

(No Model.)

H. W. AVERY.
METALLIC WHEEL.

No. 429,408.

Patented June 3, 1890.

Fig1.

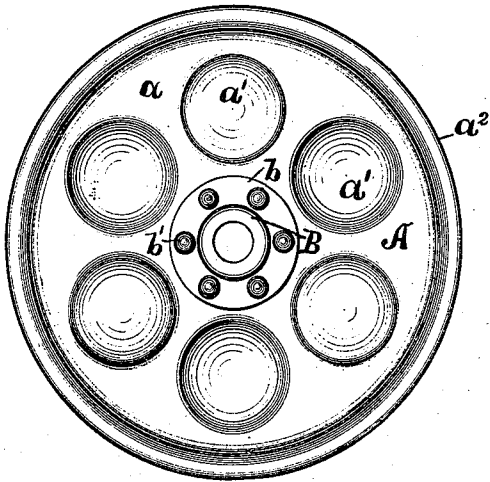


Fig4.

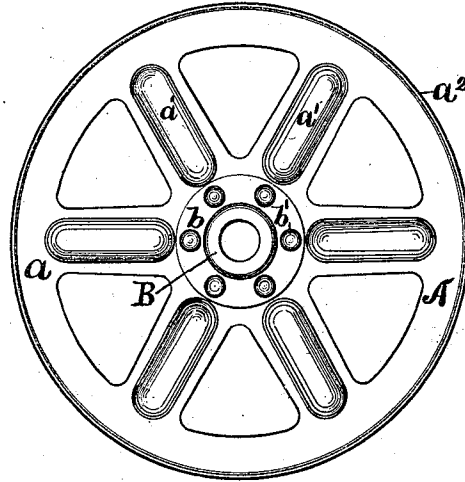


Fig 2.

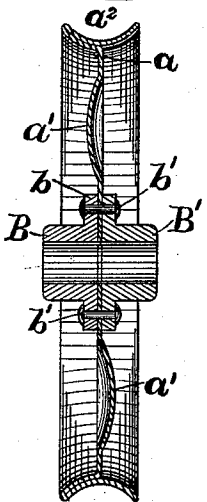


Fig 3.

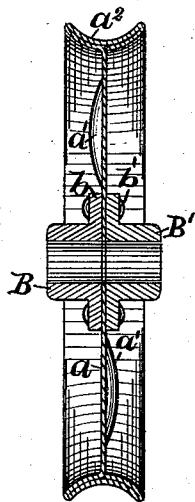


Fig 5.

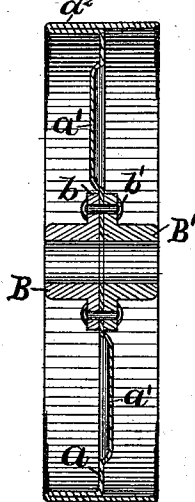
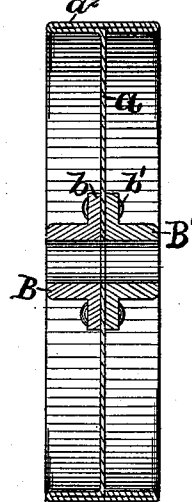


Fig 6.



WITNESSES.

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METALLIC WHEEL.

SPECIFICATION forming part of Letters Patent No. 429,408, dated June 3, 1890.

Application filed October 31, 1889. Serial No. 328,743. (No model.)

To all whom it may concern:

Be it known that I, HENRY W. AVERY, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Metallic Wheels, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings.

My invention relates to that class of metallic wheels of which the greater part is composed of suitably bent sheet metal.

My object has been to produce an efficient and durable wheel at small cost.

Referring to the drawings, Figures 1 and 4 are side elevations of slightly-modified forms of my improved wheel. Figs. 2 and 3 are central sectional views of the form of wheel illustrated by Fig. 1, showing certain modifications in the form of the rim; and Figs. 5 and 6 are similar views of that form of the wheel illustrated in Fig. 4.

Referring to the parts by letter, A represents the wheel-body, having as integral parts thereof the web *a*, provided with alternately-bent corrugations *a'*, of any suitable form, and a folded rim *a''*, which extends to both sides of said web.

Fig. 4 shows a wheel in which part of the web is cut away to form what would perhaps be more properly termed "spokes;" but for uniformity of expression I have termed all that part of both forms of the wheel from the rim inward the "web." In both forms, as shown, portions of *a'* are bent alternately in

opposite directions and form strengthening corrugations.

In Figs. 2 and 5 the rim extends first to one side of the web, and is then folded back upon itself, making a double thick rim on one side and a rim of a single thickness on the other. In Figs. 3 and 6 the rim is still further bent upon itself to form a rim of double thickness on both sides of the web. This adds strength to the wheel, but similarly increases the cost of both manufacture and material.

Any suitable form of hub may be applied to this wheel-body, those shown being intended to represent cast-metal hub-pieces B B', having annular flanges *b*, through which pass the rivets *b'*, by which the hub-pieces are attached to the wheel-body.

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

1. A bent sheet-metal wheel-body having as integral parts thereof a corrugated web and a folded rim which extends to both sides of said web, substantially as and for the purpose specified.

2. A bent sheet-metal wheel-body having as integral parts thereof a corrugated web and a folded rim lying on both sides of said web and doubly thick on both sides thereof, substantially as and for the purpose specified.

HENRY W. AVERY.

Witnesses:

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