

Feb. 10. 1925.

A. McKENZIE

1,526,005

CORE PLATE

Filed Jan. 24, 1921

2 Sheets-Sheet 1

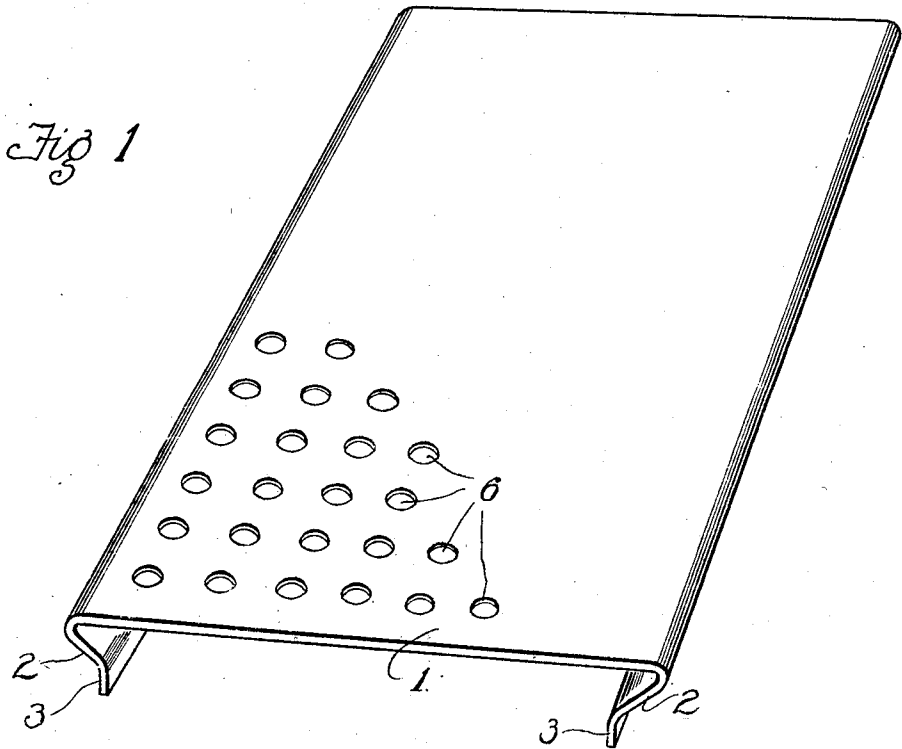


Fig. 4

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2 Sheets-Sheet 2

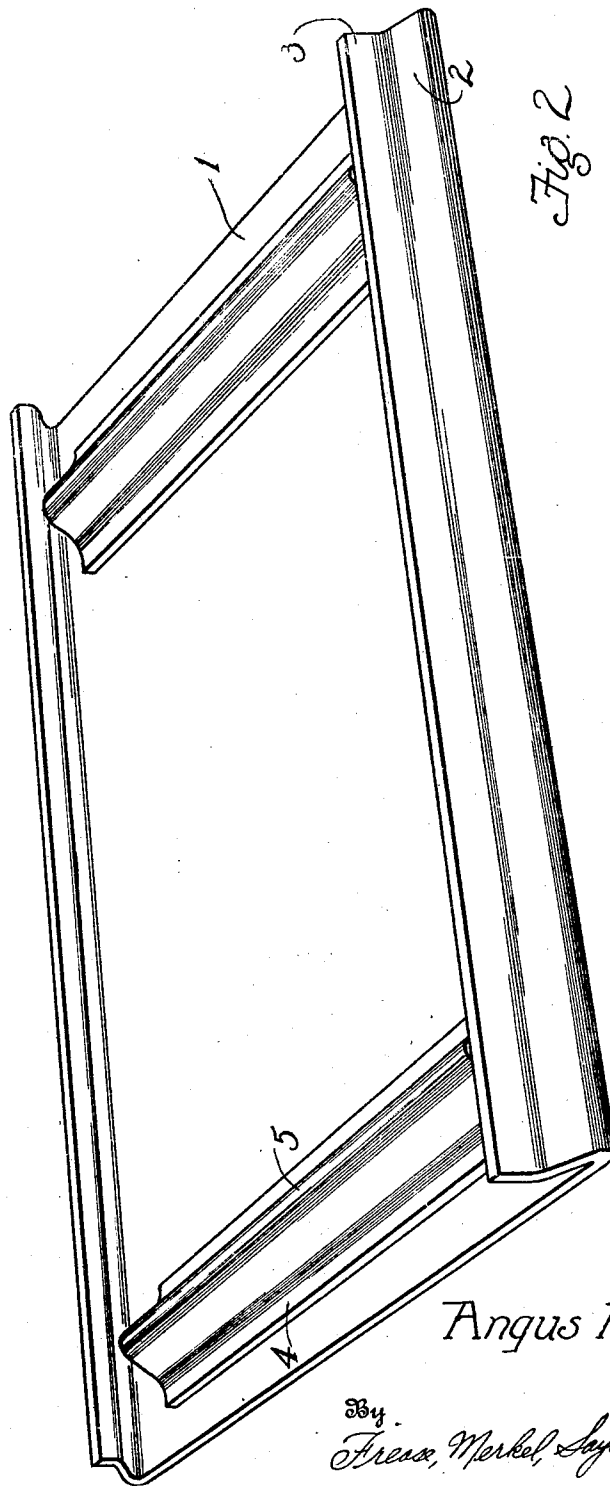


Fig. 2

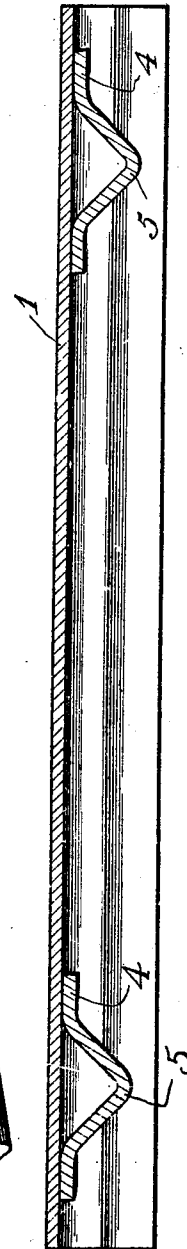


Fig. 3

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UNITED STATES PATENT OFFICE.

ANGUS MCKENZIE, OF CANTON, OHIO, ASSIGNOR, BY MESNE ASSIGNMENTS, TO
UNITED ALLOY STEEL CORPORATION, OF CANTON, OHIO, A CORPORATION OF NEW
YORK.

CORE PLATE.

Application filed January 24, 1921. Serial No. 439,629.

To all whom it may concern:

Be it known that I, ANGUS MCKENZIE, a subject of the King of Great Britain, residing at Canton, in the county of Stark and State of Ohio, have invented a new and useful Core Plate, of which the following is a specification.

This invention relates to core plates for drying molders' cores, such cores being usually made of sand and adhesive material which is placed upon a core plate and dried or baked in an oven.

As the core plates are subjected to extremely high temperatures during this drying or baking process, the core plates frequently become warped, causing the cores which are often of delicate construction to become distorted.

The objects of the invention are to provide a core plate which is designed to withstand exceedingly high temperatures with a minimum danger of warping or distortion, and to provide reinforcing means upon the core plate which will not interfere with the stacking of the core plates.

These objects together with other advantages may be attained by forming the core plate from a metal sheet of suitable gauge, the longitudinal edges being turned inward, preferably at an angle to the normal plane of the sheet and then downward, reinforcing the longitudinal edges of the sheet to prevent warping of the core plate longitudinally, the longitudinal strengthening flanges thus formed being spaced inwardly from the longitudinal edges of the core plate, and by providing transverse reinforcing means upon the under side of the sheet, preferably of less height, than the longitudinal flanges.

The core plates may thus be stacked evenly, as shown in Fig. 4, the longitudinal flanges of each plate resting upon the upper surface of the next adjacent lower plate, the transverse reinforcing means being spaced away from the top of the under plate thus causing no interference.

In the accompanying drawings:

Figure 1 is a perspective view of a core plate, embodying the invention;

Fig. 2, an inverted perspective view of the core plate;

Fig. 3, a longitudinal sectional view through the core plate; and

Fig. 4, an end elevation of a plurality of core plates stacked vertically.

Similar numerals of reference indicate corresponding parts throughout the drawings.

In the form of the invention illustrated in the drawings, the core plate is shown formed of a rectangular sheet of metal 1, preferably oblong, having its longitudinal edges bent inward at an angle to the normal plane of the sheet as at 2, and thence directly downward to form the vertical flanges 3.

The flanges thus formed along the side edges of the plate prevent the plate from warping longitudinally, and provide a hand hold upon each side of the plate which may be grasped by the workmen and also furnish supporting legs for spacing the body portion of the core plate from the floor or the bottom of the oven.

For the purpose of strengthening the plate transversely reinforcing strips 4 may be spot welded or otherwise connected upon the under surface of the plate near each end, and each of these reinforcing strips may be provided with a central, longitudinal corrugation or V-shaped rib 5 which is preferably of less height than the longitudinal flanges 3. This particular construction of reinforcing strip considerably strengthens core plate transversely, as the strip is attached to the core plate along each side of the V-shaped rib or corrugation which cannot be easily buckled or distorted.

The integral flanges 3 will thus prevent warping of the core plate in a longitudinal direction from the heat of the oven, and the transverse reinforcing strips will prevent any tendency of the core plate to warp transversely.

With this construction a core plate is provided which may be easily handled by the workmen for placing them in or removing them from an oven and at the same time each core plate is so designed that a number of the plates can be stacked as shown in Fig. 4, the longitudinal flanges 3 of each plate being spaced inwardly from the outer edge of the plate and arranged to rest upon the upper surface of the adjacent lower plate, and

these longitudinal flanges being of greater depth than the corrugated ribs 5 of the reinforcing strips, the corrugated ribs do not interfere in any way with the stacking of the
5 core plates.

The core plate may be perforated, as shown at 6 in Fig. 1 to facilitate the drying of cores, or may be made imperforate, to suit the various exigencies of use.

10 I claim:—

1. A core plate formed of a sheet of metal provided with integral, inward and down-

ward inclined flanges along two opposite edges terminating in down turned flanges.

2. A core plate formed of a sheet of metal 15 provided with integral, inward and downward inclined flanges along two edges, terminating in down turned flanges, and transverse reinforcing strips having corrugated ribs extending transversely of said flanges 20 and being secured to the under surface of said sheet.

ANGUS McKENZIE.