

(No Model.)

F. L. BAILEY.  
METAL WHEEL.

No. 476,118.

Patented May 31, 1892.

FIG. 1.

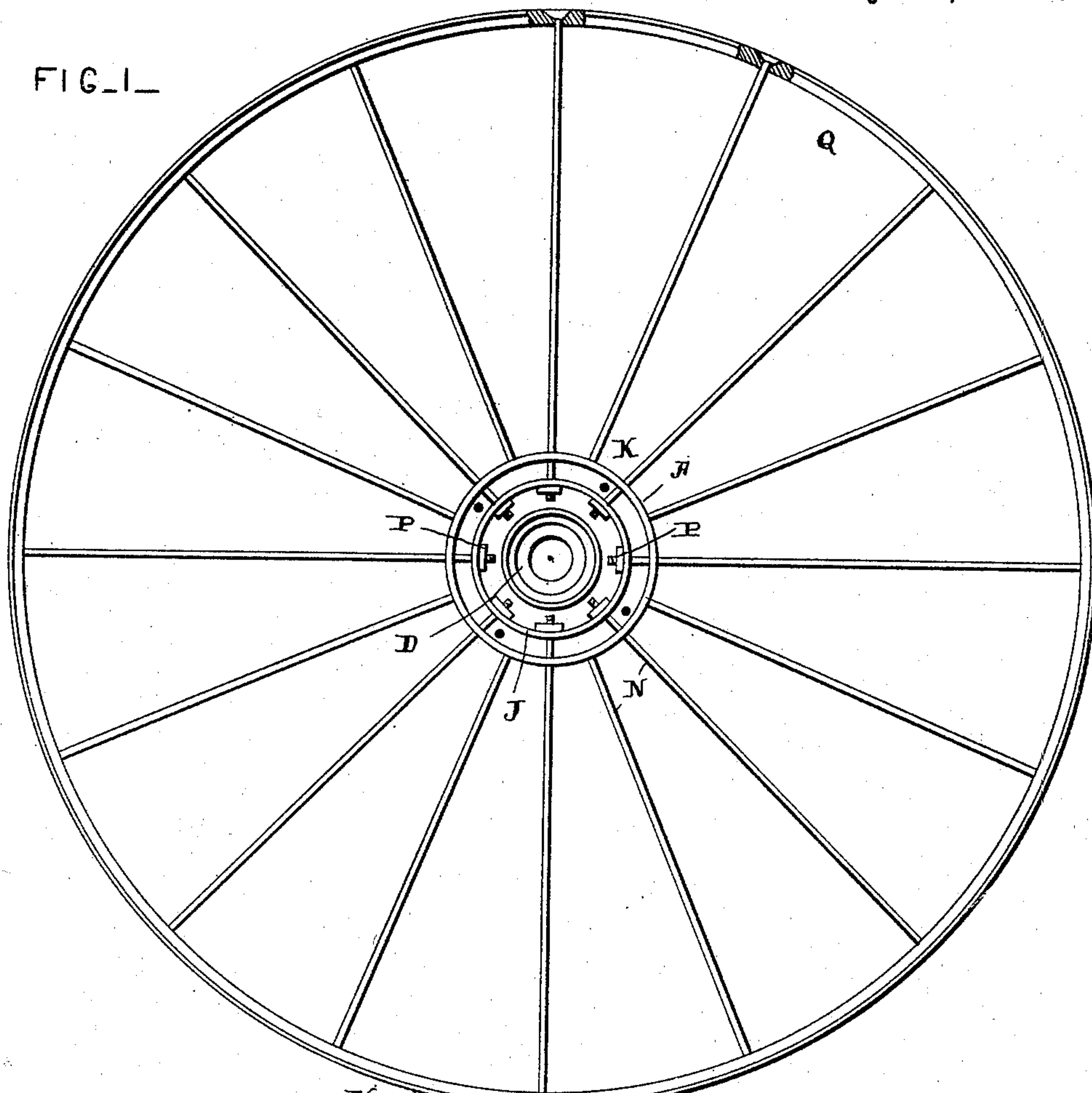
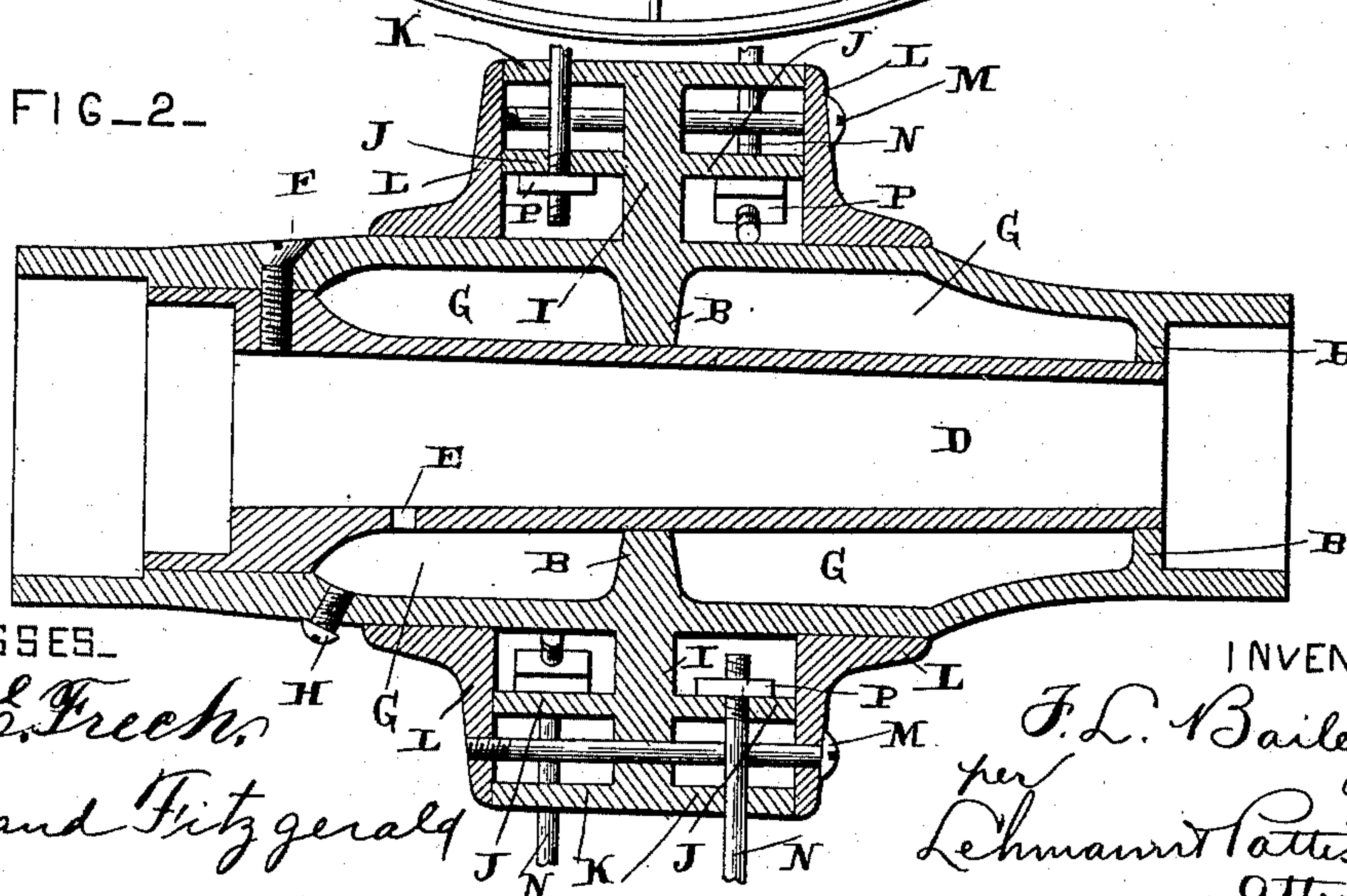


FIG. 2.



WITNESSES.

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# UNITED STATES PATENT OFFICE.

FORTUNE L. BAILEY, OF FREEPORT, INDIANA.

## METAL WHEEL.

SPECIFICATION forming part of Letters Patent No. 476,118, dated May 31, 1892.

Application filed September 30, 1891. Serial No. 407,292. (No model.)

*To all whom it may concern:*

Be it known that I, FORTUNE L. BAILEY, of Freeport, in the county of Shelby and State of Indiana, have invented certain new and useful Improvements in Metal Wheels; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to an improvement in metallic wheels; and it consists in the arrangement and combination of parts which will be fully described hereinafter, and particularly referred to in the claims.

The object of my invention is to produce a metallic wheel of the construction hereinafter shown and described, which is simple and cheap in construction, easily put together or taken apart, and which is yet very strong and durable.

In the drawings, Figure 1 is a side elevation of a complete wheel embodying my invention, one of the plates being removed to show the mode of attaching the inner ends of the spokes and to show the double T-flanges. Fig. 2 is an enlarged longitudinal section taken through the hub.

A indicates a metallic hub, which is preferably about the same shape of an ordinary wooden hub and which is made thin, as shown, and provided upon its inner surface with the annular inwardly-projecting flanges B. Placed within this hub is a boxing D, which is made tapered, as the ordinary box is made, and this box is made thickest at its inner end to fit the inner circumference of the hub, while its center and outer end rests upon the annular inner flanges B. In this manner I form oil-chambers G, which are provided with one or more openings E to the interior thereof and which will feed oil to the axle and box to be spread over their bearing-surfaces. This boxing D is held within the hub by means of a screw F, which passes through the hub into the boxing, as shown. Made in the hub, just inside of the thick inner end of the boxing, is an oil-inlet opening, which is closed by a screw H, and through this opening oil is fed into the chambers G. By this construction I provide a simple means

of furnishing oil to the axle and boxing in a manner which does not expose the oil to the dust and dirt and provide a hub and boxing which is very light and yet strong and which will allow of the boxing being removed when worn out and another replaced therein with but very little trouble and without the aid of a blacksmith or a wheelwright.

Cast or otherwise formed upon the center of the exterior of the hub and integral therewith is a double T-flange, which consists of a central web or flange I, which has extending outward therefrom about midway the web I and from opposite sides thereof the annular flanges J, and from the outer end of the web I are the annular flanges K, which together form a double T-flange, as will be readily seen. Made in the flanges J and K are openings, through which the wire spokes M pass, which spokes have their extreme inner ends only screw-threaded for the reception of the nuts P. The openings in the two flanges J and K are made opposite each other and are made around the flanges, staggering in the ordinary manner. The outer ends of these spokes are passed through a metallic rim Q, which rim is provided with openings for the reception of the spokes, and the outer ends of the openings are countersunk, so that the ends of the spokes can be riveted or enlarged and have their extreme outer ends flush with the outer periphery of the rim or tire.

The spokes are passed through the outer flanges K and through the inner flanges J and have placed upon their inner screw-threaded ends the nuts P, by means of which they are tightened and secured in place. It will be noticed that the screw-thread is formed only upon the end of the spokes for a very short distance, so that the spokes have their entire diameter where they pass through the flanges J and K, which gives them their full strength where they need it most, as the greatest strain is brought upon the spokes at their inner ends, where they pass through the said flanges. Placed around the hub and resting against the outer edges of the flanges J and K are the annular plates L, which entirely inclose the inner ends of the spokes out of sight, thus making a neat finish. These plates are held in place by means of the screws M, which pass through them and through the web I;



or these plates may be secured in place by rivets instead of screws, as will be readily understood.

When the wheel is used for a band wheel  
5 or pulley, the plates L will be unnecessary and will preferably be left off

When the wheel is used as a buggy-wheel, it will be found desirable to deaden the sound of the wheel as much as possible when passing over gravel or other similar substances, and this is accomplished by filling in the space between the flanges J and K, the web I, and the plates L with lead or other similar substance, which will prevent the wheel from  
15 having a ringing sound, which it would otherwise likely have.

By means of the above-described construction I produce a wheel which is very durable and cheap and yet simple and easily put together and taken apart.  
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Having thus described my invention, I claim—

1. In a wheel, a hub having a double T-shaped flange upon its exterior, combined  
25 with a tire, and spokes which have their outer ends secured to the tire and their inner ends passed through the outer T and secured to the inner T, substantially as shown and described.

30 2. In a wheel, a hub having an outwardly-extending annular web, the said web having

two laterally-extending annular flanges from opposite sides thereof, the said flanges being separated from each other and the inner flange from the hub, the said flanges having  
35 transverse perforations which register, combined with a tire, and spokes which have their outer ends secured to the tire and their inner ends passed through the said flanges and held in by suitable means, substantially  
40 as specified.

3. A metal hub for a metallic wheel, consisting of the hub portion adapted to receive a boxing, and a double T-flange which extends annularly around the exterior of the  
45 said hub and provided with perforations to receive the inner ends of the spokes, substantially as described.

4. A metal hub having inwardly-extending flanges or projections, combined with a boxing  
50 which has its inner end to fit the said hub and its center and outer end resting upon the said flanges, whereby oil-chambers are formed, the said boxing having an oil-inlet and the  
55 hub and oil-inlet, substantially as specified.

In testimony whereof I affix my signature in presence of two witnesses.

FORTUNE L. BAILEY.

Witnesses:

C. S. PATTEN,  
WM. B. DAVIS.