To all whom it may concern:

Be it known that I, Thomas W. McFarland, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Means for Drying or Curing Paper-Board and other Like Material, of which the following is a full, clear, and exact specification:

My invention relates more particularly to means for handling large pieces of paperboard between the operations of producing the green board and drying it in a kiln or other suitable place, and it has for its primary object to provide improved devices whereby large sections of heavy board may be readily lifted from a table or other suitable support as they come from the rolls of other machines for producing them and rapidly conducted to the drying-kiln or other place where they are cured without danger of damaging them while in this tender stage.

With these ends in view my invention consists in certain features of novelty in the construction, combination, and arrangement of parts by which the said objects and certain other objects hereinafter appearing are attained, all as fully described with reference to the accompanying drawings, and more particularly pointed out in the claims.

In the said drawings, Figure 1 is a vertical longitudinal sectional view of the table on which the board is received from the machine which produces it, the carrier or holder for the board being also shown in place on the table. Figure 2 is a transverse section thereof, taken on the line 5 5, Fig. 1. Figure 3 is a perspective view of the carrier or holder. Figure 4 is an enlarged transverse sectional view thereof, taken on the line 4 4, Fig. 3. Figure 5 is a view showing the carrier supported on the trolley, and Fig. 6 is an enlarged detail view of the trolley and overhead track in side elevation.

1 is a drying kiln or chamber, which may be of any suitable construction and provided with any suitable heating means, such as steam coils 2, arranged in the bottom thereof below a track 3, which preferably passes through end doors 4 5 of the kiln and which is provided for a truck or car 6. The bottom of this car or truck is of some suitable open construction, such as a number of cross-slats 7, extending athwart the truck side beams 8, so as to allow a free circulation of air and heat up through the bottom of the truck. The sides 9 10 of the truck-body are hinged at 11 at their lower edges in any suitable way to the cross-slats 7, and such sides 9 10 are held in their upright position by 60 cross-rods 12 13, arranged at top and bottom and at each end, these rods having removable nuts 14, so that when desired the side board 9 may be let down and the sheets of board 15 or other material to be dried or cured may be loaded onto truck from the side. In order, however, that the sheets may be stood up on edge without danger of falling down while others are being loaded on, the opposite side 10 of the truck-body is tilted outwardly in the position shown in dotted lines in Fig. 3, and the boards 15 leaned against it. In order that this tilting movement of the side 10 may be limited, the side 10 is provided with a headed lug 16, which projects through a slot 17 in a stop 18, which is pivoted at its lower end, as shown at 19, to a projection 20 on the end of one of the slats 7. Hence it will be seen that the hinged or pivoted stop 18 will not interfere with the free movement of side 10 when being stood up in its normal position, while it will automatically limit the outward movement of said side and hold it in the proper position for supporting the boards 15 sufficiently out of the perpendicular to prevent them from falling over.

As the boards 15 are stood up on edge on the car or truck in the desired manner corrugated plates 21 are interposed between them, the corrugations on the plates being extended vertically, as shown in Figs. 1 and 2, so as to hold the boards a slight distance apart, while at the same time touching and covering but a minimum amount of their surfaces.

On the left in Fig. 1 are shown the two final rolls 22 of the paper-board-making machine. It is understood that after the board 15 leaves these final rolls it will still be in need of further drying or curing and must be handled with more or less care to avoid bending, buckling, or breaking. As it leaves the final rolls it will be cut off in suitable lengths by any convenient means as it arrives upon a table (shown in Fig. 1) consisting of a frame 23, having a table-top 24, composed of a number of short sections between which are interposed rollers 25 for easing the passage of the board across the table. As the board comes upon the table it is received by a holder or carrier, (shown in Fig. 3,) which is laid flat upon the table in such a manner
that the board will project into its grasp. The short sections 24 of the table-top are
grooved or recessed at 26 to receive the cross-
bars 27 of the holder, so that the inner faces
5 of the cross-bars will be flush with the upper
face of the table-top. To these cross-bars
27 are secured longitudinal top and bottom
bars 28 29, which constitute, with the cross-
bars 27, a rectangular form of frame espe-
cially adapted to hold the board 15 at both
edges and on one side. The board may be
held on the other side or top face by means
of fingers 29, formed at one end of each of
the cross-bars 27, and adjustable fingers 30,
15 secured to the opposite ends of said cross-
bars. The adjustable fingers 30 are pivoted
at 31 to ears or lugs 32, formed on an up-
turned end 33 of each of the cross-bars 27, so
that the inner or free ends of the fingers 30
20 may be forced toward the board 15 for hold-
ning it snugly against the cross-bars 27, not-
withstanding any variation in thickness of
the different boards manufactured. These
fingers 30 may be thus held by means of set-
screws 34, threaded through the outer ends
of the fingers 30 and adapted to impinge
against stops 35, formed on or secured to the
upturned ends 33, as shown in Fig. 4. The
carrier thus described is provided with a han-
dle or bail 36, pivoted to one of the cross-
bars 27, so that after the board has been pro-
ject ed along the table and is fairly within the
grasp of the fingers 29 30 it may be severed
35 up, as may be required, and the carrier
readily removed by attaching the bail 36 to
some suitable lifting or conveying mechan-
ism. For this purpose there is shown a trol-
ley 37, which may run on an overhead wire
38 and may have a block and tackle 39, pro-
vided with a hook 40, adapted to engage the
bail, so that the carrier, with the board there-
in, may be readily lifted from the table and
sus pended on edge, and thus conducted to a
place upon any suitable truck, which is run
45 into a drying-kiln after being loaded.

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

1. In an apparatus for the purpose de-
scribed, the combination of a table for re-
ceiving the board, and a board-carrier adapted
to rest upon said table for receiving the
board therein, substantially as set forth.

2. In an apparatus for the purpose de-
scribed, the combination of a table over
which the board may be projected, a board-
carrier arranged on said table below the up-
per surface thereof and adapted to receive
the board as it is projected onto the table, substan-
ially as set forth.

3. In an apparatus for the purpose de-
scribed, the combination of a table upon
which the board may be projected, a carrier
supported on said table in line with and
adapted to receive the board, said carrier
comprising removable side clamps for hold-
ing the board removably in place, substan-
ially as set forth.

4. In an apparatus for the purpose de-
scribed, the combination of a frame of flat
form, means at one edge thereof whereby the
same may be suspended on edge, means at
one edge of the frame for engaging the side
of the board to be held and holding the same
against the frame, and removable means at
the other edge of the frame for also engaging
and holding the board.

THOMAS W. McFARLAND.

Witnesses:

F. A. HOPKINS,
W. D. CROSS.