No. 620,478. Patented Feb. 28, 1899.

G. E. MITTINGER, Jr.

SHEET METAL WHEEL.

(Application filed Aug. 30, 1898.)

(No Model.)

Fig. 1.

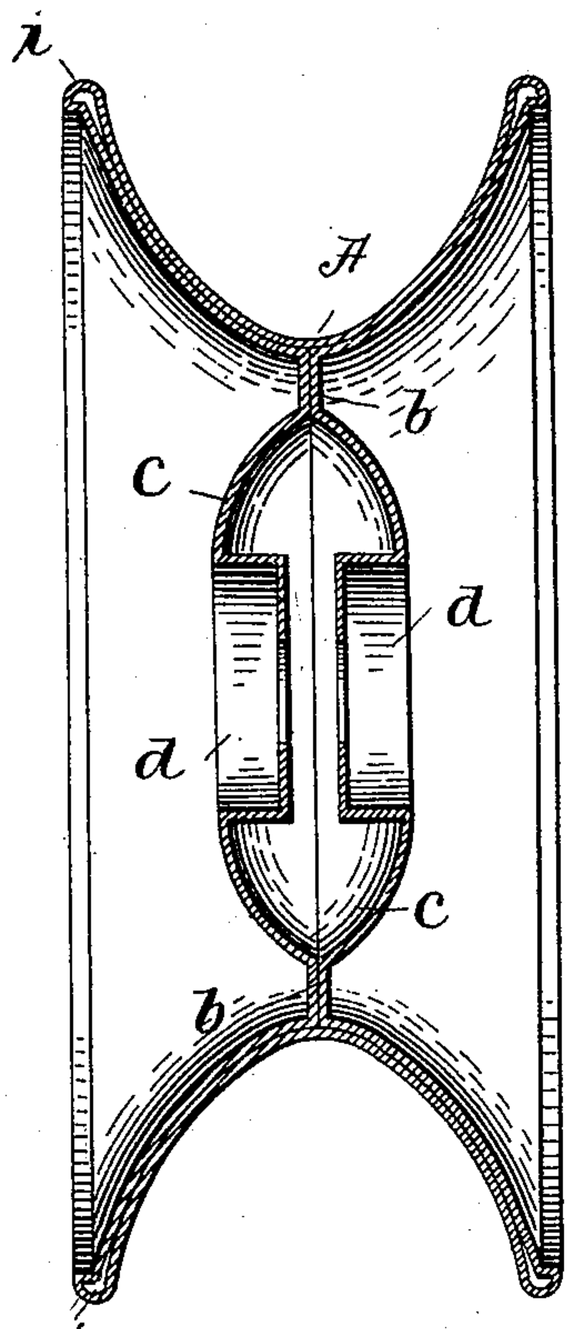


Fig. 3.

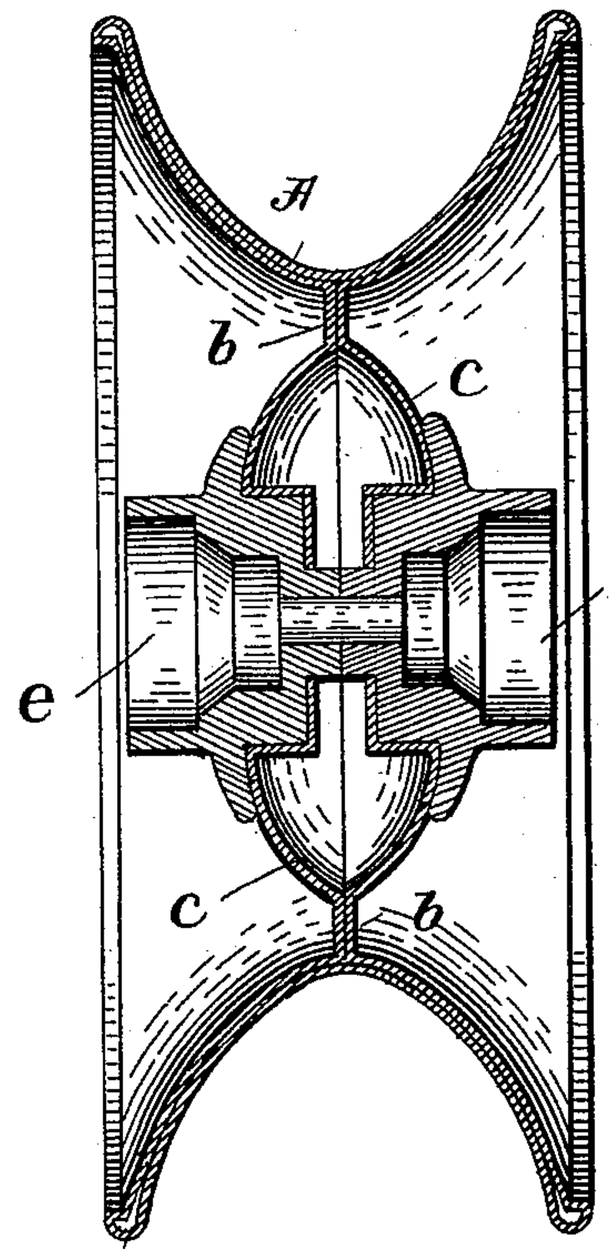


Fig. 2.

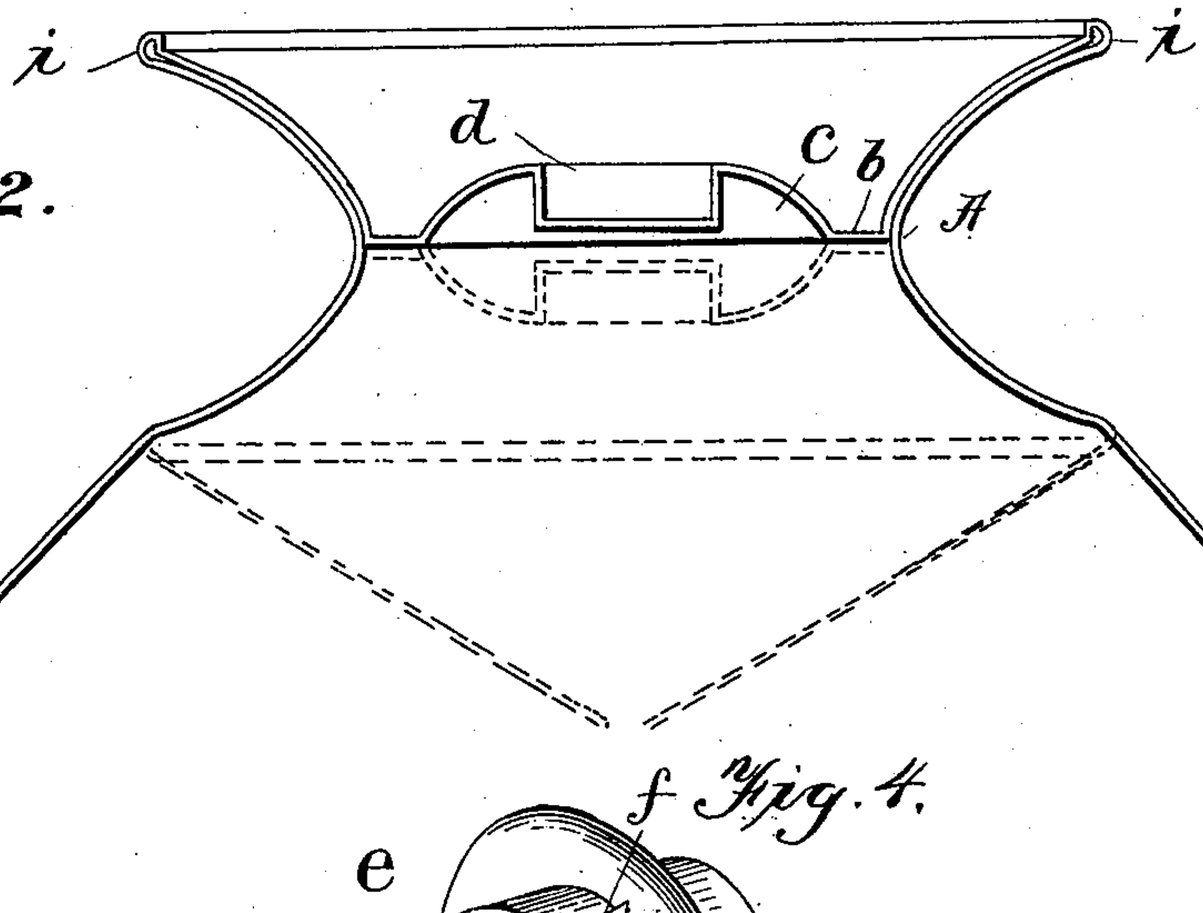
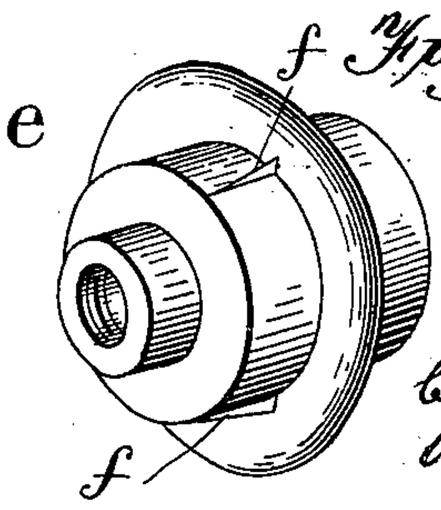


Fig. 4.



WITNESSES

Geo. E. Finch.

Chas. R. Wright Jr.

INVENTOR

George E. Mittinger, Jr.

by A. S. Pattison

Attorney

UNITED STATES PATENT OFFICE.

GEORGE E. MITTINGER, JR., OF CLEVELAND, OHIO, ASSIGNOR OF THREE-FOURTHS TO FREDERICK J. SCHWEITZER, OF SAME PLACE.

SHEET-METAL WHEEL.

SPECIFICATION forming part of Letters Patent No. 620,478, dated February 28, 1899.

Application filed August 30, 1898. Serial No. 689,828. (No model.)

To all whom it may concern:

Be it known that I, GEORGE E. MITTINGER, Jr., a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented new and useful Improvements in Sheet-Metal Wheels, of which the following is a specification.

My invention relates to improvements in sheet-metal wheels, and pertains to a wheel formed from a single sheet of metal and especially intended for use as a trolley-wheel, all of which will be fully described hereinafter and particularly pointed out in the claims.

The object of my present invention is to construct a sheet-metal wheel of a single sheet of metal, whereby the sides and periphery are formed of a single sheet and of double thickness.

In the accompanying drawings, Figure 1 is a cross-sectional view of a sheet-metal wheel embodying my invention. Fig. 2 is a sectional view showing how the sheet-metal plate of Fig. 1 is formed into the finished wheel. Fig. 3 is a transverse sectional view of the finished wheel, showing bearing or shaft blocks in position thereon. Fig. 4 is a detached perspective view of one of the bearings or shaft-blocks.

Referring now to the drawings, A is the periphery of the wheel and which is composed of a double thickness, as shown, thus furnishing a long-lived wearing-surface. The metal is brought together at the point *b* under the center of the periphery, which forms a circular strengthening and supporting ring for the periphery thereof, as will be readily understood. The contour of the wheel then diverges, as shown at *c*, forming a supporting-arch for the ring *b*, and at the center of each side of the wheel it is depressed inward, forming bearing-block chambers or cavities *d*. These bearing-block cavities are adapted to receive the shaft-supporting blocks *e*, as clearly illustrated in Fig. 4. These cavities or chambers are preferably provided with straight walls, as clearly shown, whereby a firm bearing is provided for the bearing or shaft blocks. These bearings or shaft-blocks *e* are preferably provided with longitudinal ribs *f*, as illustrated in Fig. 4, the said ribs adapted to prevent the blocks from having any turning movement after they have been forced into position within their seats or chambers. After the wheel has been formed these bearing-blocks are forced into their cavities, and thus form ways or grooves in the walls of the chambers for the ribs of the blocks, which serve to prevent the blocks from having any turning movement therein, as will be readily understood.

A wheel of the construction here shown being formed from a single sheet, the center of one side is the center of a circular plate of which the wheel is formed and the periphery of the circular plate is the center of the opposite side of the wheel when completed, the plate being doubled at the point *i*, Fig. 1, which is at a point between the center of the circular plate and its periphery, as will be readily conceived by reference to Fig. 3.

A wheel constructed as hereinbefore described is cheap, more evenly balanced than a cast wheel, and being formed from sheet metal is a better electric conductor than cast metal, owing to the fact that the fibers of the metal are condensed and more intimately combined than is possible in cast metal.

While I have described my invention as particularly adapted for use as a trolley-wheel, it will be readily understood that the wheel is equally adapted for many other uses, and I do not therefore limit myself to the use of the invention as a trolley-wheel only.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. As a new article of manufacture, a wheel formed of an unbroken single sheet of metal, the center portion of the sheet forming one side of the central portion of the wheel, the intermediate portion of the sheet forming the periphery of the wheel, and the outer portion of the sheet forming the opposite central portion of the wheel when completed, whereby a wheel is formed without seams and having a double-thickness periphery and central portion, substantially as described.

2. As an improved article of manufacture a sheet-metal wheel composed of a single sheet of metal having the periphery and sides integral, the metal bent backward to form a double-thickness periphery, the center of said integral sides depressed inward to form shaft or bearing block cavities, substantially as described.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

GEORGE E. MITTINGER, JR.

Witnesses:
FREDERICK J. SCHWEITZER,
A. S. PATTISON.