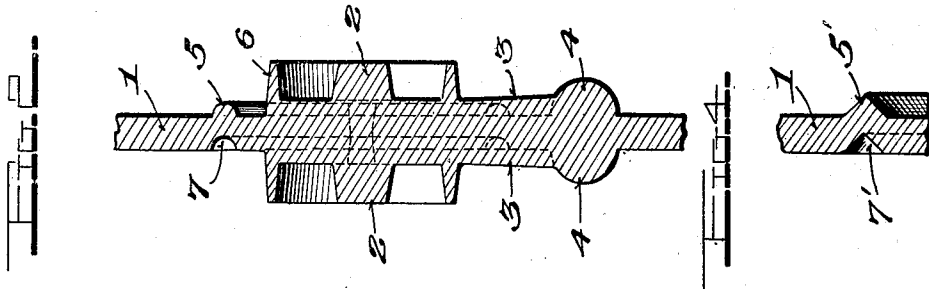
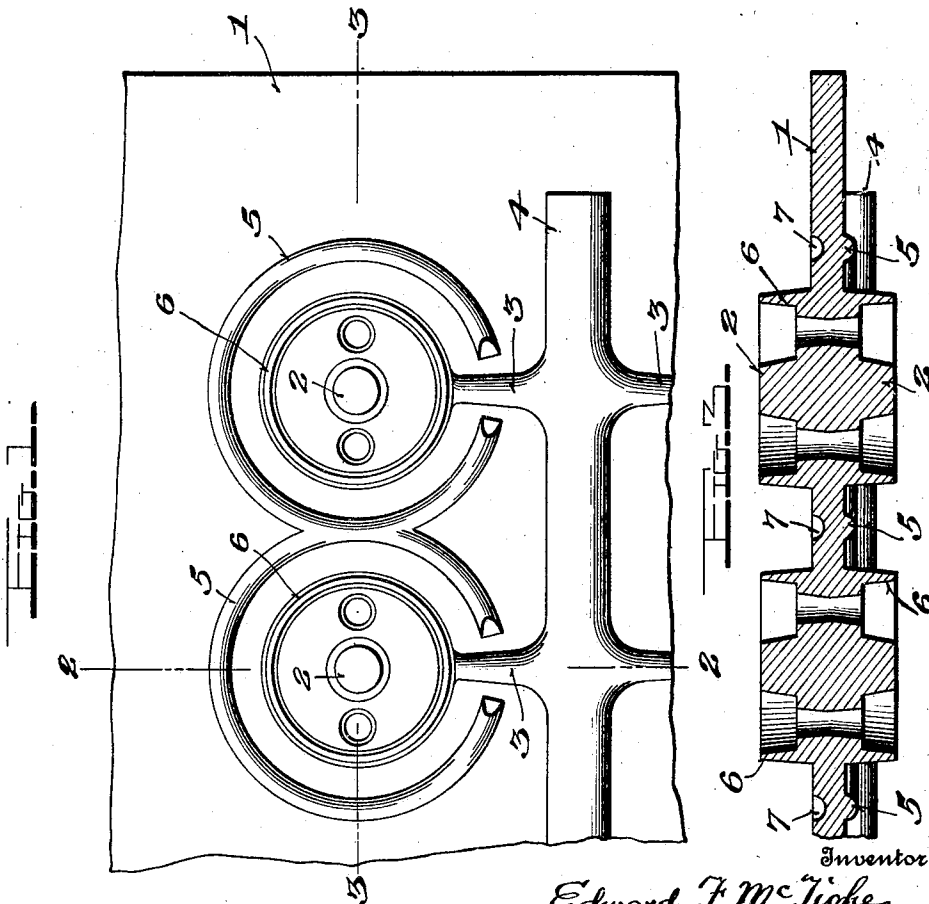


E. F. McTIGHE.
 PATTERN PLATE.
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1,369,683.

Patented Feb. 22, 1921.



Inventor
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UNITED STATES PATENT OFFICE.

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PATTERN-PLATE.

1,369,683.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, EDWARD F. McTIGHE, a citizen of the United States, residing at Bridgeport, Fairfield county, Connecticut, have invented certain new and useful Improvements in Pattern-Plates; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to certain new and useful improvements in pattern plates and pertains more especially to plate molds employed in the casting of castor wheels.

Heretofore it has been impossible to make perfect castings in a molding machine that employs plate molds for the reason that the tread or effective face of the castor wheel failed to come out true but to the contrary would have a jagged contour, this inaccuracy always appearing on the side of the castor wheel tread where the molten metal first flowed when filling the mold.

The present invention therefore has for its primary object the provision of means which will eliminate the above objection, and to this end proposes to provide means whereby the sand will be tightly packed or wedged and also reinforced so that when the molten metal flows against same, the sand will not be washed away or otherwise disturbed, thus resulting in a perfect casting being produced.

In the drawings:—

Figure 1, is a plan view, in fragment, of the plate;

Fig. 2, is a section on line 2—2 of Fig. 1;

Fig. 3, is a section on line 3—3 of Fig. 1; and

Fig. 4, is a view similar to Fig. 2, though in fragment and showing a modified form of the invention.

In proceeding in accordance with the present invention, a metal plate 1, is employed, the opposite faces of which are provided with the usual patterns 2, conformed to the shape which is to be imparted to the castor wheel casting.

The lateral channel branch-forming parts 3 of the pattern plate lead from the main channel forming part 4, of said plate to provide the usual runways for the metal during flowing of the latter into the mold in the packed sand provided by the castor patterns.

The invention resides in the provision of a rib 5, which follows the contour of the tread-forming part 6, of the pattern so that sand will be wedged in and between the rib 5, and the face 6 of the pattern. For the purpose of wedging and packing the sand tightly the face of the rib adjacent the tread face 6 of the pattern is inclined toward the latter. Thus upon usual ramming of the sand the latter will be tightly packed and effectively wedged in and between the parts 5 and 6.

As depicted in Fig. 4, of the drawings the rib 5', may be of true V-shaped formation instead of the approximately semi-circular cross-section depicted in Fig. 2, of the drawings, so as to increase the wedging action of the sand upon ramming of the latter.

In each instance, the plate has a depression 7, or 7' in register with and corresponding to the rib 5, or 5', the depression being located on the opposite side face of the plate, consequently the meeting faces of the sand in the cope and drag will be formed with a depression 5 or 5', and a corresponding projection 7, or 7', which latter will nest in the depressions so formed in the sand. Since the depressions 7 or 7', are of wedge form, tapering toward the bottoms of the depressions, it will be apparent that the sand rammed thereinto will also be tightly wedged and packed. Thus upon bringing of the effective sand faces of the cope and drag together, the depressions and projections will coöperate and reinforce each other and form a solid surface against which the flowing metal will have no effect as to washing or wearing same away or otherwise mar the surface of the tread when cast.

It will thus be seen that the complementary depressions and projections each being formed of sand that is tightly packed and wedged, will coöperate and interengage to mutually reinforce each other and in actual practice has been found to entirely overcome the defects noted with former plate molds in molding machines, enabling use of the latter as distinguished from hand molding, which latter has been resorted to in an endeavor to eliminate the noted objection heretofore present in machine molding.

By the use of my improvement the retaining rib 5 will hold the sand close to the pattern on the plate, and the castings are,

in consequence, of superior form and true to the pattern, eliminating all shifts in casting.

5 This invention may, of course, be employed in the casting of articles other than caster wheels, where the same defect as to shifts in the casting have heretofore existed.

What is claimed is:—

10 1. In a pattern plate, a plate having patterns on each of its opposed side faces, and having a projection on one face surrounding the pattern and adjacent thereto and further having a complementary depression on its opposite face, the projection and depression being formed so that upon ramming of
15 the sand same will be wedged into the depression and wedged between a side of the projection and the adjacent part of the adjacent pattern, the depression being formed
20 for receiving the projection when the mold is in casting position.

2. In a pattern plate, a plate having patterns on each of its opposed faces, and hav-

ing a projection with inwardly converging side walls on one face surrounding the pat- 25 tern and further having a complementary depression on its opposite face having corresponding outwardly converging side walls, whereby the sand will be wedged in and between the walls of the depression 30 and between the side wall of the projection adjacent the pattern and the latter.

3. A pattern plate having a pattern on each side face and having a projection surrounding the pattern on one face and a com- 35plementary depression surrounding the pattern on its opposite face whereby the sand packed in the depression will be received by the sand packed by the projection.

In testimony whereof I affix my signature 40 in presence of two witnesses.

EDWARD F. McTIGHE.

Witnesses:

C. I. SUTTON,
E. V. LEE.