

(Model.)

4 Sheets—Sheet 1.

M. O'MARA.

PATTERN FOR CAR AXLE BOXES.

No. 296,706.

Patented Apr. 8, 1884.

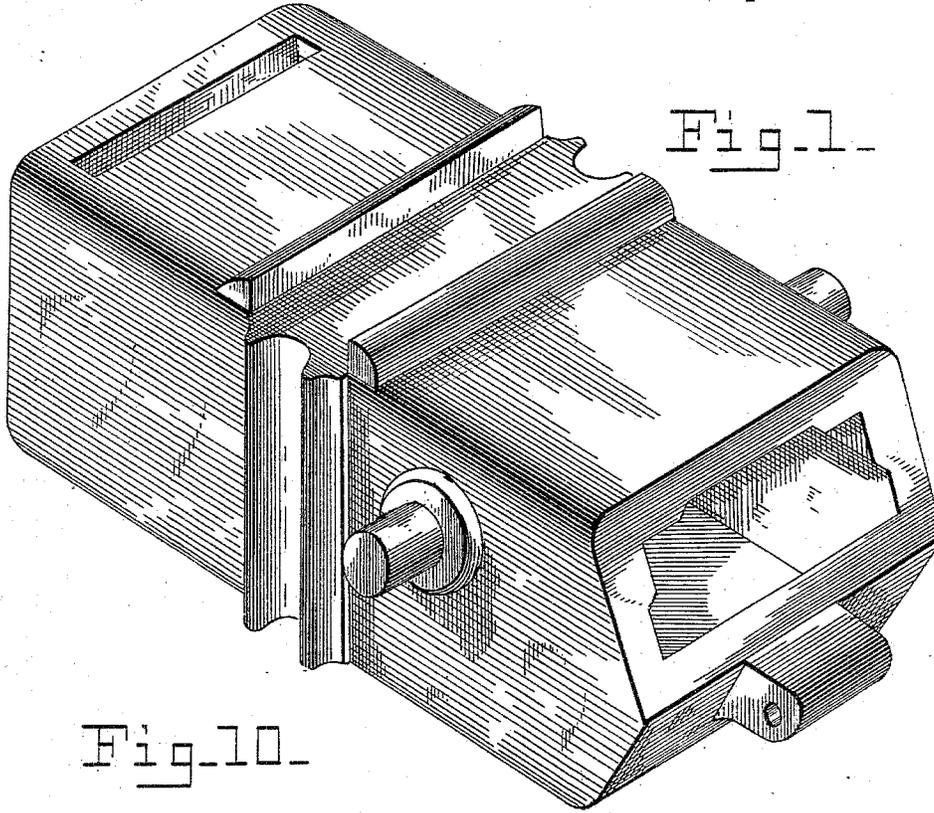
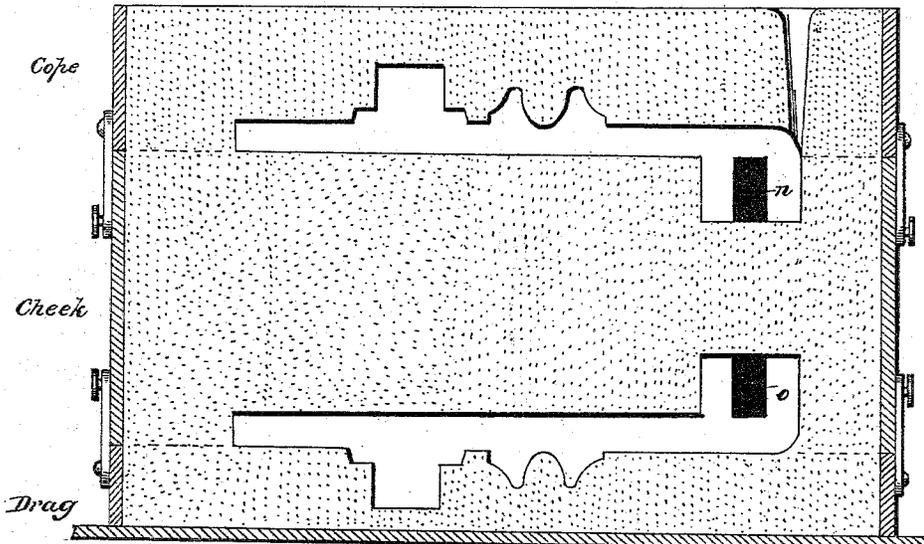


Fig. 1

Fig. 10



*Edwin L. Jewell.*

*Jas. L. Fallvey*

*ready for casting*

*Michael O'Mara.*

*H. A. Tunn* Attorney

(Model.)

4 Sheets—Sheet 2.

M. O'MARA.

PATTERN FOR CAR AXLE BOXES.

No. 296,706.

Patented Apr. 8, 1884.

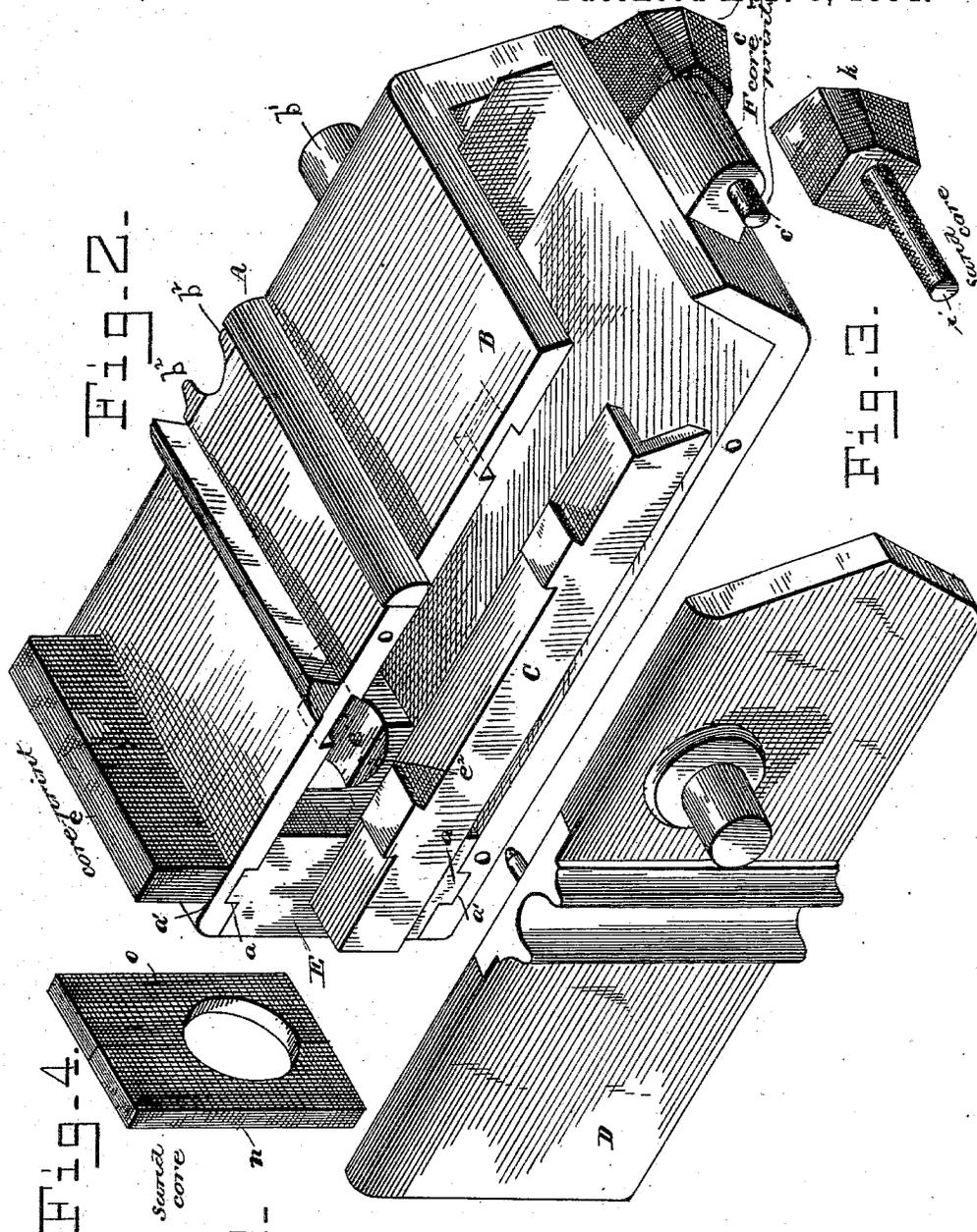


Fig-4

Sawed core

Fig-5

WITNESSES

Edwin L. Yewee.  
Jas. L. Falley

INVENTOR

Michael O'Mara,  
By, H. F. Funnis  
Attorney

(Model.)

4 Sheets—Sheet 3.

M. O'MARA.

PATTERN FOR CAR AXLE BOXES.

No. 296,706.

Patented Apr. 8, 1884.

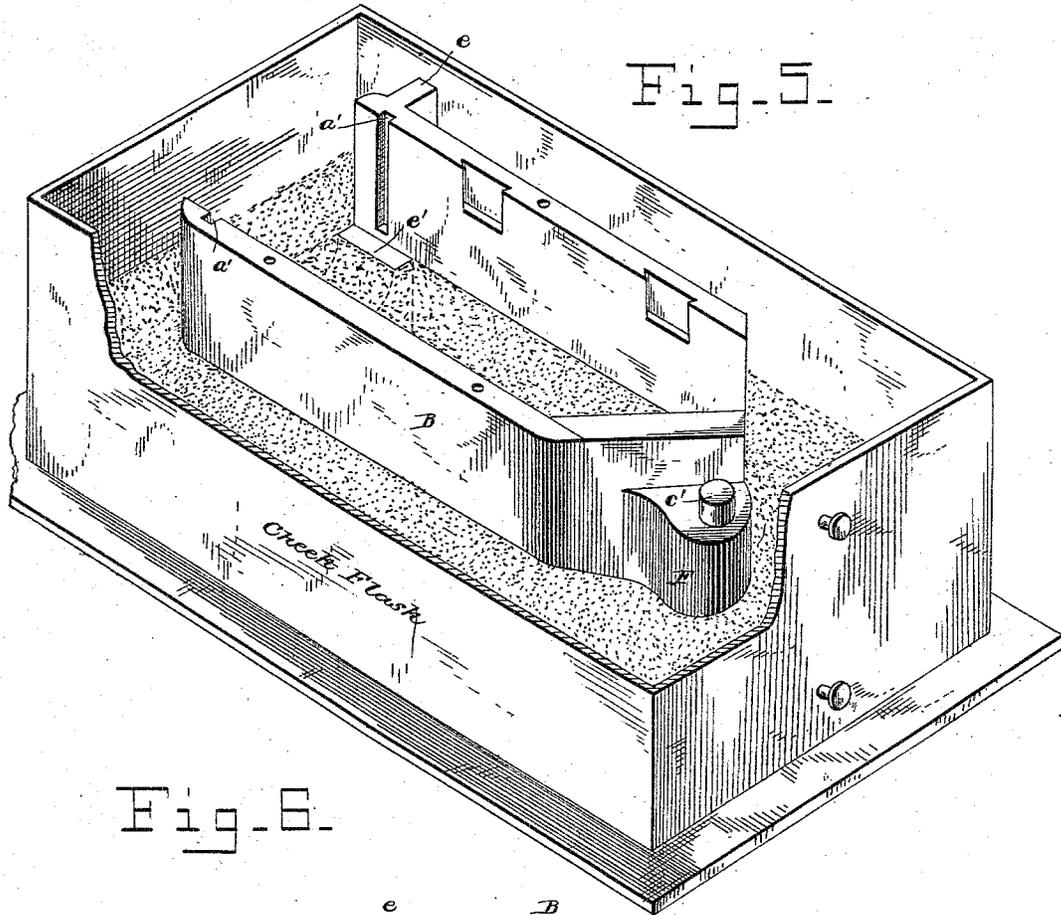
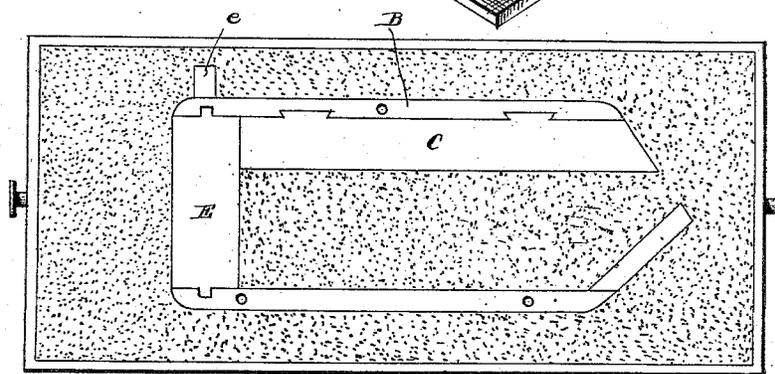


Fig. 5.

Fig. 6.



Cheek Flask

WITNESSES

Edwin L. Jewell.

J. L. Talbot.

INVENTOR

M. O'Mara

H. J. Ferris  
Attorney

(Model.)

4 Sheets—Sheet 4.

M. O'MARA.

PATTERN FOR CAR AXLE BOXES.

No. 296,706.

Patented Apr. 8, 1884.

Fig-7-

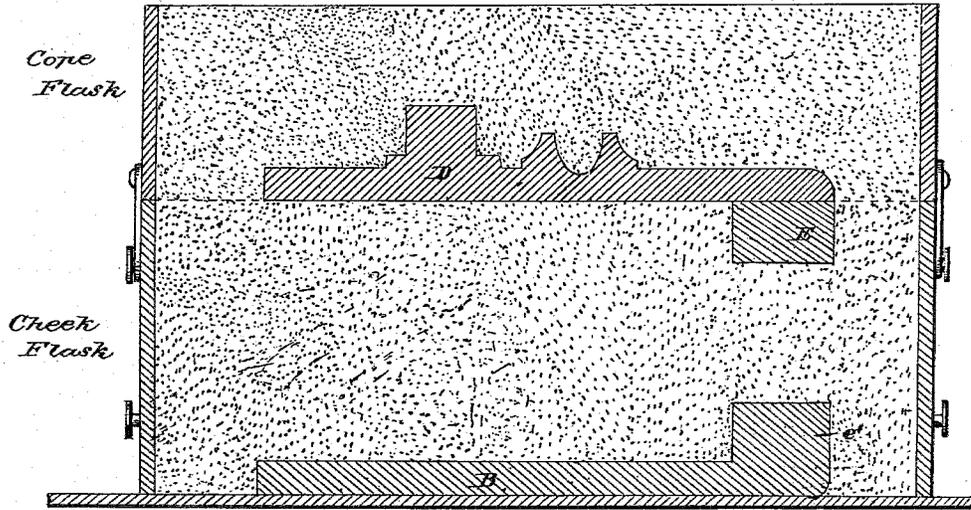
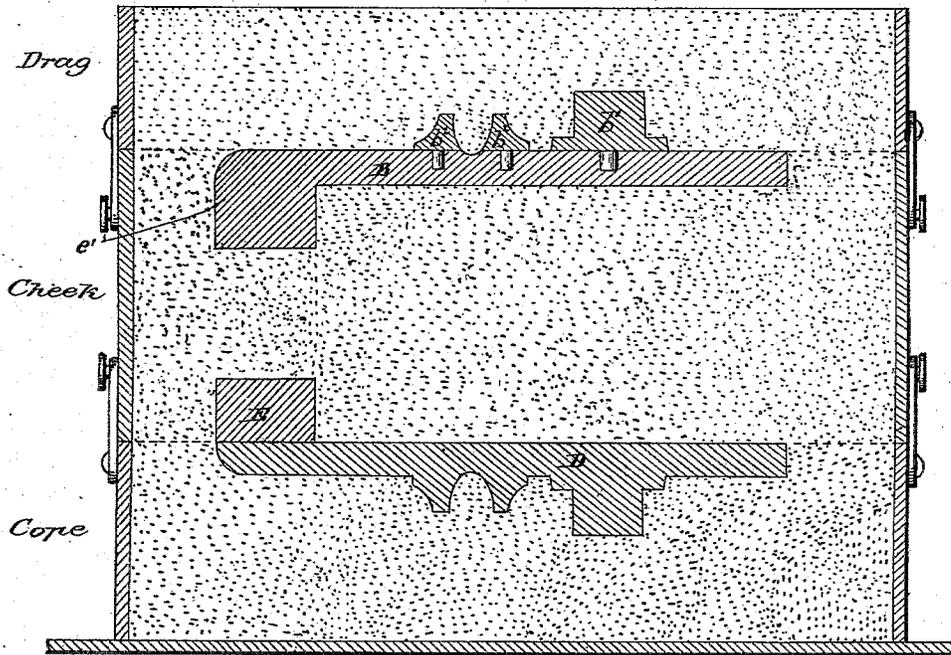


Fig-8-



Ready to draw pattern and place cores.

WITNESSES

Edwin L. Jewell.

J. L. Halvey.

INVENTOR

M. O'Mara

J. F. Annis  
Attorney

# UNITED STATES PATENT OFFICE.

MICHAEL O'MARA, OF CHARLESTON, SOUTH CAROLINA.

## PATTERN FOR CAR-AXLE BOXES.

SPECIFICATION forming part of Letters Patent No. 296,706, dated April 8, 1884.

Application filed December 17, 1883. (Model.)

*To all whom it may concern:*

Be it known that I, MICHAEL O'MARA, a citizen of the United States, residing at Charleston, in the county of Charleston and State of South Carolina, have invented certain new and useful Improvements in the Patterns for Car-Axle Boxes, of which the following is a specification, reference being had therein to the accompanying drawings, forming part of the same.

My invention has relation to patterns for casting car-axle boxes; and the object is to dispense with the large and cumbersome dry-sand core, and at the same time greatly to facilitate and cheapen the cost of manufacture of said boxes, whereby they may be placed upon the market at a minimum cost; and to these ends the novelty consists in the construction of the pattern, as will be hereinafter more fully described.

Figure 1 is a perspective view of a cast-iron car-axle box of the form in general use. Fig. 2 is a perspective view of my improved pattern for casting the above form of axle-box, with the detachable parts shown separated. Fig. 3 is a view of the hinge-lug, dry-sand core. Fig. 4 is a view of the dust-guard recess-core, reduced in size, which is made of dry sand in two parts, *n o*, to facilitate its insertion in the mold. Fig. 5 represents the cheek-flask on the follow-board and the shell B rammed half-way up. Fig. 6 is a top plan view of the same, with the half portion E of the dust-guard box and the rabbet-strip C in place and the flask rammed flush with the top of the shell. Fig. 7 shows the side D in place and the cope portion of the flask on and rammed; and Fig. 8 shows the cheek and cope turned over and the drag in place and rammed. Fig. 9 is a perspective view of the removable half of the dust-guard box-pattern, and Fig. 10 is a longitudinal vertical section of the mold ready for casting.

A is the pattern, and consists of the shell B, rabbet-strip C, side D, and one half E of the dust-guard box-pattern, which has tongues *a a*, working in guides *a' a'* in the shell B. The rest of the pattern is all in one piece with the shell B, including the core-prints *c c'* of the hinge-lug F, and the core-print *e* of the dust-guard recess-core. The parts *b' b''* of the shell B are detachably secured thereto in the usual

manner. The detachable parts are removed from the shell B, and it is placed on the follow-board with its open side uppermost, (see Fig. 7,) and the cheek-flask placed thereon. The molding-sand is then rammed in to a distance of about half-way the height of the shell, (see Fig. 5,) and the detachable half E of the dust-guard box-pattern and rabbet-strip C are then placed in proper position in the shell, and the balance of the molding-sand filled in and rammed, and the "parting" made flush with the upper surface of the shell. The side D is then placed in position, the cope portion of the flask adjusted to the cheek, and then filled and rammed with sand. (See Fig. 7.) The two cope and cheek flasks and the follow-board are then turned over together, the follow-board removed, the parts *b' b''* put on B, and the parting made as in the first instance. The drag-flask is now adjusted to the other side of the cheek-flask, and filled and rammed as before. (See Fig. 8.) This third or drag flask is now lifted off, and the shell B drawn out of the cheek-flask, the part E and the part C remaining upon the side D in the second or cheek flask. One half, *o*, of the dust-guard recess-core is now placed in its position in the cheek-flask, being held in said position in the mold in one-half of the recess left by the core-print *e*, and the hinge-lug core is also inserted, it being held in proper position by the ends *i k*, which correspond to the lug core-prints on the shell B. The third or drag flask is now restored to its place on the cheek-flask, and the three flasks clamped together, and their position reversed, with the second or cope flask on top, which is now removed, with the side D remaining in it, which is then drawn out. The part E and the part C are now drawn out of the cheek-flask, and the remaining half, *n*, of the dust-guard recess-core is set in place. The sprue is now made in the second or cope flask, and the flasks are now clamped together, and the mold is complete and ready for the running of the molten metal.

Heretofore these boxes have been cast from a pattern made in two halves, and a large cumbersome dry-sand core was used, and when the casting was made there was always a number of "fins" in places where the metal run in the joint between the core and the mold, and these had to be chipped off, involving ad-

ditional expense, and also where the dry-sand core is used the casting is often of unequal thickness, owing to the difficulty of placing it in its exact position in the mold and its great liability to shift in the mold when the metal is run in. All these objections are overcome by my invention, and a casting of even and regular thickness produced.

Having thus fully described my invention, what I claim as new and useful, and desire to secure by Letters Patent of the United States, is—

1. A pattern for casting car-axle boxes, consisting of the shell B, having one part, *e'*, of the dust-guard box-pattern E, and of the removable rabbet-strip C, the side D, and the separate part E of the dust-guard box-pattern, as shown and described.

2. A pattern for casting car-axle boxes, consisting of the shell B, having the core-print *e*

and one part, *e'*, of the dust-guard box E, and of the removable rabbet-strip C, the side D, and the separate part E of the dust-guard box-pattern, in combination with the divided dust-guard box-core *n o*, as and for the purpose set forth.

3. A pattern for casting car-axle boxes, consisting of the shell B, having core-prints *c c'* and *e*, one part, *e'*, of the dust-guard box E, and of the removable rabbet-strip C, the side D, and the separate part E of the dust-guard box-pattern, in combination with the divided dust-guard box-core *n o* and the hinge-lug core *h i*, as set forth.

In testimony that I claim the foregoing I append my signature.

MICHAEL O'MARA.

Witnesses:

A. G. HEYLMUN,  
EDWARD WEBSTER.