

No. 763,930.

PATENTED JUNE 28, 1904.

D. P. RENNIE.
CAR WHEEL.

APPLICATION FILED APR. 15, 1904.

NO MODEL.

Fig. 1.

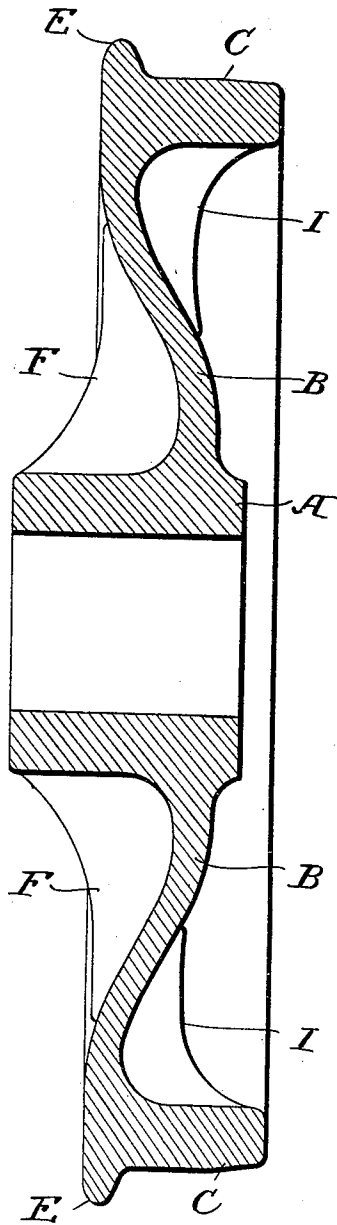
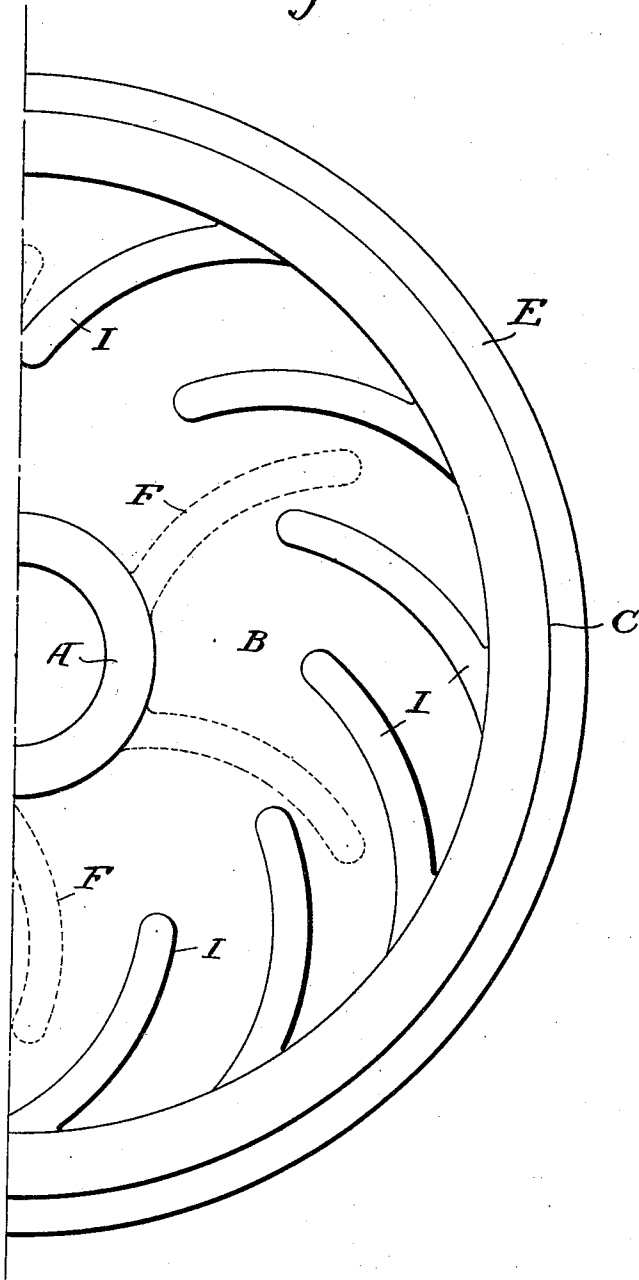


Fig. 2.



Witnesses
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UNITED STATES PATENT OFFICE.

DAVID P. RENNIE, OF LOUISVILLE, KENTUCKY, ASSIGNOR OF ONE-HALF
TO DANIEL H. CHENEY, OF LOUISVILLE, KENTUCKY.

CAR-WHEEL.

SPECIFICATION forming part of Letters Patent No. 763,930, dated June 28, 1904.

Application filed April 15, 1904. Serial No. 203,338. (No model.)

To all whom it may concern:

Be it known that I, DAVID P. RENNIE, a citizen of the United States, residing at Louisville, in the county of Jefferson and State of Kentucky, have invented certain new and useful Improvements in Car-Wheels, of which the following is a specification.

My invention relates to car-wheels; and it consists in constructing the same so as to secure an increased strength at the rim and flange portion and so as to enable the wheel better to resist thrusts without increasing its weight or the cost of manufacture, as fully set forth hereinafter, and as illustrated in the accompanying drawings, in which—

Figure 1 is a transverse section of my improved wheel, and Fig. 2 is a view showing one-half of the wheel looking toward the outer face.

The car-wheel has the usual hub A and rim C with its flange E.

It has been found, owing to the increased weight and speed of trains, that forms of car-wheels which have proved serviceable where the weight and speed were less than are now frequently required will not withstand the conditions of modern requirements. One of the localities of weakness in ordinary constructions has been the flange and the parts adjacent thereto; but the flanges have not been increased in thickness, as this increase is limited by the construction of frogs and switches on railroads. The problem, therefore, has been to secure the desired strength at and adjacent to the flange, but without unduly increasing the weight of the wheel and to maintain the lowest possible cost of manufacture, to which ends and for other reasons it is desirable to dispense with the use of cores in constructing the wheel. Having these ends in view I have so constructed and arranged the web or arch plate B, as shown in the drawings, as to extend it from the forward end of the hub, preferably in a reverse curve, inward to meet the inside of the rim at a point opposite the flange. By this means I concentrate a much larger weight of metal adjacent to the flange than in the ordinary constructions without any actual increase in

the amount of metal in the wheel, while also increasing the depth of metal back of the flange.

In order to still further strengthen the wheel, I make use of brackets F at the inner side of the arch-plate extending to the hub and brackets I at the outside of the arch-plate extending to the rim, and preferably these brackets are curved and set at such an angle as to strengthen a larger area of the arch-plate circumferentially than if they were arranged radially. The inner brackets F in connection with the outward curve of the arch-plate at this point not only so strengthen this part as to better resist the thrusts of the axle when running around curves, but they also prevent that fanning of the sand and dust toward the oil-boxes which results in constructions where the brackets are arranged on the outside adjacent to the hubs.

By recurving the arch-plate inward near the rim and placing the brackets I between the rim and the arch-plate the wheel is better able to resist the lateral thrusts when forced against the track-rails.

It will be seen that by the above construction I secure the requisite strength of the arch-plate portion of the wheel and reinforce the rim without the use of a double arch-plate, which necessitates the employment of cores in the manufacture and which often results in defects which are not evident until the breaking of the wheel. It will also be seen that the arrangement shown strengthens the hub adjacent to the journal, so that the heating of the latter has less tendency to split the hub.

Without limiting myself to the precise construction or details shown, I claim—

1. A car-wheel in which an arch-plate extends from the outer end of the hub to the rim at a point opposite the flange, substantially as described.

2. The combination in a car-wheel, of a hub, flanged rim, and reversely-curved arch-plate meeting the hub near the outer end and the rim at the inner edge, substantially as described.

3. The combination with the hub and

flanged rim of a car-wheel, of a reversely-curved arch-plate extending from the hub to a point on the rim opposite the flange, substantially as described.

5 4. The combination in a car-wheel, of a hub, flanged rim, reversely-curved arch-plate meeting the hub near the outer end, and the rim at the inner edge, and brackets within the arch-plate extending to the hub, and without
10 the arch-plate extending to the rim, substantially as described.

5. The combination in a car-wheel, of a hub, flanged rim, reversely-curved arch-plate meet-

ing the hub near the outer end, and the rim at the inner edge, and curved brackets within
15 the arch-plate extending to the hub, and without the arch-plate extending to the rim, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two sub-
20 scribing witnesses.

DAVID P. RENNIE.

Witnesses:

JOHN P. SACKSTEDER,
ANTON KUTZLER.