No. 749,069. PATENTED JAN. 5, 1904.

W. LEAHY.

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APPLICATION FILED AUG. 12, 1903.

NO MODEL

Fig 1.

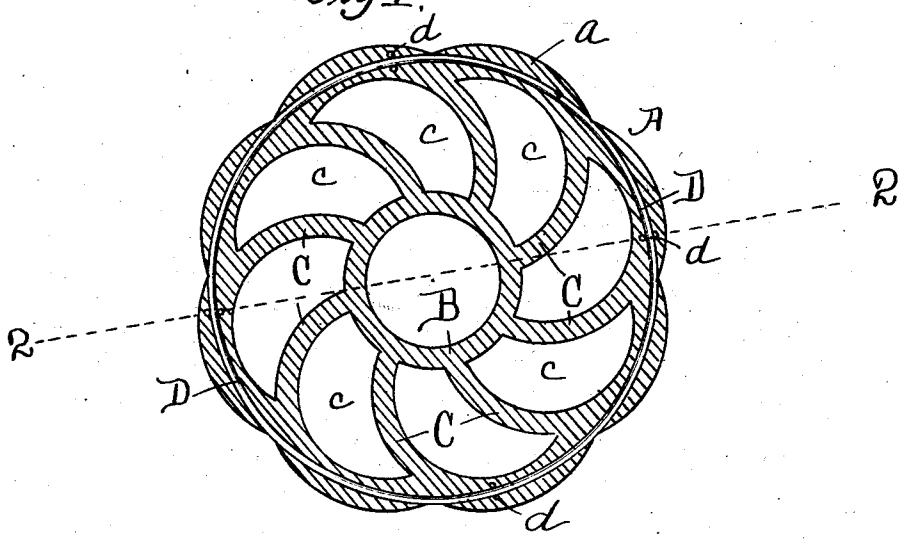


Fig 2

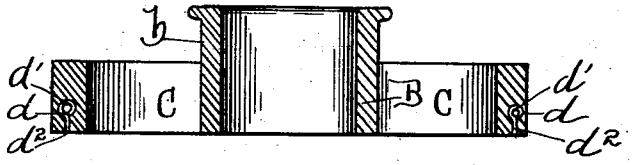
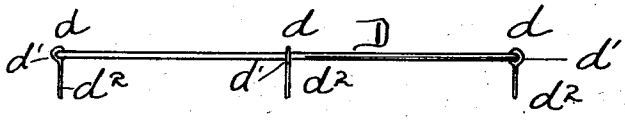


Fig 3



Witnesses
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No. 749,069. Patented January 5, 1904.

UNITED STATES PATENT OFFICE.

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SPECIFICATION forming part of Letters Patent No. 749,069, dated January 5, 1904.

Application filed August 12, 1903. Serial No. 169,197. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM LEAHY, 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 Copes for use in Molds, of which the following is a specification.

This invention relates to copes for use in molds for making car-wheels or similar cast articles; and the object of the invention is to produce a cope which will be much stronger and more durable, as well as more perfect, than those at present in use, thereby prolonging the life of the cope and enabling a better car-wheel to be produced than is possible with the molds hitherto employed. As hitherto made the entire cope has been formed of cast-iron, which is of such a nature that it will become cracked or mutilated after a short time, rendering the entire cope defective and impairing the product produced thereby.

The present invention is intended to obviate the cracking referred to and produce a cope which will be strong and durable in use and at the same time little more expensive than those hitherto employed.

In the drawings illustrating the invention, Figure 1 is a sectional plan view of a cope such as is ordinarily employed in the construction of cast car-wheels, showing the strengthening ring or band which more particularly forms the subject-matter of the present invention in place. Fig. 2 is a cross-sectional view taken on line 2 2 of Fig. 1, and Fig. 3 a side elevation of the strengthening ring or band before its insertion in place within the rim of the cope.

The cope A, as shown, consists of a corrugated rim *a*, a central hub B, having upwardly-projecting circular walls *b*, and between the rim and hub are a series of curved ribs or spokes C, having spaces *c* between them for the insertion of sand or other material employed in the art of molding. The hub, ribs, and rim are constructed of a single piece of cast metal, and as hitherto constructed there has been a tendency for the rim to crack or break during the casting operation owing to the inequality of the temperature in different portions of the cope.

The cope of the present invention, which has a body made of cast metal similar to that hitherto employed, is provided in its rim with a ring or band D, cast into the rim of the cope at a suitable point, preferably about one-third of the way from the bottom face of the rim. As shown, the ring or band is of a size to lie flush with the outer circumferential face of the rim at the inwardly-depressed portions thereof, so that the band serves to practically inclose the entire cope, and is, in fact, integral therewith when the forming operation is complete. The ring or band is preferably formed of wrought-iron, which is of a tough elastic consistency as compared with cast-iron, which forms the body of the cope, and the wrought-iron ring serves to reinforce the entire cope, so that the danger of cracking and mutilation is decreased and the life of the cope greatly prolonged, thereby effecting a very substantial saving and enabling the same cope to be repeatedly used. Moreover, even if the cast-iron composing the cope becomes cracked the ring or band within the rim will prevent the cracked portions from falling out of place, so that even a cracked cope may be repeatedly used before its entire usefulness is destroyed.

In forming the cope of the present invention the ring or band is provided with a series of loops or staples *d*, each having an eye *d'* and a downwardly-projecting shank d^2. The shank is intended to be inserted into the sand within the bottom of the mold-box in which the cope is to be cast for positioning the ring or band a suitable distance above the bottom of the space intended for the molten metal, and the shanks are of a sufficient length to hold the ring or band in place during the casting operation, after which they are cut off to lie flush with the bottom face of the completed cope, as shown in Fig. 2.

It will thus be seen that the cope of the present invention is much stronger and more durable than those hitherto employed and that its construction entails but a slightly-increased expense, whereas the saving resulting from the long life of the completed cope is very substantial.

What I regard as new, and desire to secure by Letters Patent, is—

1. A cope of cast metal provided with a rim, a ring or band of wrought metal embedded in the rim, and a series of loops or staples surrounding the ring or band and provided with

shanks extending downwardly from the ring or band and cut off to lie flush with the exterior face of the rim, substantially as described.

2. A cope of cast metal provided with a rim, a ring or band of wrought metal embedded in the rim, and a series of supporting-pins connected with the ring or band and provided with shanks extending downwardly from the ring or band and cut off to lie flush with the exterior face of the rim, substantially as described.

3. A cope of cast metal provided with a corrugated rim, a metal ring or band of proportionately tougher consistency embedded in the rim, and a series of pins connected with the ring or band and provided with shanks extending downwardly from the ring or band and cut off to lie flush with the exterior face of the rim, substantially as described.

WILLIAM LEAHY.

Witnesses:
SAMUEL W. BANNING,
WALKER BANNING.