

(No Model.)

G. W. CUSHING.
CAR WHEEL.

No. 486,326.

Patented Nov. 15, 1892.

FIG. 1.

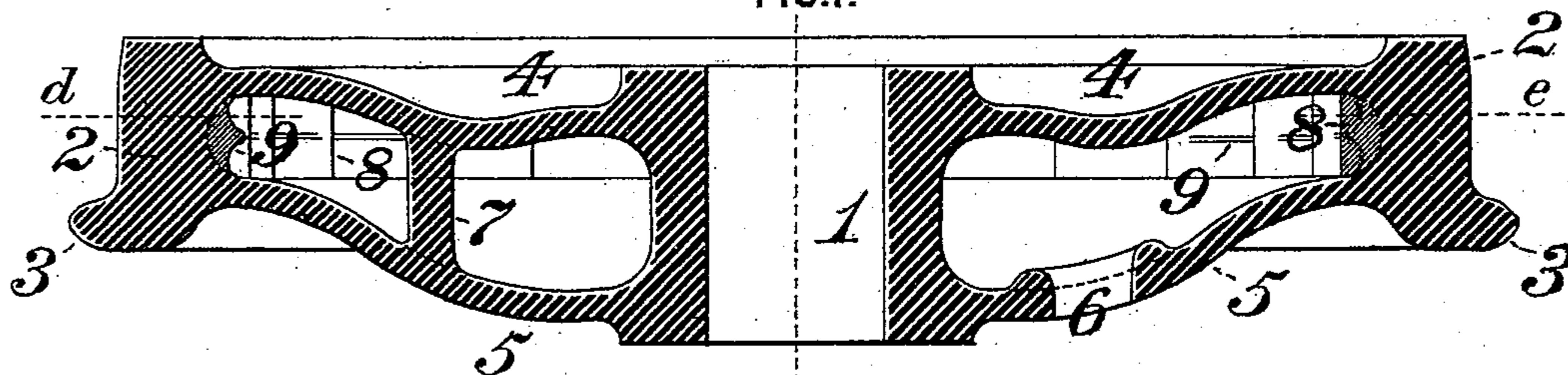
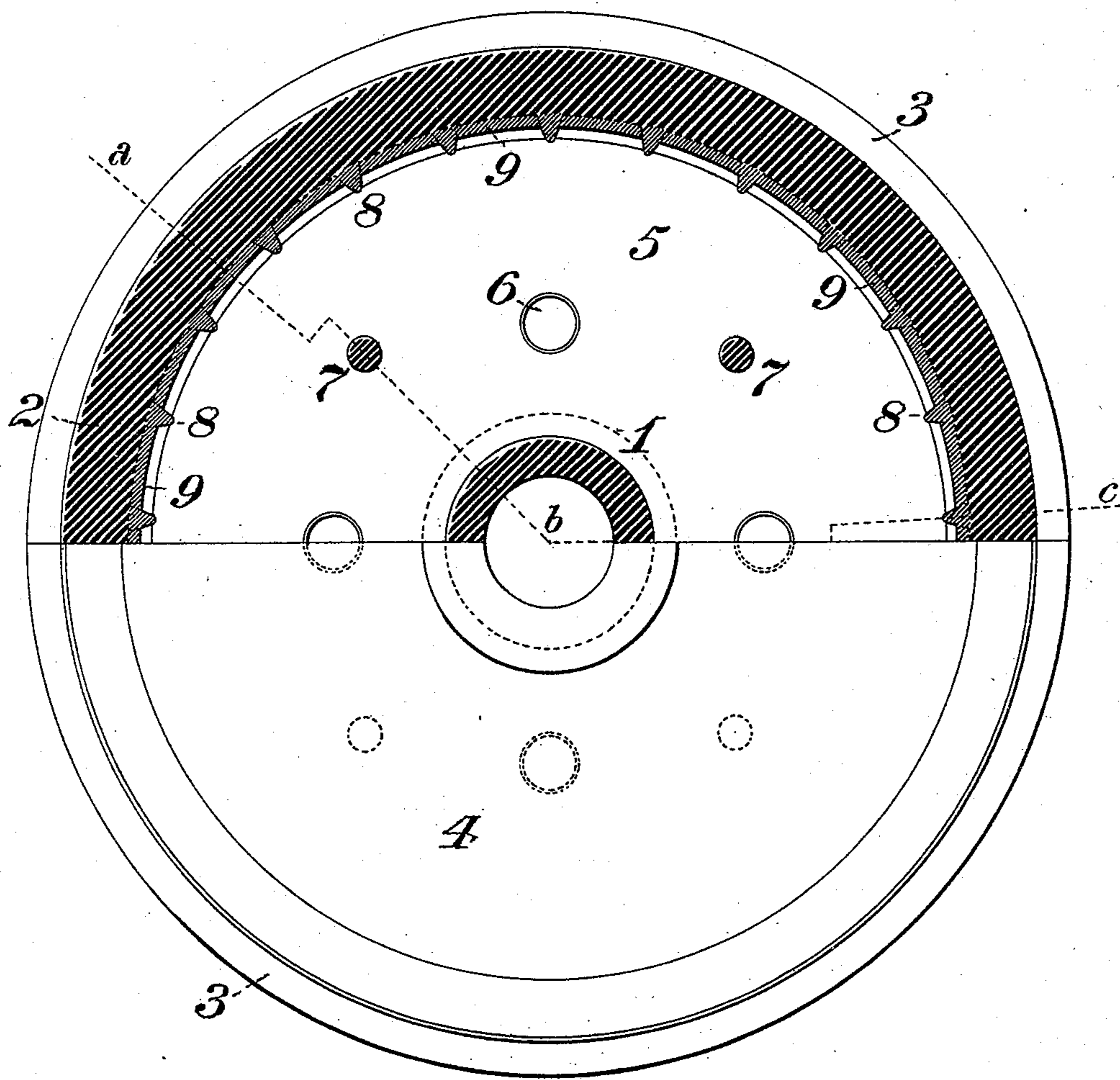


FIG. 2.



WITNESSES:

R. H. Whittlesey
F. E. Gaither

INVENTOR,

G. W. Cushing
by *J. Mendenhall*

Att'y.

UNITED STATES PATENT OFFICE.

GEORGE W. CUSHING, OF EVANSTON, ILLINOIS, ASSIGNOR TO THE AMERICAN STEEL WHEEL COMPANY, OF JERSEY CITY, NEW JERSEY.

CAR-WHEEL.

SPECIFICATION forming part of Letters Patent No. 486,326, dated November 15, 1892.

Application filed July 6, 1892. Serial No. 439,102. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. CUSHING, of Evanston, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Car-Wheels, of which improvement the following is a specification.

My invention relates to car-wheels of the class or type known as "double plate," which are cast hollow, the hub and tread being united by and integral with two plates or webs, forming the side walls of an intervening annular space. It has been found in practice that in the use of steel for casting car-wheels of the above type "pipe-holes" are formed in the tread to an objectionable extent, there being no provision made in such wheels, as ordinarily constructed, for their prevention.

The object of my invention is to provide a car-wheel of such construction that its plates shall be braced as against lateral distortion and that the formation of pipe-holes or other defects in the body of the tread of the wheel shall be prevented and tendency to such defects shall be exerted only, if at all, in portions of the tread remote from the center of its body, so as to be, therefore, correspondingly-less objectionable.

To this end my invention, generally stated, consists in a double-plate car-wheel having a series of transverse ribs on the inner surface of its tread and a series of intermediate circumferential ribs.

The improvement claimed is hereinafter fully set forth.

In the accompanying drawings, Figure 1 is a transverse section through a car-wheel embodying my invention, the left-hand half of the figure being shown as taken at the line *a b* of Fig. 2 and the right-hand half at the line *b c*; and Fig. 2, a view, the lower half of which is a front elevation of the wheel and the upper half a section at the line *d e* of Fig. 1.

In the practice of my invention I provide a double-plate car-wheel composed of a central hub 1, a tread-section or rim 2, having the usual rail-flange 3 on one side, and two plates or webs 4 5, connecting the hub and

the tread-section of the wheel, all portions of which are formed in an integral casting, as in the case of the double-plate wheels heretofore known. A series of vent-holes 6 is formed in the rear plate 5 for the escape of gas from the core in casting and for the removal of the core thereafter, as in ordinary practice.

In order to prevent distortion or displacement of the side plates 4 5, these are connected by a series of posts or braces 7, cast integral with and connecting the plates, the posts being substantially parallel with the axial line of the wheel and being spaced uniformly in a circle concentric with and intermediate of the hub and the tread-section.

The inner line of the body of the tread-section 2 is indicated in the drawings by the heavier hatching or section lines, and upon the inner surface of the tread-section there is formed a series of transverse ribs or projections 8, projecting inwardly from the tread-section and extending from one of the side plates 4 5 to the other. The transverse ribs 8 are connected by a series of intermediate ribs 9, which are, as indicated, of approximately-triangular cross-section and which extend in a circumferential direction on the inner surface of the tread-section or rim 2 of the wheel from one transverse rib 8 to another. The transverse and circumferential ribs 8 9 are cast integral with the remainder of the wheel, and the metal forming them is indicated in the drawings by the lighter hatching or section lines. It will be seen that under the above construction the tread-section or rim portion of the wheel, in lieu of presenting the ordinary uniform flat or curved inner surface, is supplemented by an inwardly-projecting series of transverse and circumferential ribs, toward which and in which pipe-holes or other defects, if any, which might be formed would be located, and in which their presence would be materially less objectionable or injurious to the strength and quality of the wheel than if in the body of the tread-section, as has been the case in wheels of the ordinary form.

I claim as my invention and desire to secure by Letters Patent—

5 A double-plate car-wheel composed of a hub, two side plates or webs, and a flanged tread-section or rim having on its inner surface a series of transverse ribs extending from one side plate to the other, and a series

of circumferential ribs interposed between and connecting said transverse ribs, substantially as set forth.

G. W. CUSHING.

Witnesses:

J. A. DOWD,

W. A. BATES.