

F. HARBACH.

Car Wheel.

No. 5,361.

Patented Nov. 6, 1847.

Fig. 2.

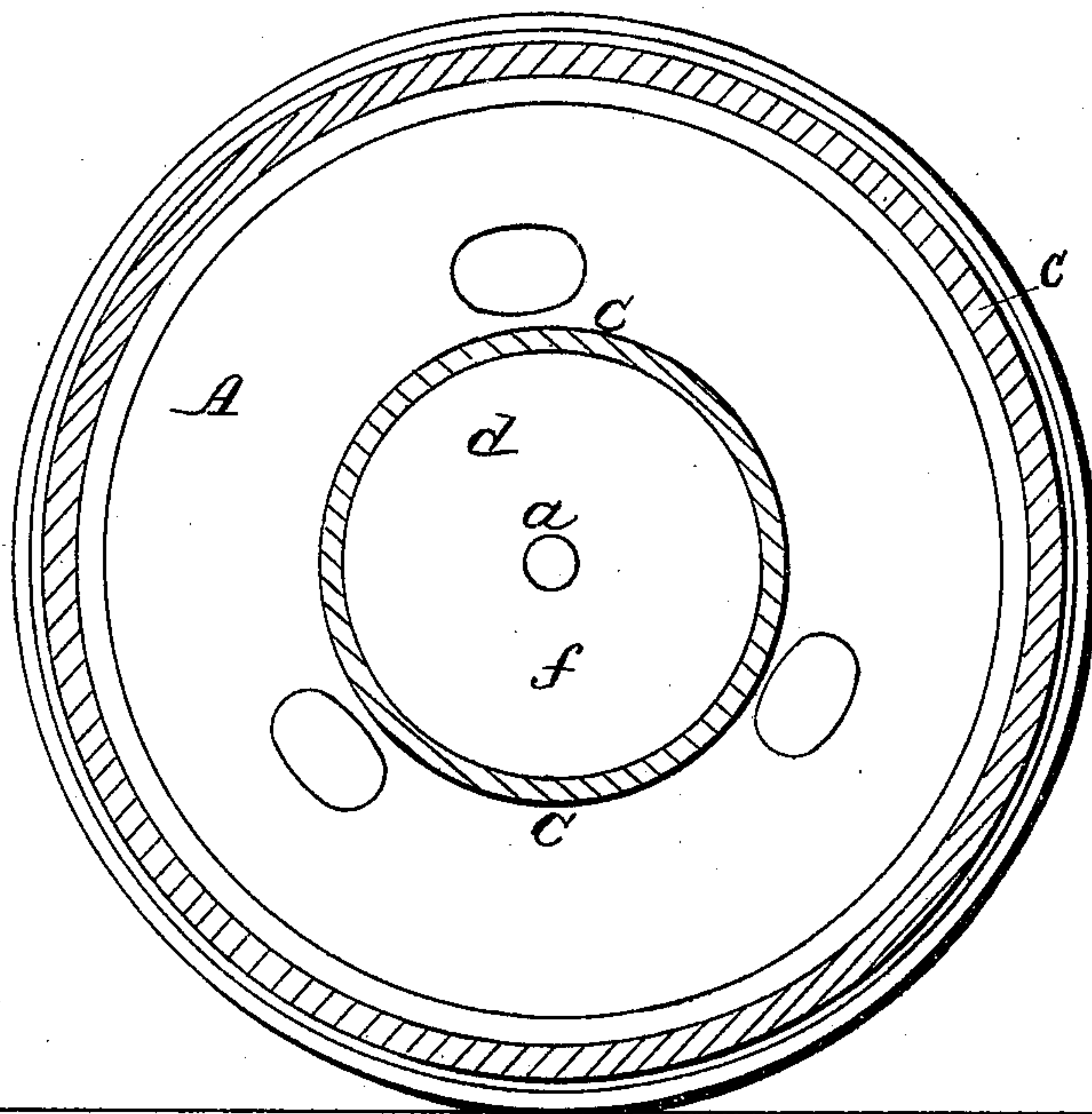
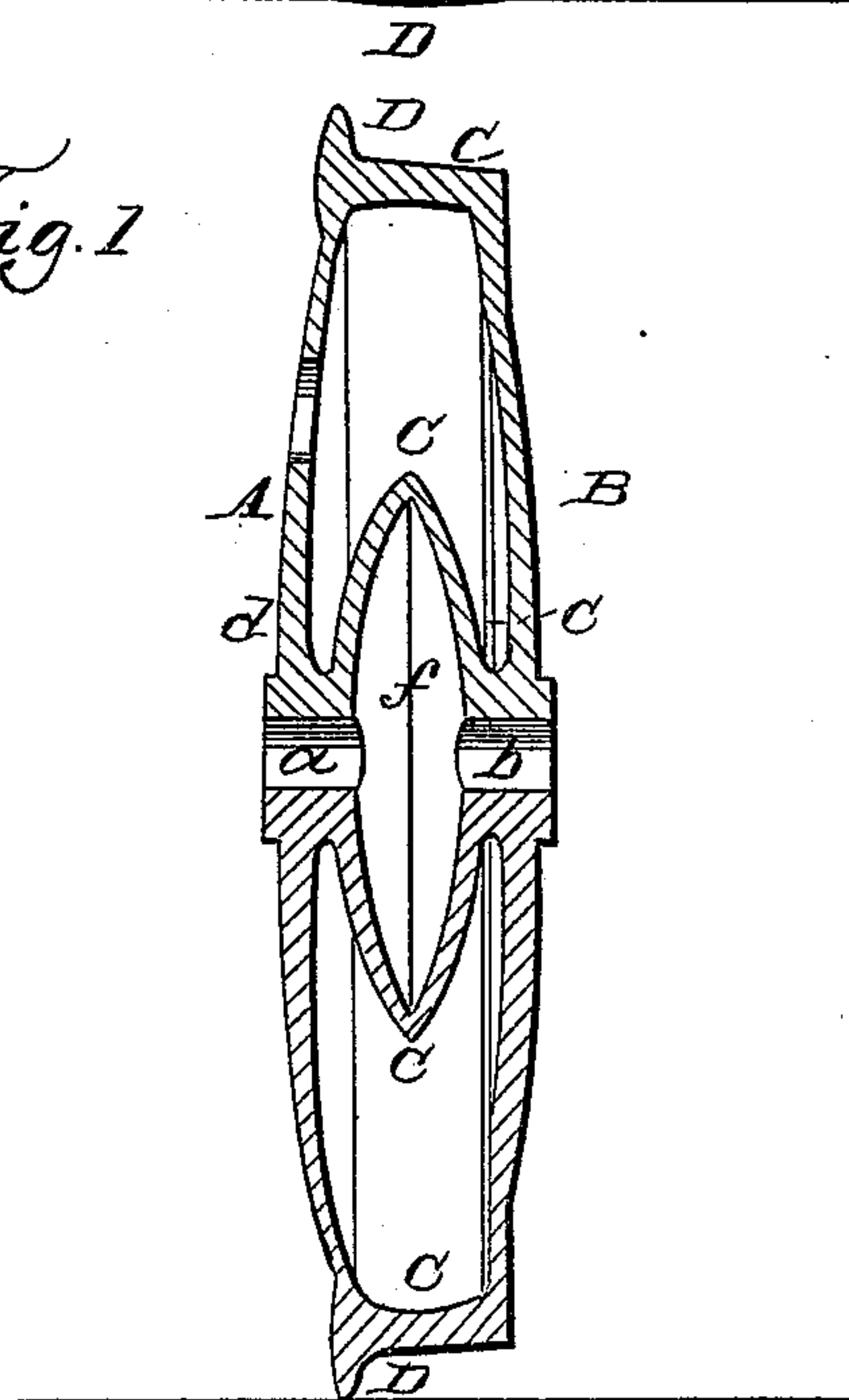


Fig. 1



UNITED STATES PATENT OFFICE.

FREDK. HARBACH, OF PITTSFIELD, MASSACHUSETTS.

CAR-WHEEL.

Specification of Letters Patent No. 5,361, dated November 6, 1847.

To all whom it may concern:

Be it known that I, FREDERICK HARBACH, of Pittsfield, in the county of Berkshire and State of Massachusetts, have invented a new and useful Improvement in the Manufacture of Cast-Metal-Plate Wheels for Railways or Other Purposes; and I do hereby declare that the same is fully described and represented in the following specification and accompanying drawings, letters, figures, and references thereof.

The nature of my improvement consists in the manner in which I make the hub, viz., with a contractile chamber; whereby I can cast or found it, and not only obtain all the advantages of a "solid" or cylindrical hub, extending from one of the side plates to the other, but all those of a "divided" hub, without any of the disadvantages of the latter.

Of the said drawings, Figure 1 denotes a transverse section of my improved wheel, taken through and in the plane of the axis of the hub. Fig. 2 is a longitudinal and central section of it, taken perpendicularly to the axis of the hub.

In Fig. 1 of the said drawings A, B, exhibit the two concavo convex side plates of the wheel. C the rim. D the flanch; and *a, d, e, e, b, c*, the hub made with a contractile chamber *f*. Instead of continuing the hub from one side plate to the other, in the usual cylindrical form, or dividing it into two parts, having a central space between them, I expand that part of the hub, which is between the side plates, into a form which may be represented by two circular maniscuses, or concavo convex plates, arranged together so that their concavities shall be in apposition, and have a flat chamber between them of which the two plates, shall be the sides. In Fig. 1, *c, d, c*, may be supposed to represent one of said plates, and

c, e, c, the other, while *f* denotes the chamber or space between their concavities. In Fig. 2 the circular form of the portion *c, d, c*, of the hub is exhibited.

Heretofore in order to prevent the strains generated in the wheel, while in the act of cooling, or solidifying in the mold, from cracking or breaking either or both of the side plates, or some other part of the wheel, it has been found necessary, to transversely divide or separate the hub in the middle and between the two plates. This of course very much weakens the hub, and requires in most cases, when the axle is driven through or out of the hub, the interposition of a metallic ring, between the two parts of the hub, in order to prevent breakage of the side plates.

By the manner in which I make my improved hub, viz., as a solid one extended laterally so as to comprehend, and have within it a contractile chamber, the convex side plates, and the plates composing the sides of the chamber, when the wheel is being founded, can readily approach toward, or recede from one another, as occasion may require.

I claim—

The hereinbefore described improved mode of making that part of the hub, which is between the two side plates of the wheel, viz., with a lateral expansion and chamber *f*, and in other respects substantially in the manner, and for the purpose as above specified.

In testimony whereof I have hereto set my signature this third day of May, A. D. 1847.

FREDERICK HARBACH.

Witnesses:

JULIUS ROCKWELL,
AMASA RICE.