J. BAKER.

Car Wheel.

No. 10,062. Patented Oct. 4, 1853.

Fig. 1.

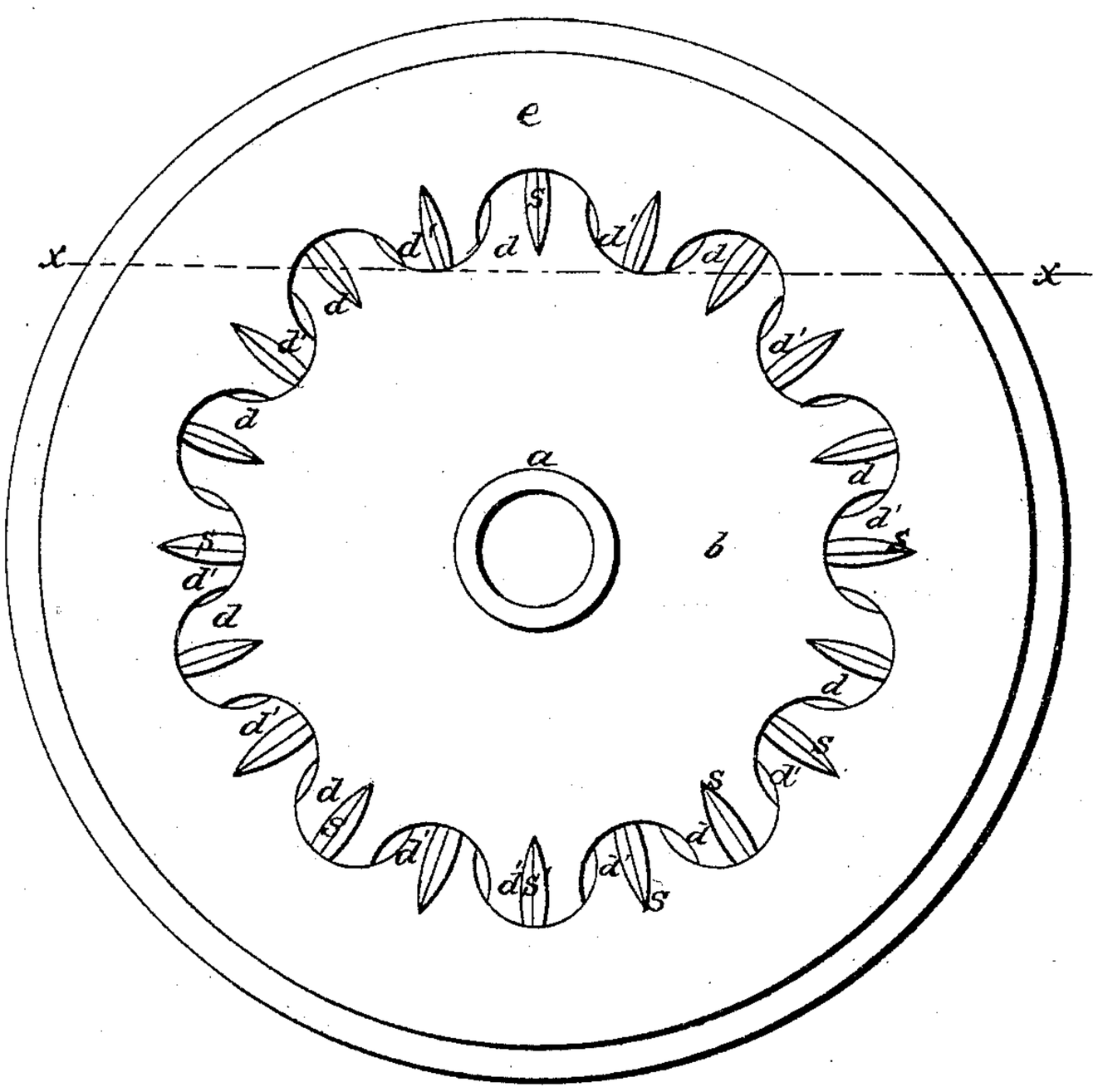


Fig. 2.

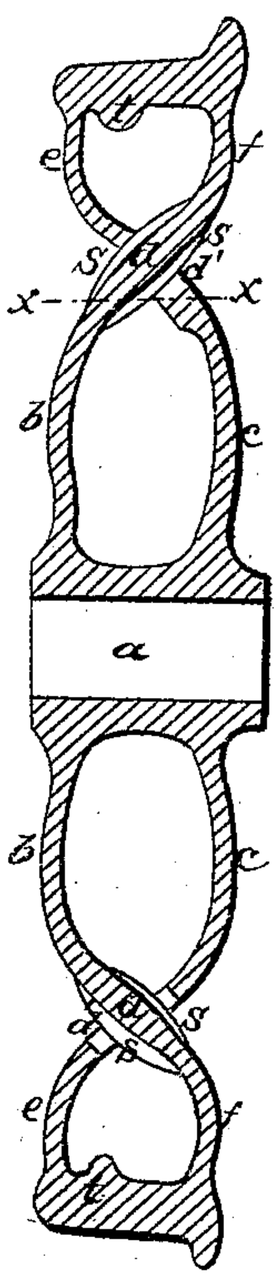
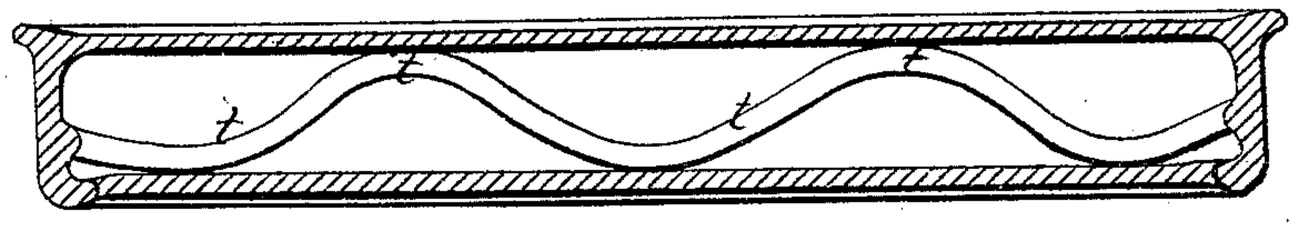


Fig. 3.



UNITED STATES PATENT OFFICE.

JOEL BAKER, OF BOSTON, MASSACHUSETTS.

CAR-WHEEL.

Specification of Letters Patent No. 10,062, dated October 4, 1853.

To all whom it may concern:

Be it known that I, JOEL BAKER, of the city of Boston, in the county of Suffolk, in the State of Massachusetts, have invented a new and Improved Railroad-Car Wheel; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings and to the letters of reference marked thereon.

The nature of my improvement consists in making rail road car wheels of two distinct convex hub plates and two distinct rim plates, each being connected by a number of short small branches, which pass through opening of the opposite convex plate up to the rim plate, interlacing the convex and rimplates at proper intervals, in such a manner as to form a whole compact wheel of great strength, and at the same time giving each plate the greatest amount of curvilinear surface from the hub to the tread of the rim, without any interposing connection, whereby the greatest extent of expansion and contraction as well as elasticity is obtained.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction.

In the accompanying drawing Figure 1 represents a side view of the wheel; Fig. 2 a section of the same. Fig. 3 shows the inside of the rim with the worm rib.

I construct my wheel in the following manner: The convex plates *b* and *c* see Fig. 1 and Fig. 2 are extended up from the hub *a* to three fourths of the entire distance between the hub *a* and rimplate *e*, at that point (shown in the drawing by dotted lines *x x* Figs. 1 and 2) each convex plate has a number of short branches *d*, *d*, *d*, *d*, &c., and *d′*, *d′*, *d′*, *d′*, which are arranged in such a manner that the branch of one plate comes opposite to the opening cut out between two branches on the other plate, and allowed to pass alternately from one convex-plate, to the rim-plate on the opposite side, as shown in Fig. 2, when the convex plate *b*, extends up to the dotted line *x x* at the point when the short branches *d* and *d′* begin. The short branch *d* of plate *b* extends through the opening of plate *c*, over and on the rimplate *f;* the short branch *d′* of convex plate *c* passes beyond the short branch *d* up and on to the rimplate *e*, interlacing it all around and connecting the convex plates and rimplates alternately and forming a strong and thoroughly braced wheel. To strengthen the short branches, I make them at the point where they project from the convex plate gradually thicker to the point of intersection, and I cast upon each side of such a branch a fin or flange as shown in Figs. 1 and 2 marked *s′*, *s′*, *s′*, to increase their strength.

In order to strengthen the tread of the wheel I cast a worm rib *t* on the inside of it as shown in Fig. 2 and Fig. 3. This worm rib not only strengthens the tread in the center but at various points.

In constructing car wheels in the above described manner, I require only one annular core, whereby the manufacture is rendered more simple and cheaper than in those wheels when two cases are necessary.

Various attempts have been hitherto made to construct car wheels in such manner that the contraction in cooling shall not break the metal or cripple it in any way, but I am not aware that any attempt has been made to connect the convex portion of one side of the wheel with that portion of the rimplate opposite to it, while each convex plate acts independently of the other.

What I claim therefore as my improvement in car wheels is—

The connection and intersection of the convex and rim plates by independent and interlacing branches substantially in the manner and for the purposes set forth.

JOEL BAKER.

Witnesses:

CH. L. FLEISCHMAN,

CHAS. G. PAGE.