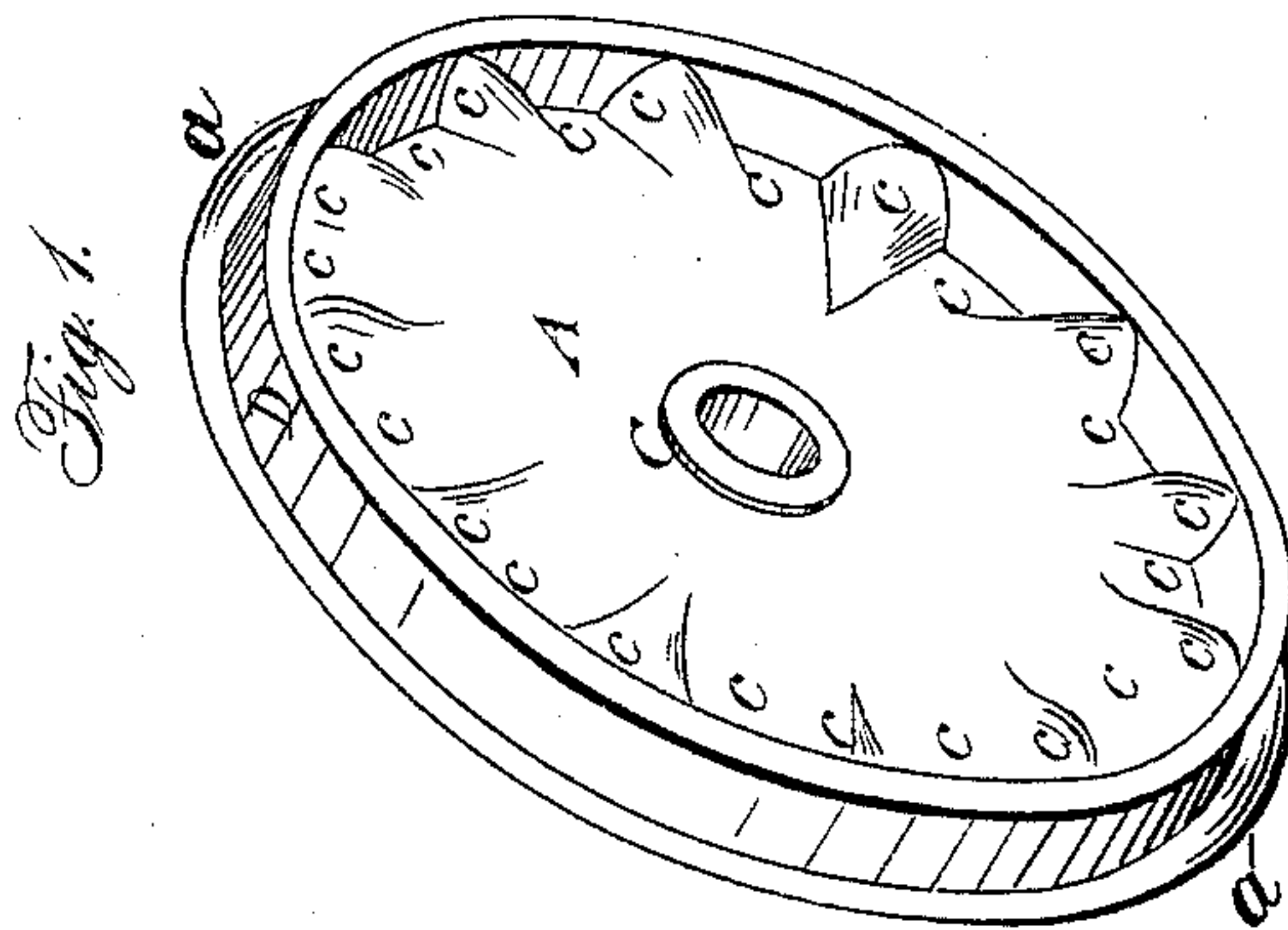
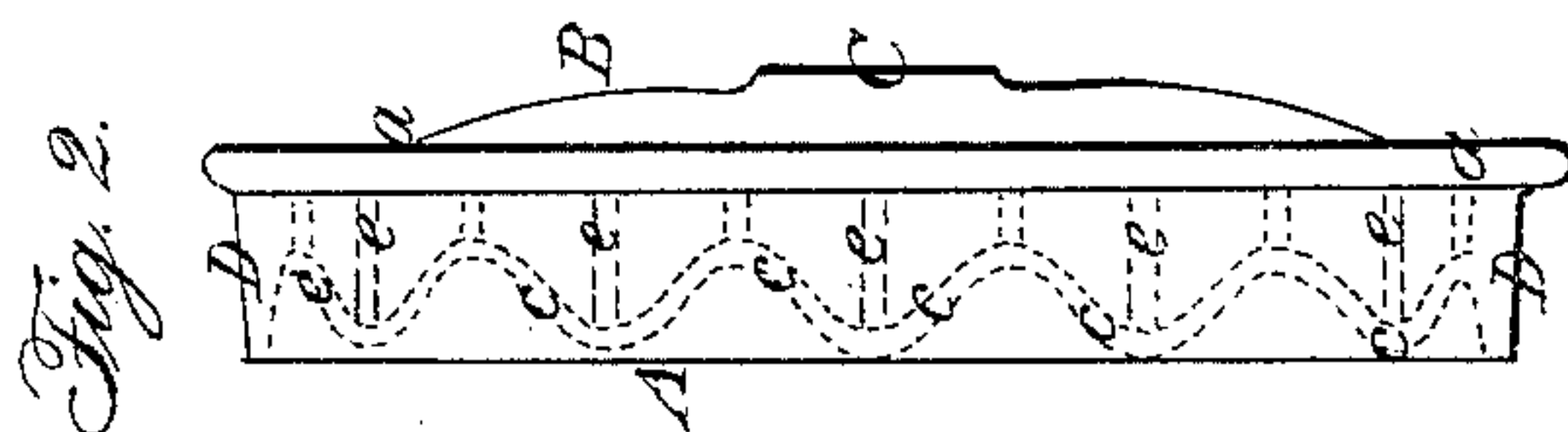
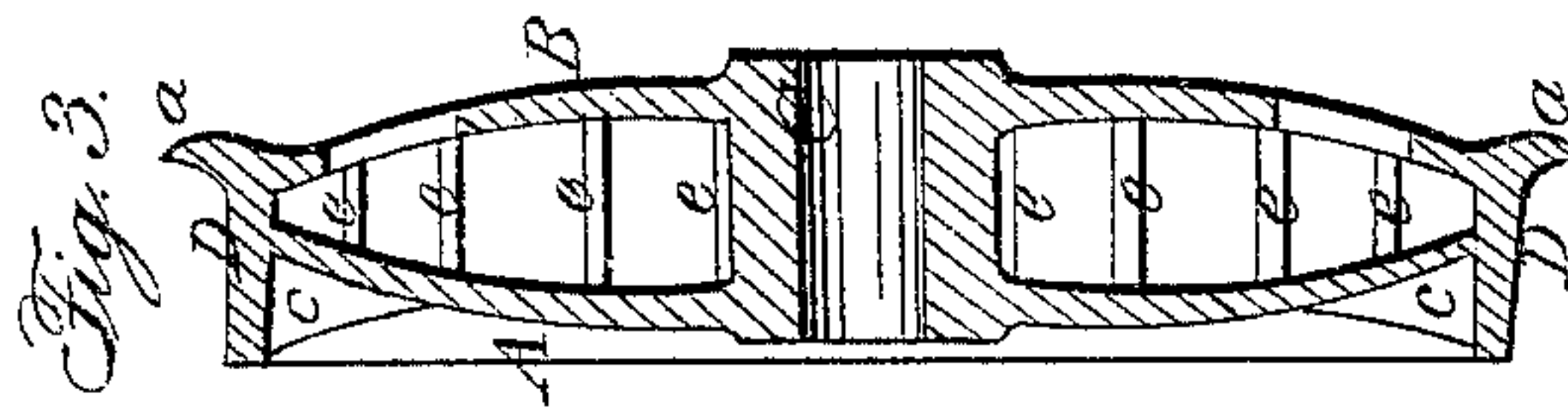


W. W. SNOW.

Car Wheel.

No. { 484, {
31,488. }

Patented Feb. 19, 1861.



Witnesses:

E. Cohen
Julius Hirsch }

Inventor:

William W. Snow
By Atty. H. B. Stoughton

UNITED STATES PATENT OFFICE.

WILLIAM W. SNOW, OF JERSEY CITY, NEW JERSEY.

CAR-WHEEL.

Specification of Letters Patent No. 31,488, dated February 19, 1861.

To all whom it may concern:

Be it known that I, WILLIAM W. SNOW, of Jersey City, in the county of Hudson and State of New Jersey, have invented certain
5 new and useful Improvements in the Construction of Car-Wheels; and I do hereby declare that the following is a full, clear, and exact description of the same, reference
10 being had to the accompanying drawings, making a part of this specification, in which—

Figure 1, represents a perspective view of the wheel, taken from its front side. Fig. 2,
15 represents an edge view showing the folds of the corrugated plate, as they appear on the tread of the wheel—said folds, or corrugations being dotted in. Fig. 3, represents a vertical transverse section through the wheel.

20 Similar letters of reference where they occur in the separate figures denote like parts in all the drawings.

It is found in practice, that a double plate car wheel, is much superior to a single
25 plate wheel, for two reasons—first because there is more certainty of chilling without damaging the wheel; and secondly that when a double plate wheel cracks, or is likely to give way, it will be detected before
30 any serious damage is done, as one plate may be sound enough to support the tread, while the wheel will under the tap of the hammer indicate a crack or break, without actually giving way, as a single plate
35 would do under similar circumstances. The main difficulty with a double plate wheel is in adapting it to an outside journal wheel, as the position of the hub to the rim becomes changed in such an application of
40 them, and makes a bad union between the hub plates, and rim of the wheel, and a wide space between them at the rim, where the greatest strain and wear comes—the consequence of which is that the wheels often
45 split open on the tread. The double plate inside journal wheel is subject to the same difficulty but in a less degree, the space between the plates not necessarily being so wide.

50 My invention has for its object the overcoming of the above-named objections to the double plate wheel, while I preserve all the advantages due to that form of wheel. In the construction of my wheel I give perfect
55 uniformity in the length of the two plates, and the equal distribution of the

metal;—providing for contraction and expansion, without unequal strain. It is well known to wheel makers, that the plate that is top when cast is much the weakest, and
60 first to break, the iron cooling more rapidly. My combined, convex and corrugated plate, being much stronger than the convex alone, I cast up thus equalizing the two; and the
65 uniting point of the convex and corrugations serves to radiate the heat from hub to rim.

I am aware that a double plate wheel has been made with its back plate corrugated, but this brings the corrugations near the
70 flange of the wheel where strength is not required, and when used as an outside journal wheel produces unequal length of plates which causes a great strain besides making a bad wheel otherwise—the front plate be-
75 ing made concave to keep it near to the back plate. Such a wheel I lay no claim to.

My invention consists in making a double plate car wheel, the back of which is a plain
80 convex plate and the front plate of which is convex in form, with folds or corrugations, where it joins the rim, that run in a waved or zig zag line across the rim to give it strength, the other parts of the wheel be-
85 ing made and united as shown in the drawing.

To enable others skilled in the art, to make and use my invention I will proceed to describe the same, with reference to the
90 drawings.

A, represents the front, and B, the back plate of the wheel. They are united at the center to form the hub C, and extend thence in a convex form toward the rim D, where the
95 plate B, unites with the flange A, while the plate A near its periphery is run out into a series of folds or corrugations C, that cross in a waved or zig zag lines, the rim or tread of the wheel as shown by the dotted
100 lines in Fig. 2, so that it would be impossible for the wheel to split on the tread, while the corrugations come immediately under or behind where all the strain is thrown upon the wheel. The corrugations
105 upon the back plate would it is true strengthen the flange of the wheel, but the flange sustains but little strain, and does not require strength beyond what it has within itself, but the tread does require all the strength that can be given to it, within
110 reasonable limits, so far as weight of metal is concerned, and hence I corrugate the face

plate and not the back plate of the wheel. I have also represented ribs *e*, across the tread these have been used before in other wheels, and I lay no claim to them individually.

Having thus fully described the construction of my car wheel, what I claim therein as new is—

Uniting the hub and rim of a car wheel by two plates, the front one being corru-

gated near its perimeter so as to cross the rim or tread in a waved line, and the back plate being convex and uniting with the flange, and the whole constructed substantially as set forth and for the purpose specified.

WM. W. SNOW.

Witnesses:

J. I. SCOTT,

DAVID BEDFORD.