(No Model.)

# J. THIERRY.

## MOLD FOR CASTING CAR WHEELS.

No. 256,410. Patented Apr. 11, 1882.

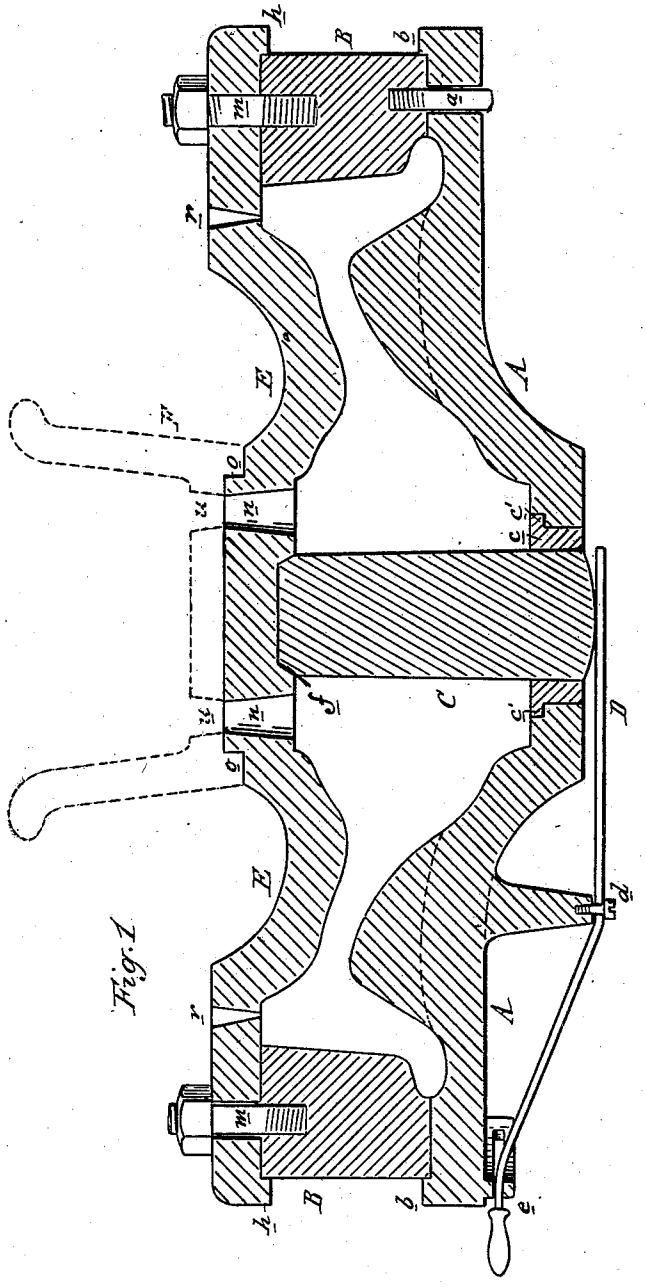


Fig. 1

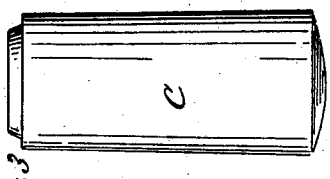


Fig. 3

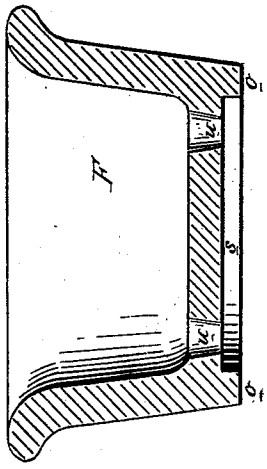


Fig. 2

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# UNITED STATES PATENT OFFICE.

JAMES THIERRY, OF DETROIT, MICHIGAN.

## MOLD FOR CASTING CAR-WHEELS.

SPECIFICATION forming part of Letters Patent No. 256,410, dated April 11, 1882.

Application filed January 11, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES THIERRY, of Detroit, in the county of Wayne and State of Michigan, have invented new and useful Improvements in Means for Casting Car-Wheels; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, which form a part of this specification.

The nature of my invention relates to certain new and useful improvements in molds for casting car-wheels, by means of which a large proportion of the labor attending this class of work is avoided and a more perfect and desirable result is obtained.

My invention consists in the peculiar construction and combination of parts, as more fully hereinafter described.

Figure 1 is a vertical central section of my improved metallic mold, showing chill, metallic center core, and sprue-basin in place. Fig. 2 is a like view of the sprue-basin detached. Fig. 3 is an elevation of a larger center core than the one shown in Fig. 1.

In the accompanying drawings, which form a part of this specification, A represents the bottom of my improved metallic mold, which is provided with a series of holes to receive steady-pins *a*, and with a shoulder, *b*, to hold the chill B in place. This chill is made in the usual manner, except that its lower edge is provided with a series of pins coincident and to engage with said holes, or vice versa. The center of this bottom is provided with a hollow thimble, *c*, through which the metallic center core, C, is inserted. This thimble on its inner end is provided with a flange, *c'*, which engages with the recess in the top of the bottom; and when a larger center core is desired, as shown in Fig. 3, this thimble should be changed for one the internal diameter of which corresponds with the external diameter of the base of such larger center core. The core is slightly conical in shape, the more readily to withdraw it from the hub of the wheel when cast. This center core is inserted from the bottom, and when in place is supported upon a bar or lever, D, which is pivotally secured, as at *d*, and provided at its outer extremity with any suitable locking device at *e* to prevent accidental displacement.

E represents the cope or upper half of the mold, provided with a flange, *h*, against which the upper edge of the chill rests, and said chill is secured to this top by a series of bolts, *m*. This top is also provided with a series of sprue-holes, *n*, slightly conical in shape, as shown, and with a recess into which fits the beveled upper end of the center core, also as shown. The hub of this top is provided with a shoulder to engage with a corresponding projection, *o*, upon the bottom of the metallic receiving-basin F, the bottom of which is provided with a recess, *s*, to embrace the hub. The bottom of this basin is provided with a series of sprue-holes, *u*, coincident with the sprue-holes *n*, and these holes are partially in the shape of inverted cones, so that at the point of juncture between the holes *n* and *u* the cross-section of the sprue will be the smallest. All the joints in this mold should be sufficiently tight as to prevent the molten iron from running into or through them, and cores of any suitable character can be put in in the usual manner, as when sand molds are employed.

To prepare the mold for casting, the interior surface thereof is coated evenly, and of sufficient thickness to secure the result, with a coating of molders' blacking, facing, plaster-of-paris, clay-wash, or fire-clay, or other analogous substance, leaving the inner face of the chill uncovered. The center core is likewise so coated. The top of the mold is put in position on the bottom, and the molten liquid is poured into the receiving-basin and finds its way into the mold through the sprue-holes. When the casting is cooled the receiving-basin is struck with an upward-glancing blow, which breaks the sprues at their smallest area. The top is then removed and the rest or lever D swung around, when a moderate blow upon the top of the center core will force it out of the hub of the wheel.

Vents *r* may be provided in the top of the mold, and wheels of any desired pattern, with or without radial outside flanges, as desired, may readily be cast with this mold.

What I claim as my invention is—

1. The chill B, bolted rigidly to the cope E, and provided with steady-pins *a*, to enter holes in the lower section, in combination with said cope and lower section, the flanged collar

*c*, the core C, and the basin F, the cope being provided with a flange to fit into the basin, and with a tapering recess to receive the upper beveled end of the core, substantially as set forth.

2. The cope E, provided with a projecting portion, O, to enter a recess in the basin F, in combination with said basin, both the cope and the basin being provided with conical coincident openings, having their smallest openings at the adjoining faces of the cope and basin, substantially as and for the purpose specified.

In witness that I claim the above as my invention, witness my signature this 20th day of December, 1881.

JAMES THIERRY.

In presence of—
H. S. SPRAGUE,
E. SCULLY.