate-glass-annealing apparatus, a leer having movable bars with supports therefor at the front end of the leer, a supporting

floor or platform in front of the leer, and transfer mechanism arranged to lift the glass plate from the floor or platform and carry it rearwardly to a point over the bar-supports; substantially as described. 20

3. The combination with a leer, of a tile floor or platform in front of it, and having transfer-bars therein, and rock-arms arranged to lift the bars and plate and carry them rearwardly over the front supports for the leer-bars; substantially as described. 25

In testimony whereof I have hereunto set my hand. 30

HENRY L. DIXON.

Witnesses:

H. M. CORWIN,  
G. B. BLEMING.