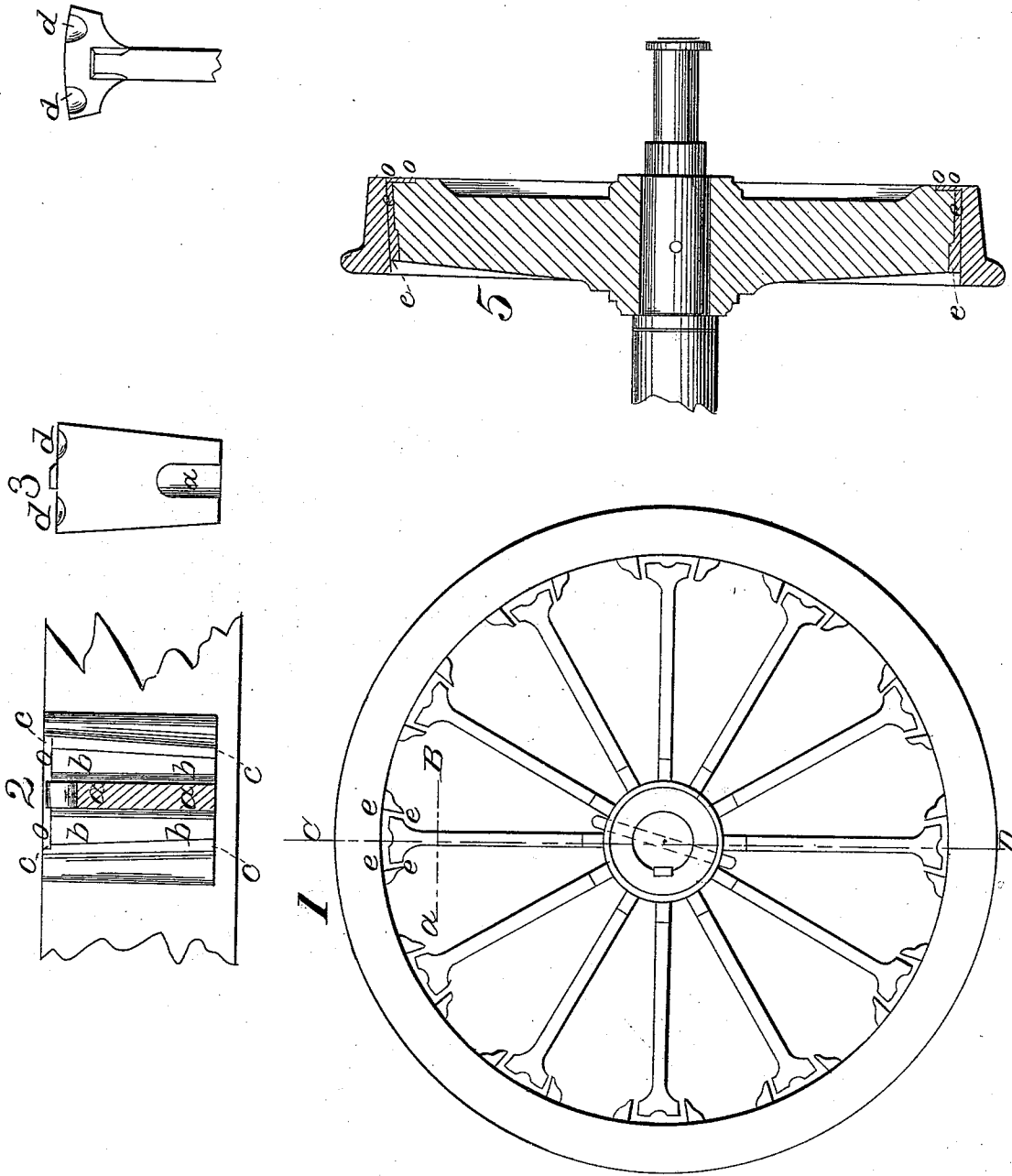


W. CREED.
Car Wheel.

No. 2,979.

Patented Feb. 24, 1843.



UNITED STATES PATENT OFFICE.

WILLIAM CREED, OF BOSTON, MASSACHUSETTS.

MANNER OF CONSTRUCTING RAILROAD-CAR WHEELS.

Specification of Letters Patent No. 2,979, dated February 24, 1843.

To all whom it may concern:

Be it known that I, WILLIAM CREED, of Boston, in the county of Suffolk and State of Massachusetts, machinist, have invented a new and useful Improvement in Railroad-Car Wheels, of which the following is a full, true, and exact description.

The object of my improvement is to form a strong durable rail-road-car-wheel admitting of the rim being taken off and a new one put on.

In constructing my cast-iron railroad-car wheel, the arms and hub are cast in one piece, and the rim and flanch in another. The rim is cast with chambers or boxes on its central side, equal to the number of arms of the wheel; these chambers having three sides, so that the foot or end of each arm may be fitted into one of these chambers. The two pieces are so cast that the piece consisting of the hub and arms is introduced into the rim on the inside of the rim, that is, the side toward the center of the road when the wheel is on the track in its running position. Accordingly the chamber for the arm-foot is open on that side to admit the foot to be slid in. The precise form of the chamber is not material, provided it will admit the end of the arm. The exterior form of the chamber or box as seen at the center of the wheel, after the arm is soldered in, is shown in Figure 2 in the annexed drawings, the arm being represented in that drawing as being cut off near to the rim and only a small part of the rim on each side of the foot being included in the drawing so as to exhibit the foot, the chamber and the soldering, as seen at the position of the center of the wheel, or anywhere in the line of the arm produced, beyond that center. In that figure *a a* is the section of the arm, *b* is the surface of the foot of the arm being spread out on each side wider than the arm, as shown in Fig. 1, the dimension or thickness of the arm in the line *a—B*, Fig. 1, being about seven eighths of an inch, the dimension or thickness of the foot parallel to the same line, being about three inches, giving a spread to the foot of about one inch on each side of the arm. The chamber as is shown by Fig. 1 spreads or widens from the inside of the rim (that is from the side facing the center of the track) toward the outside (that is, the side from the center of the track) and the foot of the arm is accordingly intro-

duced into the chamber at the narrower or inside end of the chamber. The sides of the foot transverse to the rim are beveling or wedge-formed being diverging in respect to each other in the direction toward the outside of the track as shown Fig. 2, *b, b, b, b*. This form of these sides is an essential circumstance in my improvement. A slight degree of divergency of these sides is sufficient. The extreme surface of the foot, viz., that which faces the rim, is exhibited Fig. 3. This surface in its dimension transverse to the rim must diverge from the line of the axis of the wheel in the direction toward the outside of the road; that is, the outside part of this surface in the direction of the circle of the rim, is an arc of a greater radius than the inside part of it; that is, the part towards the center of the road. This is also an essential circumstance in my improvement. The side of the chamber toward the outside of the track is thin, so that it may be easily broken out to take off the rim when old or broken. This is also an essential circumstance in my improvement. I make depressions on the extreme side of the foot facing the rim and on the side facing toward the outside of the track as shown by the shaded part *d, d, d*, of Fig. 3 for the purpose of more easily and effectually pouring in the solder to fill whatever vacant space there may be on these sides. The vacant space, if any, should be thin on the side looking toward the outside of the track, as the solder on that side is to be broken away in taking off an old rim. The thickness of the solder in other parts is not material. For economy the spaces left for solder should be as small as they can be and admit of the parts of the wheel being put together before soldering. A section of the solder at the extremity of the arm is shown at the shaded part of Fig. 5, *e, e, e, e*. A section of the solder on the sides of the foot transverse to the rim, is shown at Fig. 1.

The foot of the arm being made wedge-formed on its sides and having its extreme surface diverging outward as above described, it is obvious that by breaking out the thin side of the chamber, looking outside of the track, the arms may be easily knocked out of the rim.

What I claim as my invention and ask a patent for, is—

The method of adapting and attaching the arms to the rim of a railroad-car wheel

as above described, in the following particulars combined, viz. 1, casting the rim with a three-sided chamber for each arm. 2, making the outer side of the chamber thin so as to admit of its being broken out, 3 casting the sides of the foot wedge-formed. 4 casting the extreme surface of the foot diverging from the axis in the outward direction. 5, filling the vacant spaces about the foot with solder. The combination of these five particulars in the mode of adapting and attaching the arms and rim of a railroad-car wheel to each other and con-

solidating them together, and allowing the taking off an old rim from, and putting a new one upon the arms, constitute the principal and distinguishing character of my improvement. 15

In testimony whereof I hereto subscribe my name in the presence of the witnesses whose names are hereto subscribed, on this tenth day of December A. D. 1842. 20

WILLIAM CREED.

Signed in our presence:

WM. B. DORR,

WILLARD PHILLIPS.