

W. W. BERGSTRESSER.

Car Wheel.

No. 1,470.

Patented Jan. 11, 1840.

Fig. 1.

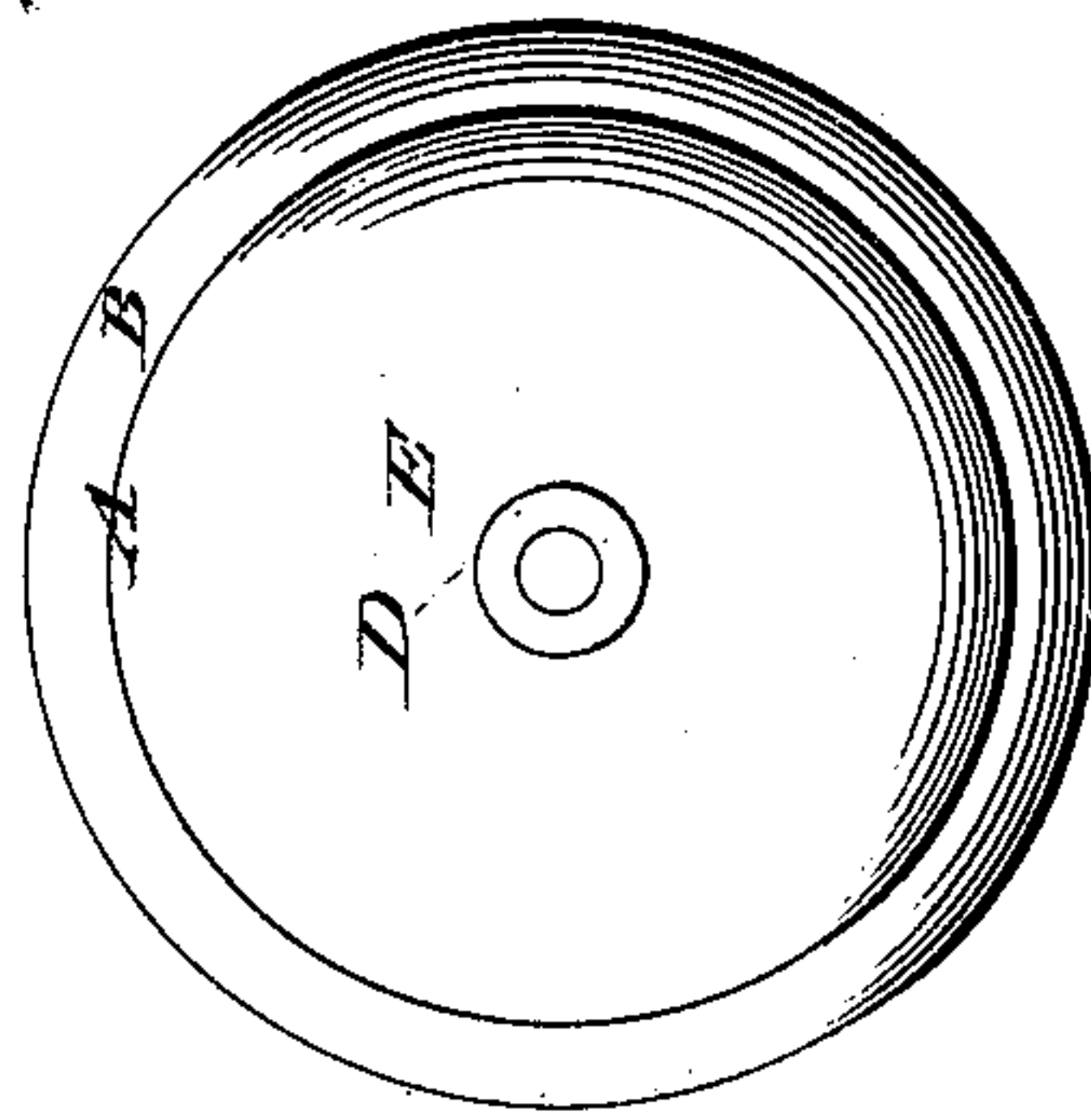


Fig. 3.

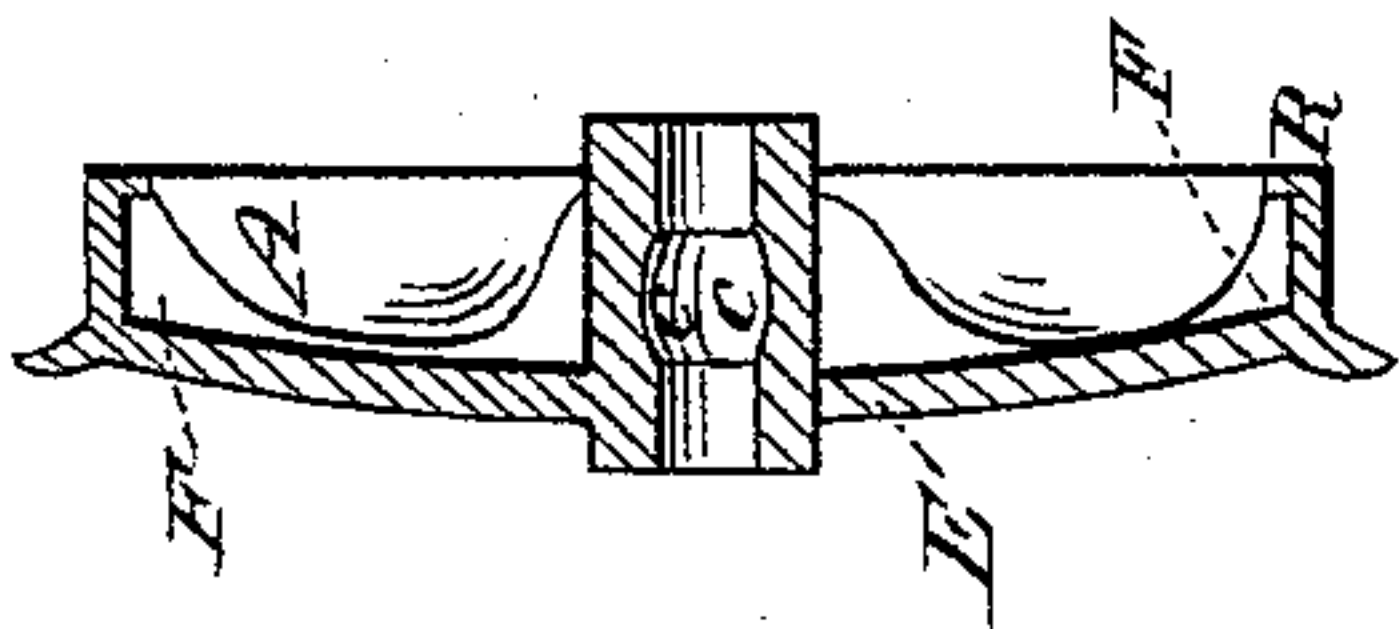


Fig. 4.

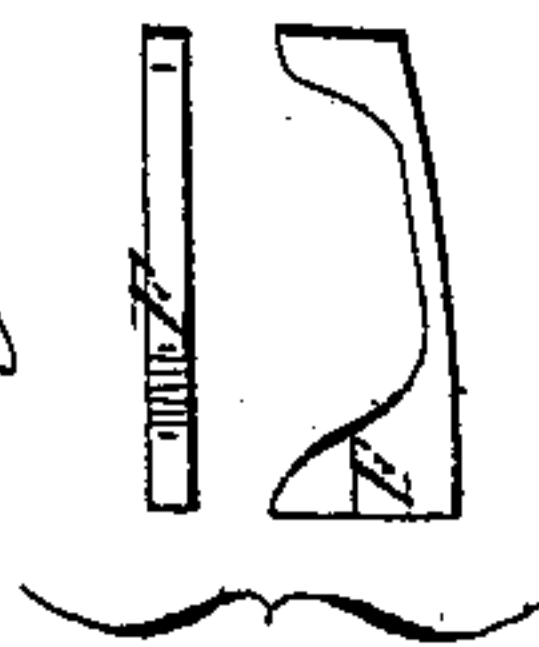
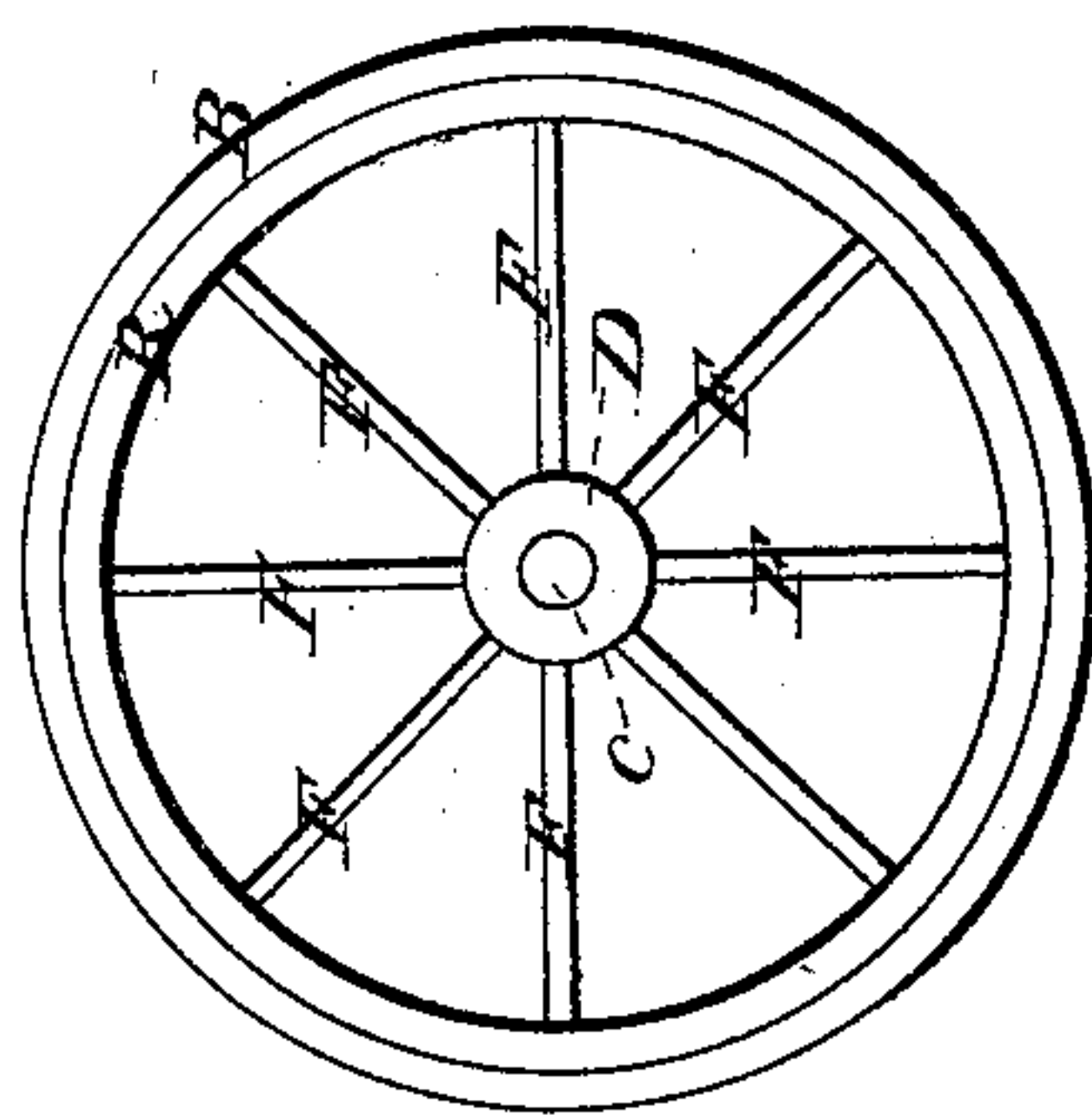


Fig. 2.



UNITED STATES PATENT OFFICE.

WM. W. BERGSTRESSER, OF HARRISBURG, PENNSYLVANIA.

CAST-IRON RAILROAD-CAR WHEELS.

Specification of Letters Patent No. 1,470, dated January 11, 1840.

To all whom it may concern:

Be it known that I, WILLIAM W. BERGSTRESSER, of Harrisburg, in the county of Dauphin and State of Pennsylvania, have
5 invented a new and useful Improvement in
Wheels for Railroad-Cars, which is described as follows, reference being had to the annexed drawings of the same, making
part of this specification.

10 The nature of this improvement consists
in casting the car wheel of a certain peculiar form by which the wheel is rendered not
only stronger and more durable but is prevented from breaking in cooling by the unequal
15 expansion and contraction of the metal.

To enable others skilled in the art to make
and construct my improved wheel I will
proceed to describe the mode of making the
20 same.

Figure 1 is the inside of a dish wheel.
Fig. 2 is the outside of a dish wheel. Fig. 3
section of a dish wheel. Fig. 4 represents a
section of one of the spokes.

25 Similar letters refer to similar parts in
the figures.

Having determined on the kind of wheel
I shall adopt I prepare a model of the same,
which will be (if a dish wheel) like that
30 represented in Figs. 1, 2 and 3. The tread A
and flange B are made in the usual manner.
The bore C of the hub D is made greater in
the center than at the ends to cause the metal
to cool quicker which is effected by means of
35 a dry sand core of a corresponding shape
placed in the center. The dish E is made
circular and concave and exactly filling the
space between the inner periphery of the
tread and the outer periphery of the hub.
40 From 8 to 16 spokes shaped like a quarter
baluster or like the figure represented at
Fig. 4 or any similar shape radiate from the
hub to the tread resting against the cavity
of the dish plate. These spokes are de-
45 signed principally for strengthening the
wheel instead of brackets for effecting the
same object used in some of my wheels. A

circular rim R is formed around the inner
periphery of the tread at right angles to the
same for strengthening it without the use of 50
brackets at the angle formed by the union
of the dish plate and the tread.

Mode of casting.—Lay the model on a
board; place a circular chill around the
model; lay a drag around the chill and 55
model; fill in with sand and ram the same
till it be even with the top of the drag, which
is about two inches higher than the chill;
strike the sand level and smooth; put a
board over the whole and clamp this board 60
to the under one; then turn the whole upside
down and remove the board which was at
the commencement the lower board but is
now the upper one; then put a cope on the
drag and over the model; then fill this with 65
sand and ram it in tight; then remove the
drag and draw the model from the sand;
then place a dry sand core of the shape of
the required bore of the hub in the center of
the hub; then replace the cope on the drag; 70
and then pour in the melted metal which
will form the wheel; when sufficiently cool
remove the cope and drive out the core with
a bar of iron to allow the hub to cool and
the wheel will be completed. 75

I would have it understood that I am
aware that rail road car wheels have been
cast in a single piece with a concave disk
uniting the hub and rim and provided with
brackets to sustain the hub and rim, but in 80
these cases the brackets sustaining the hub
are placed on the side of the disk opposite
to those sustaining the rim and I do not
therefore claim this as my invention, but

What I do claim and desire to secure by 85
Letters Patent is—

The concave disk in combination with the
arms or spokes curved in the direction of
the concavity of the disk as herein described
to prevent breakage in cooling.

WM. W. BERGSTRESSER.

Witnesses:

G. W. BOYD,
H. H. LUTZ.