

(No Model.)

H. F. MANN.  
CAR WHEEL.

No. 408,891.

Patented Aug. 13, 1889.

FIG. 1.

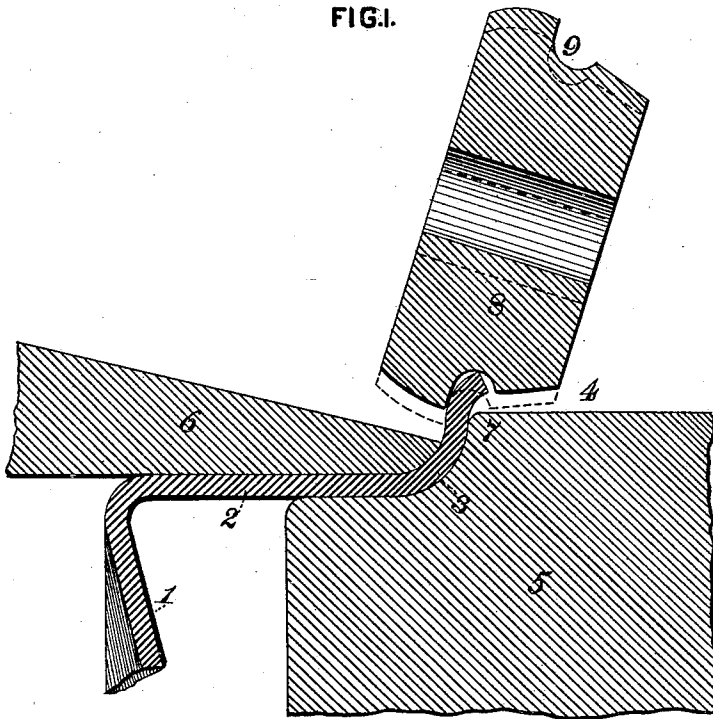
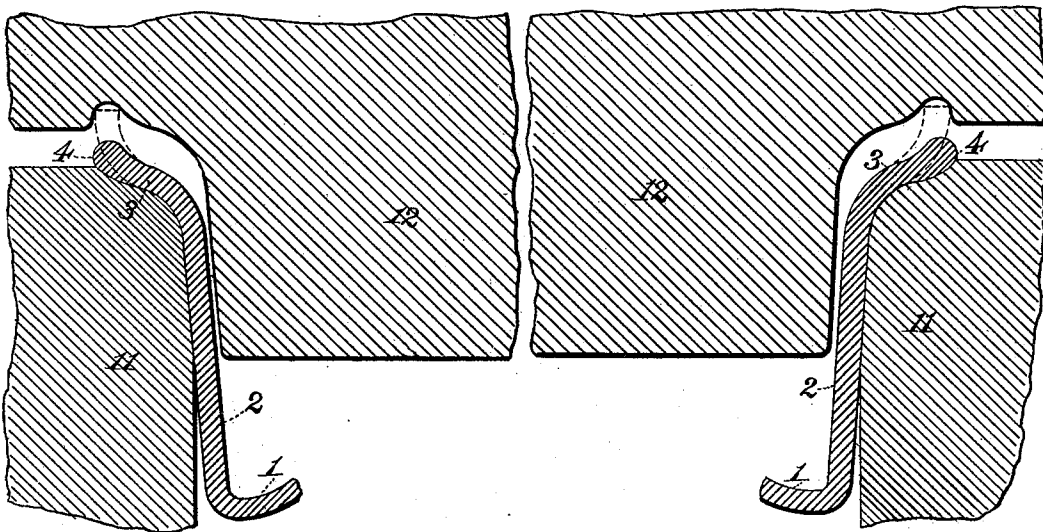


FIG. 2.



WITNESSES:

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Att'y.

# UNITED STATES PATENT OFFICE.

HENRY F. MANN, OF ALLEGHENY, PENNSYLVANIA.

## CAR-WHEEL.

SPECIFICATION forming part of Letters Patent No. 408,891, dated August 13, 1889.

Application filed March 5, 1889. Serial No. 301,958. (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 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 wrought-iron or steel car-wheel wherein provision is made for bracing and strengthening the tread and flange as against radial and lateral strains, respectively, by a fold of metal lying parallel with or against the flange.

The invention herein has for its object the attainment of the same functions by upsetting the edge of the flange, thereby increasing the amount of metal at such edge with a consequent increase of rigidity in the tread and flange portions of the wheel as against lateral and radial strains and a broadening of the bearing-edge of the flange.

The invention will be hereinafter more fully described and claimed.

In the accompanying drawings, forming a part of this specification, Figure 1 is a view in sectional elevation illustrating one method of forming a beaded lip on the flange-edge, and Fig. 2 is a similar view illustrating another method of forming said lip.

In the practice of my invention the edge of a circular disk 1 of suitable dimensions is turned over to or approximately to a right angle to the body of the disk, said turned-over portion being of sufficient width to form not only the tread 2 and flange 3, which is formed by bending outwardly the edge of the portion turned over to form the tread, but also to afford sufficient metal for the formation of a thickened lip or bead 4 on the edge of the flange, as hereinafter described. After the formation of the tread and flange, which can be effected by a suitable flanging-machine or by drop-dies in the manner well known in the art, the wheel is clamped against a rotating die 5 by means of an outside chuck or holder 6, the die and chuck being constructed to so hold and support the tread and flange as to prevent dis-

tortion of said parts of the wheel. The die 5 is further provided with a shoulder 7, over and against which the excess of metal provided at the edge of the flange, as hereinbefore stated, may be turned and upset. Previous to clamping the wheel onto the rotating die, as stated, the flange portion may be heated sufficiently to permit of the working of the edge thereof. A roller 8, having a shaping-groove 9, is next forced against the edge of the flange, thereby bending such edge over the shoulder of the rotating die 5 and simultaneous therewith upsetting the metal of said edge and forming the beaded lip 4, as shown. This bending and upsetting operation may be effected without heating the edge of the flange by a cold-rolling operation, and in lieu of a rotating die and a shaping-roller, as described, an anvil-die 11 and drop-die 12, as shown in Fig. 2, may be employed. This beaded lip 4 produces, by reason of the additional amount of metal provided in the flange-edge and the disposition thereof, an increased rigidity in the flange as against lateral strains, and also supports and braces the tread as against radial shocks and strains; and, further, the head affords a broad bearing-surfaces on the edge of the flange, such as will prevent any cutting or denting of the rails, cross-ties, platform or the flange-edge sill when a hand-car, truck, or other similar vehicle or part thereof is removed from its normal position on the rails.

The invention described herein is not limited to a wheel having the web formed integral with the tread, as it is equally applicable to that class of wheels in which the web is formed of wooden spokes or an independent metal plate secured to the tread, as described and shown in the application hereinbefore referred to.

I claim herein as my invention—

1. A wrought-iron or steel car-wheel having its flange-edge upset, thereby forming a re-enforcing bead or enlargement bracing the flange as against the shocks or strains to which it is normally subjected, and increasing its edge bearing-surface, substantially as set forth.

2. A wrought-iron or steel car-wheel hav-

ing, in combination, a web, a tread connected  
at its outer edge to the web, and a flange  
having its outer edge upset, thereby forming  
a thickened lip or bead along its edge for  
5 the purpose of re-enforcing the flange as  
against the shocks or strains to which it is  
normally subjected and increasing its bear-  
ing-surface, substantially as set forth.

In testimony whereof I have hereunto set  
my hand.

HENRY F. MANN.

Witnesses:

DARWIN S. WOLCOTT,  
R. H. WHITTLESEY.