

E. STILES.
RAILROAD CAR WHEEL.

No. 76,844.

Patented Apr. 14, 1868.

Fig: 2.

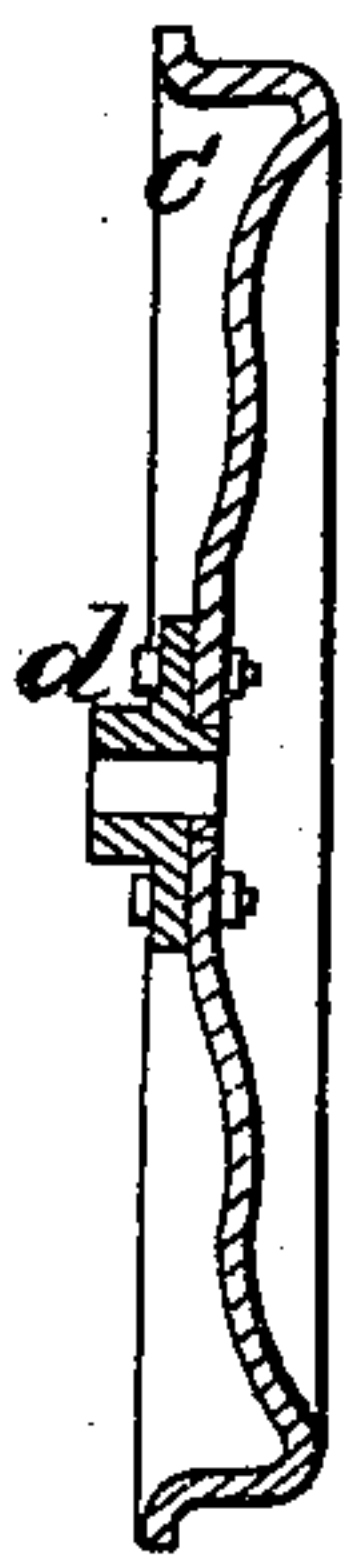


Fig: 3.

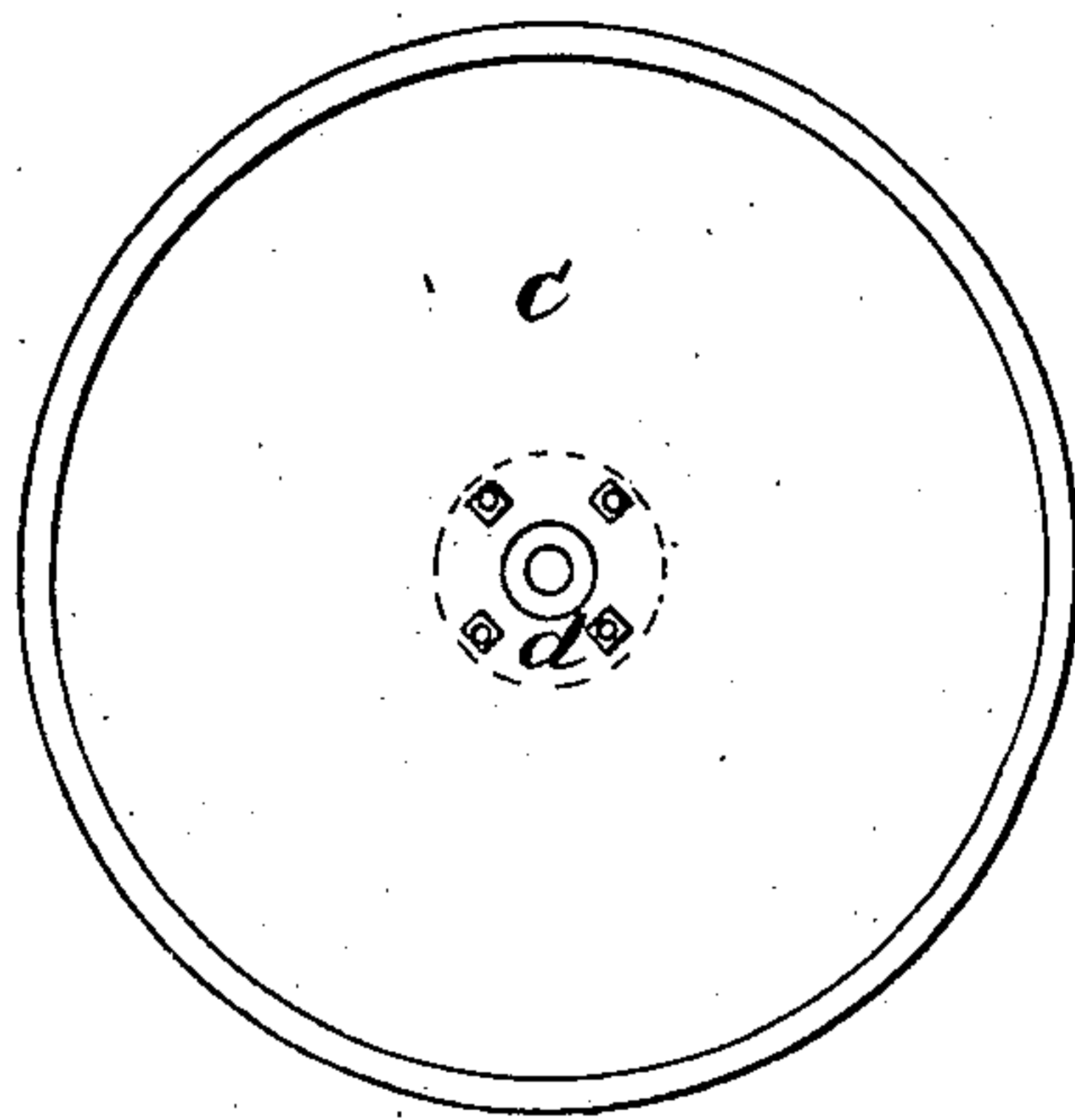
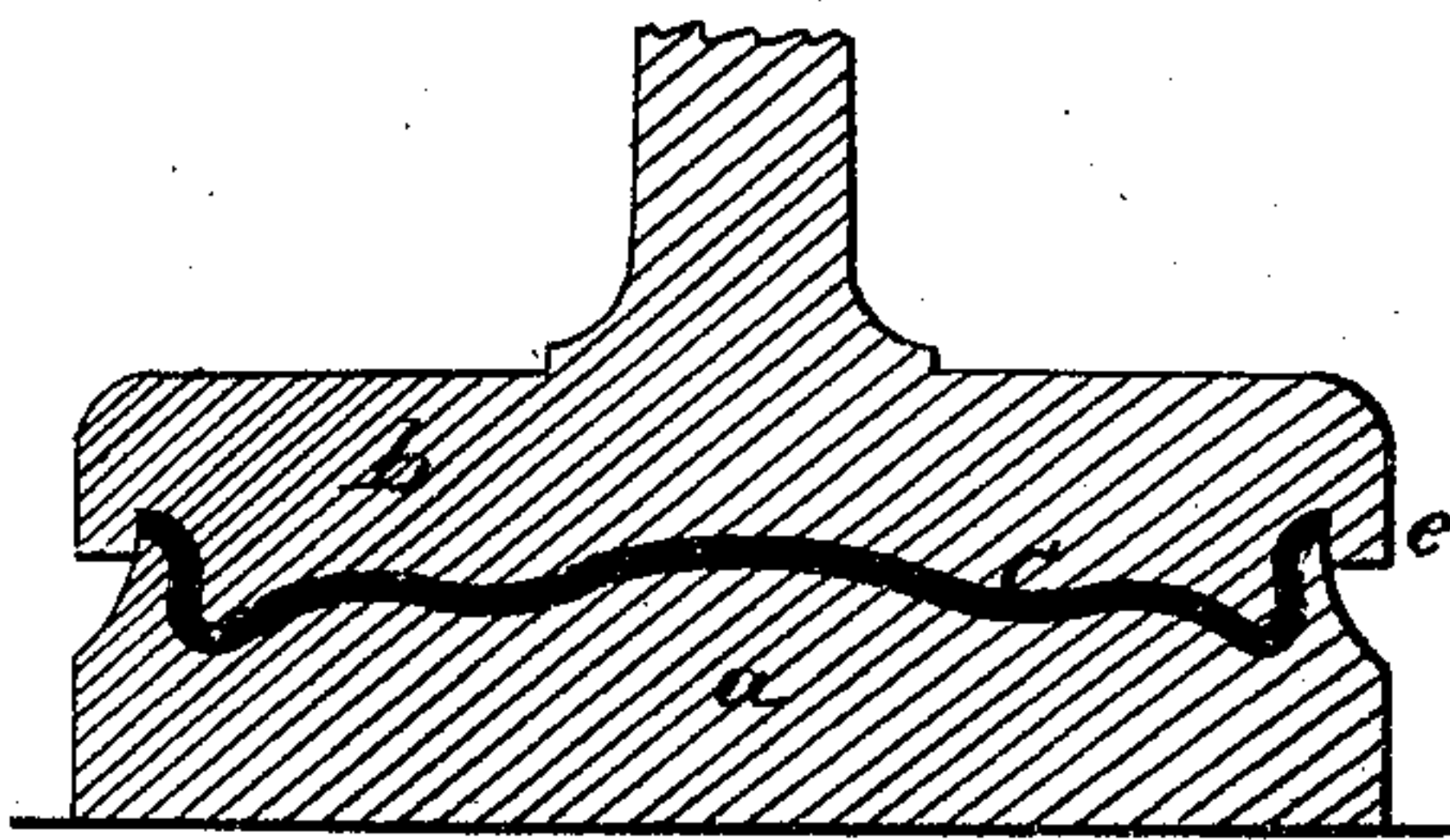


Fig: 1.



Witnesses;
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Inventor;
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United States Patent Office.

EZRA STILES, OF NEW YORK, N. Y.

Letters Patent No. 76,844, dated April 14, 1868.

IMPROVED RAILROAD-CAR WHEEL.

The Schedule referred to in these Letters Patent and making part of the same.

TO WHOM IT MAY CONCERN:

Be it known that I, EZRA STILES, have invented an Improvement in the Manufacture of Steel Car-Wheels for Railroad-Cars, said wheels being adapted more especially to horse-cars; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being made to the annexed drawing, making a part of this specification, in which—

Figure I is a sectional view of the dies in the act of compressing the steel plate.

Figure II is a sectional view of the wheel finished.

Figure III is a side view of the finished wheel; and

Similar letters indicate similar parts throughout the figures.

My invention consists in forming the whole wheel at one operation, with the exception of the "hub" or nave, which latter, in consequence of the lightness of the material, must be subsequently attached.

The tread and body of the wheel are formed at one operation, by being compressed between a pair of dies of suitable shape and construction to give the required size and form.

The dies consist of two parts, an upper and lower die, the lower part to be of cast iron, sufficiently massive and heavy to resist the compression to which it will be subjected by the blow of the upper part. The concavity of this lower half is of the shape of the intended wheel, that is to say, the tread and centre or body. In case the body is to be corrugated, then the die will have the necessary depressions and elevations to produce that result.

The upper die is to be the counterpart in reverse, and so formed as to drop within the lower die, leaving however, sufficient space for the steel plate.

A plate of steel, of the size and thickness from which to produce the intended wheel, is then heated to a bright red, and, being laid upon the lower die, the upper is brought down upon it in the usual manner of operating a drop-press. At *a* is the lower die, and at *b* the upper one, shown in the act of forming the steel plate at *c*, the mechanism of all these parts being common to such machines.

In order that the flange may be truly circular, the upper half of the die overlaps the circumference of the lower half, and thus forms a shear, as seen at *e*, to trim off the surplus metal, and give a true and neat finish to the wheel.

The plate *c* is now to be removed, and the central hole formed, (if it has not already been done by means of a punch in the drop *b*.) A "hub," of suitable shape, is now to be bolted on the wheel, as shown at *d*. The wheel is now complete, and ready for attachment to the axle in the usual manner.

I claim as new, and of my invention—

The within-described car-wheel, formed of a plate of metal of uniform thickness, by bending and swaging the same in dies, as herein set forth, and having a hub attached thereto, substantially as and for the purposes herein set forth.

In witness whereof, I have hereunto subscribed my name.

EZRA STILES.

Witnesses:

S. H. MAYNARD,
A. F. BRITTON.