(No Model.)

H. F. MANN.

CAR WHEEL.

No. 408,890. Patented Aug. 13, 1889.

FIG. 1.

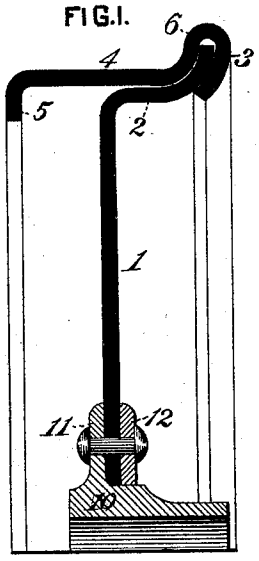


FIG. 2.

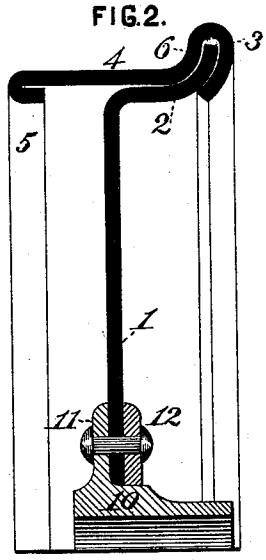


FIG. 3.

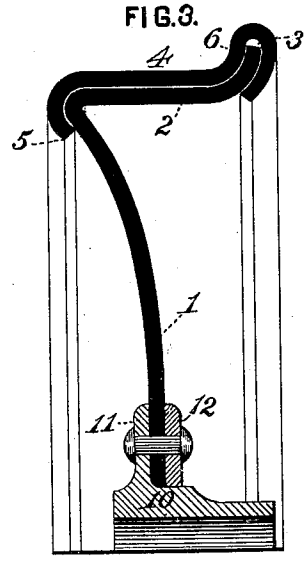


FIG. 4.

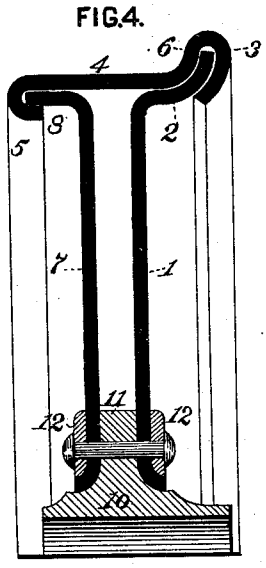


FIG. 5.

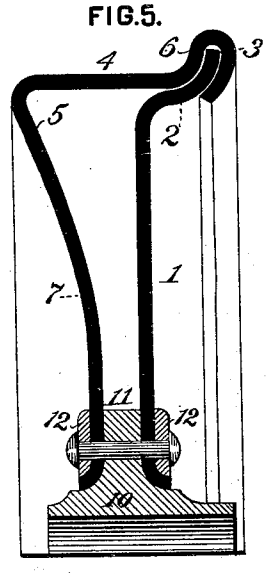
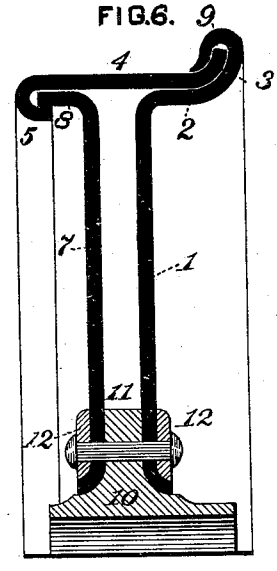


FIG. 6.



WITNESSES.

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HENRY F. MANN, OF ALLEGHENY, PENNSYLVANIA.

CAR-WHEEL.

SPECIFICATION forming part of Letters Patent No. 408,890, dated August 13, 1889.

Application filed December 3, 1888. Serial No. 292,514. (No model.)

To all whom it may concern:

Be it known that I, HENRY F. MANN, a citizen of the United States, residing at Allegheny, in the county of Allegheny and State of Pennsylvania, have invented or discovered certain new and useful Improvements in Car-Wheels, of which improvements the following is a specification.

In an application, Serial No. 290,705, filed November 13, 1888, I have described and claimed a single-plate wrought-iron or steel car-wheel having as its distinguishing characteristic a vein-forced flange, the tread being united with the tread along the outer edge of the former.

The invention described herein relates to certain improvements in the wheel above referred to, and has for its object a construction of wheel wherein the flange is re-enforced, and wherein the web (or one of them, where two are used) is connected with the tread by the fold forming the re-enforce of the flange.

In general terms, the invention consists in the construction and arrangement of parts or elements, all as more fully hereinafter described and claimed.

In the accompanying drawings, forming a part of this specification, Figure 1 is a sectional view of a portion of a single-web wheel embodying my invention. Figs. 2 and 3 are similar views of modifications of the construction shown in Fig. 1. Fig. 4 is a sectional view of a portion of a double web or plate wheel, and Figs. 5 and 6 are similar views of modifications thereof.

In the practice of my invention I take a wrought-iron or steel disk 1, of suitable diameter, and turn a flange along its outer edge, so as to form a shoulder or support 2, of a width approximately equal, more or less, to half the width of tread desired in the finished wheel, plus an amount of metal sufficient to form what I term a "retaining" flange or rim 3. The tread 4 of the wheel is formed by a band of wrought-iron or steel having an inturned strengthening or bracing rib 5 along its outer edge and an outwardly-turned portion along its inner edge, said outwardly-turned portion being approximately equal to twice the depth of the desired wheel-flange. The band thus formed is then slid on over the shoulder 2 of the disk 1, until the retaining-rim 3 bears against the outwardly-turned portion or flange 6. The outer part of this flange 6 is then turned down against the retaining-rim 3, thereby locking the thread to the web portion 1 and forming a complete wheel-flange having a broad edge and doubly re-enforced. It will also be noticed that the portion of the tread normally in contact with the rail is in line, or approximately so, with the web, thereby rendering the tread stronger and more rigid.

If desired, the bracing-rib 5 may be turned inwardly against the inner side of the tread, as shown in Fig. 2. In Fig. 3 is shown a form of my invention wherein the shoulder 2 of the web or disk 1 is made of a width equal or approximately equal to that of the tread of the finished wheel, and the web or disk is dished, as described in the application hereinbefore referred to. The tread 4 and flange 6 are formed and secured in position as hereinbefore described, except that for further security the bracing-rib 5 is turned in and caused to engage the body of the wheel, as shown. This construction is especially applicable for repairing wheels of the kind shown and described in the application hereinbefore referred to, when such wheels shall have become worn or damaged from use.

In cases where the wheel is to be employed in carrying heavy loads I prefer to employ double plates or webs, as shown in Figs. 4, 5, and 6. The supplemental plate 7 is provided with an outwardly-turned flange 8, and the tread 4 is secured thereto by turning the bracing-rib 5 inwardly upon said flange 8, as shown in Figs. 4 and 6; or, if desired, the supplemental plate 7 may be formed integral with the bracing-flange 5, as shown in Fig. 5, or otherwise secured thereto.

In Fig. 6 I have shown a form of wheel wherein the flange of the finished wheel is formed by turning the rim 3 over partial flange 9, formed on the inner edge of the tread 4, thereby forming, as in the other figures, a doubly re-enforced flange for the wheel, but also firmly securing the tread to the body portion of the wheel.

In the single plate or web wheel shown in Figs. 1, 2, and 3 the hub 10 is formed with a collar 11, and the web is secured thereto by a washer

12, and suitable bolts are passed through the collar, web, and washer for holding said parts in proper relation to each other. In the form shown in Figs. 4, 5, and 6 the webs are similarly held on opposite sides of the collar.

If desired, the webs or plates may be lightened and strengthened in the manner set forth in the application hereinbefore referred to.

I claim herein as my invention—

1. A wrought-iron or steel car-wheel having in combination a web provided with a supporting-shoulder, and a tread having its flange interlocked with a rim on the supporting-shoulder by a fold of metal, thereby forming a double re-enforced wheel-flange, substantially as set forth.

2. A wrought-iron or steel car-wheel having in combination a web provided with a supporting-shoulder, and a tread having a flange re-enforced by a fold of metal turned over a retaining-rim on the supporting-shoulder, substantially as set forth.

3. A wrought-iron or steel car-wheel having in combination a web provided with a supporting-shoulder, a tread having its flange interlocked with a rim on the supporting-shoulder by a fold of metal, and a supplemental web connected to the outer edge of the tread, substantially as set forth.

In testimony whereof I have hereunto set my hand.

HENRY F. MANN.

Witnesses:
W. B. CORWIN,
DARWIN S. WOLCOTT.