

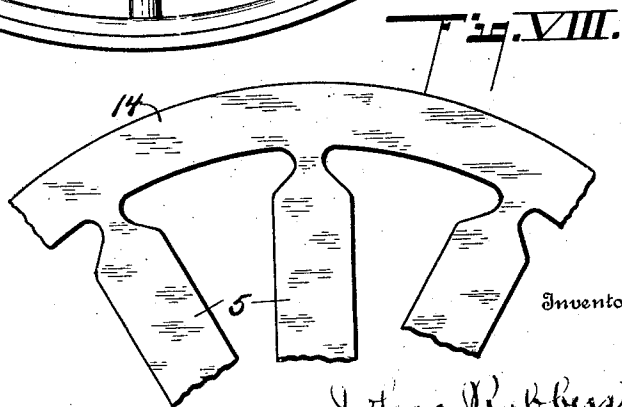
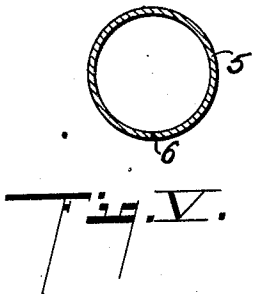
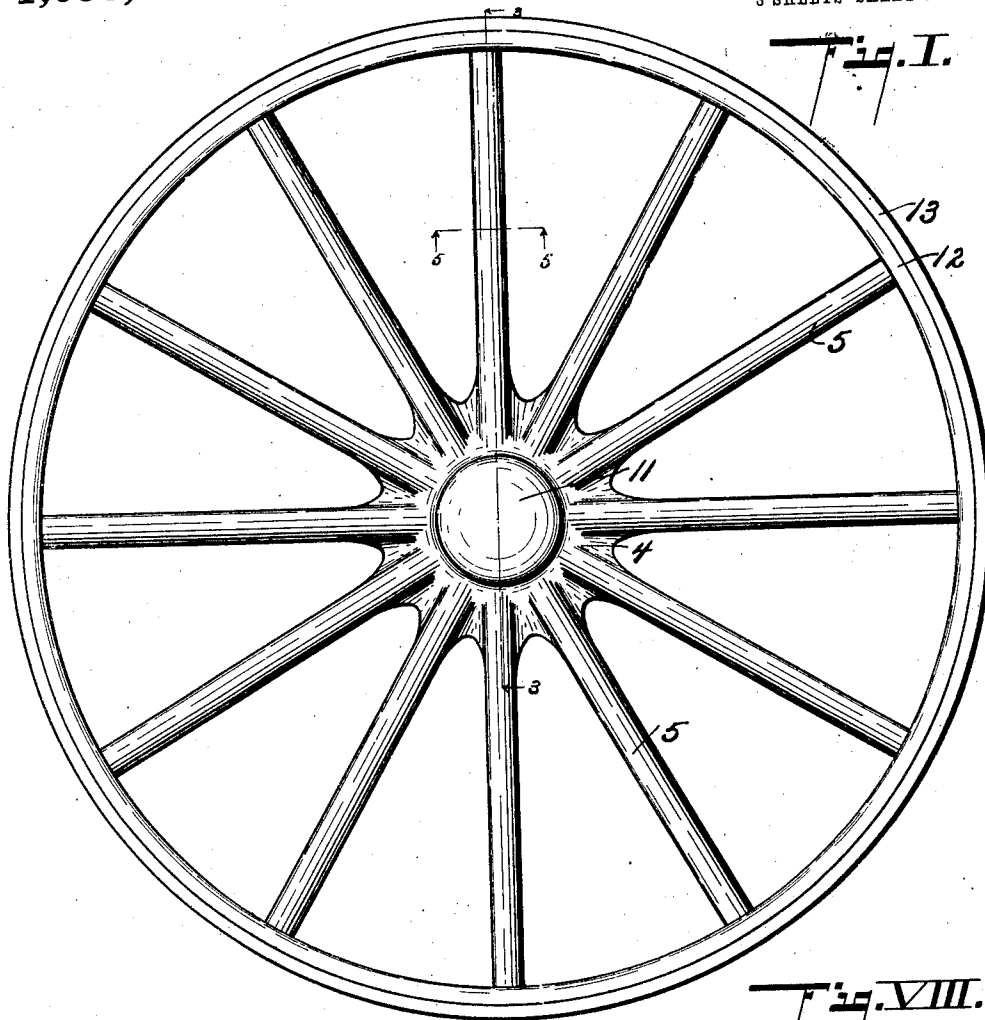
J. RABBERS.
WHEEL.

APPLICATION FILED AUG. 10, 1910.

Patented Apr. 8, 1913.

3 SHEETS-SHEET 1.

1,058,332.



Witnesses
F. Gertrude Tallman
M. China Woodruff

By

John Rabbers
Attorney

J. RABBERS.

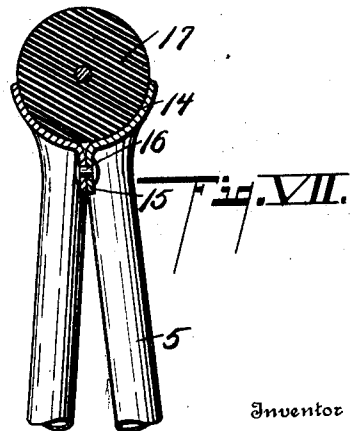
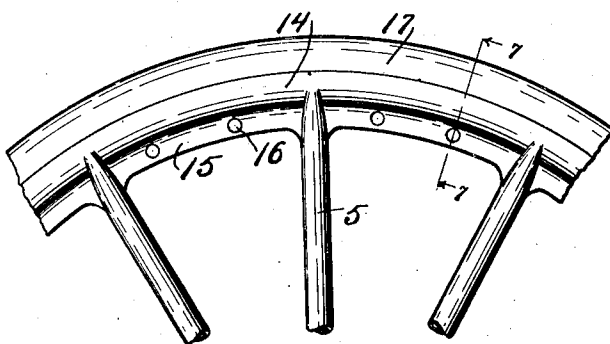
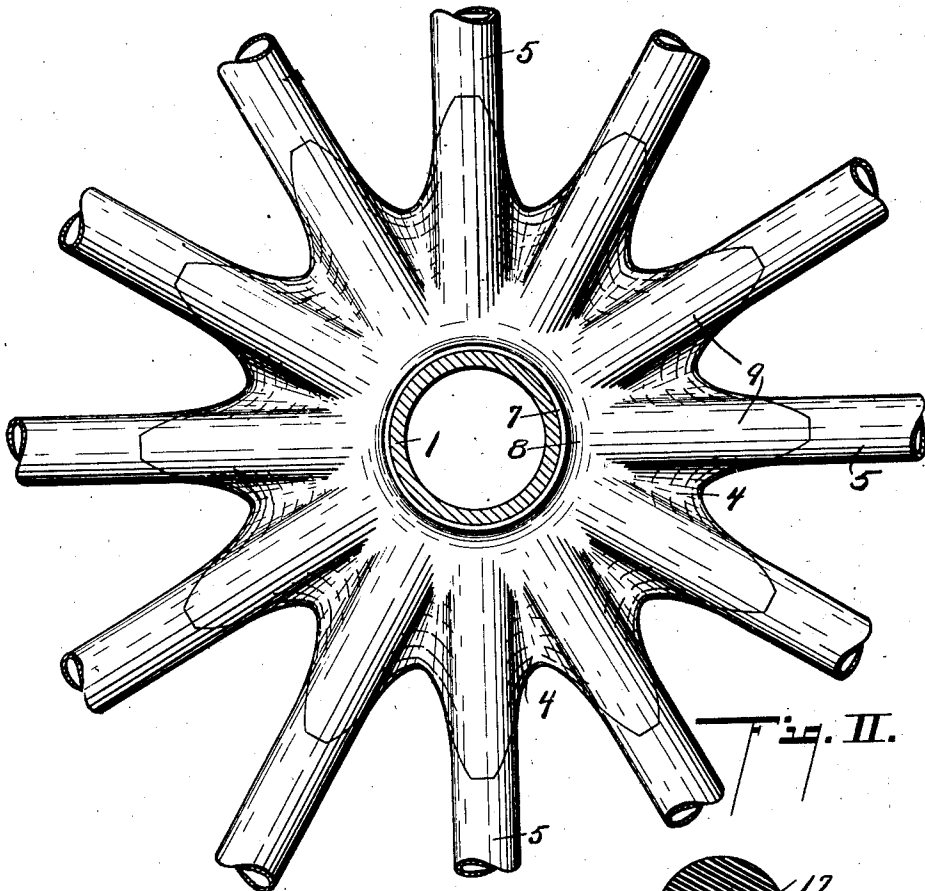
WHEEL.

APPLICATION FILED AUG. 10, 1910.

Patented Apr. 8, 1913.

3 SHEETS-SHEET 2.

1,058,332.



Witnesses

F. Gertrude Tallman

M. Phineas Woodruff

By

John Rabbers
Chapman & Co.

Inventor

Attorneys

J. RABBERS.

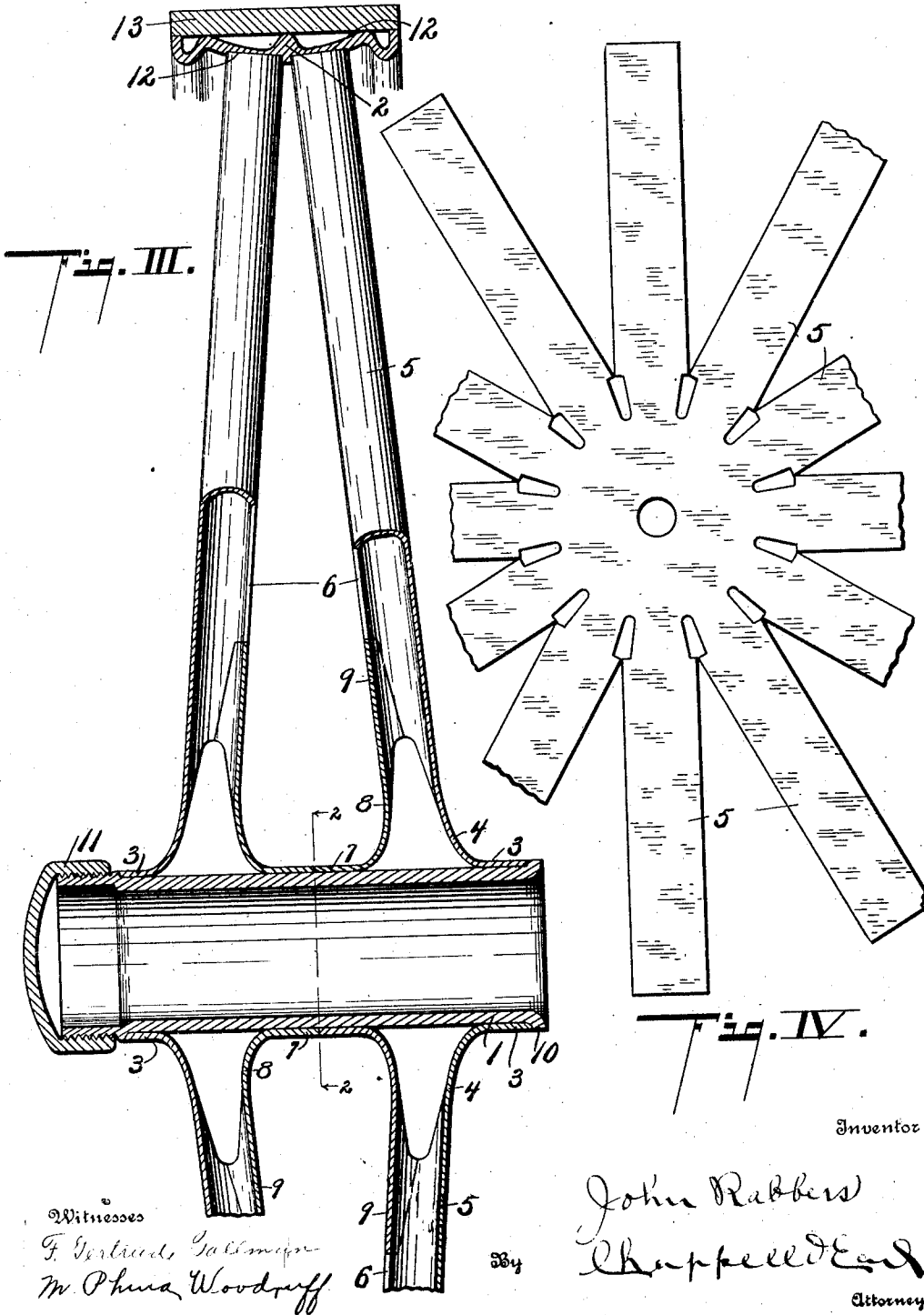
WHEEL.

APPLICATION FILED AUG. 10, 1910.

Patented Apr. 8, 1913.

3 SHEETS-SHEET 3.

1,058,332.



UNITED STATES PATENT OFFICE.

JOHN RABBERS, OF GRAND RAPIDS, MICHIGAN.

WHEEL.

1,058,332.

Specification of Letters Patent.

Patented Apr. 8, 1913.

Application filed August 10, 1910. Serial No. 576,510.

To all whom it may concern:

Be it known that I, JOHN RABBERS, citizen of the United States, residing at Grand Rapids, Michigan, have invented certain new and useful Improvements in Wheels, of which the following is a specification.

This invention relates to improvements in wheels.

The main objects of this invention are to provide an improved wheel formed largely of sheet metal which is strong and durable, light in weight, economical, and attractive in appearance.

Further objects and objects relating to structural details will definitely appear from the detailed description to follow.

I accomplish the objects of my invention by the devices and means pointed out in the following specification.

The structure described constitutes one effective embodiment of my invention. Other embodiments will be readily apparent to those skilled in the art.

The invention is clearly defined and pointed out in the claims.

A structure constituting an effective and preferred embodiment of the features of my invention is clearly illustrated in the accompanying drawing, forming a part of this specification, in which:

Figure 1 is a side elevation of a structure embodying the features of my invention. Fig. 2 is an enlarged detail vertical section taken on a line corresponding to line 2—2 of Fig. 3. Fig. 3 is an enlarged detail vertical section taken on a line corresponding to line 3—3 of Fig. 1. Fig. 4 is a detail view of a blank from which one of the spoke members is formed. Fig. 5 is a cross section through one of the spokes, taken on a line corresponding to line 5—5 of Fig. 1. Fig. 6 is a detail side elevation of a modified construction, the modification being in the rim. Fig. 7 is a detail section through the rim, taken on a line corresponding to line 7—7 of Fig. 6. Fig. 8 is a detail view of the blank of the modified structure of Figs. 6 and 7.

In the drawings similar numerals of reference refer to similar parts throughout the several views and the sectional views are taken looking in the direction of the little arrows at the ends of the section lines.

Referring to the drawings, I provide a hub barrel 1 of metal, and also a metal rim 2. The structure illustrated is provided with

a pair of spoke members, each comprising a hub sleeve or member 3, spoke flange 4, and spokes 5, formed integrally of sheet metal. The spoke flange 4 is at the inner end of the hub sleeve. These spoke members are formed of blanks, shown in Fig. 4, the blanks being first stamped out in the flat and then formed up.

The spokes 5 are tubular in form, as illustrated, and in the preferred construction the edges of the metal are welded together on the inner side of the spokes, as at 6.

A pair of support members is provided, each comprising a hub sleeve or member 7, spoke flange 8, and spoke sections 9. These support members are also formed integrally of sheet metal. The spoke flanges of the spoke and support members are properly conformed to connect to the tubular spokes, as illustrated, to form the inner ends of the spokes. The edges of the support members, flanges and spoke sections are welded or brazed to the meeting parts of the spoke members, or otherwise rigidly secured thereto, so that, in effect, when the parts are assembled, the spoke members and the support members are one part in the wheel. These members are sleeved upon the hub and secured thereon, as by spinning-up the inner end 10 of the hub barrel, as illustrated. The outer end of the hub barrel is, in the structure shown, provided with a cap 11.

The rim 2 is provided with seats 12 for the outer ends of the spokes. When the spoke members are sleeved upon the hub and secured by expanding the end of the hub, the outer ends of the spokes are forced firmly against their seats.

The structure illustrated is adapted to receive a metal tire 13, although it is adapted to any tire.

In the modified structure shown in Figs. 6, 7 and 8, the spokes are provided at their outer ends with integrally formed rim members 14. These members are preferably channel-shaped in cross section, and provided with flanges 15 at their inner edges, the flanges being secured together by the rivets 16. This forms a channel rim adapted to receive a tire, as 17.

My improved sheet metal wheel is comparatively economical to produce, being very economical in material and labor, when a suitable equipment is used in its production.

While my improved wheel is strong and

rigid, it is light in weight relative to its strength. It is also pleasing in finish and appearance.

I have illustrated and described my improvements in an embodiment thereof which I consider very satisfactory. I am aware, however, that it is capable of considerable structural variation and modification without departing from my invention, but as such modifications and variations are undoubtedly obvious to those skilled in the art to which this invention relates, I have not attempted to illustrate or describe the same in detail herein, and I desire to be understood as claiming my invention specifically in the form illustrated, as well as broadly within the scope of the appended claims.

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

1. A wheel structure comprising a spoke member consisting of a hub portion, tubular spokes, and a spoke flange formed integrally of sheet metal, a central support member consisting of a hub portion, spoke support sections with radial extensions corresponding to said spokes; and a flange formed integrally of sheet metal, the said spoke mem-

ber and central support member being joined at their edges to preserve the tubular contour of said spokes, and a central hub barrel, as specified.

2. A wheel structure comprising a pair of separated spoke members more widely separated at the hub than at the periphery, consisting of hub portions, tubular spokes with square ends, and spoke flanges formed integrally of sheet metal, a central support member corresponding to each spoke member consisting of a hub portion, spoke support sections with radial extensions corresponding to said spokes; and a flange formed integrally of sheet metal, said spoke members and central support member being joined together at their edges to preserve the tubular contour of said spokes, a rim against which the square ends of said spokes are seated, and a central hub barrel, as specified.

In witness whereof, I have hereunto set my hand and seal in the presence of two witnesses.

JOHN RABBERS. [L. S.]

Witnesses:

CHARLES OSBORNE,
ABRAHAM DE KUBBER.