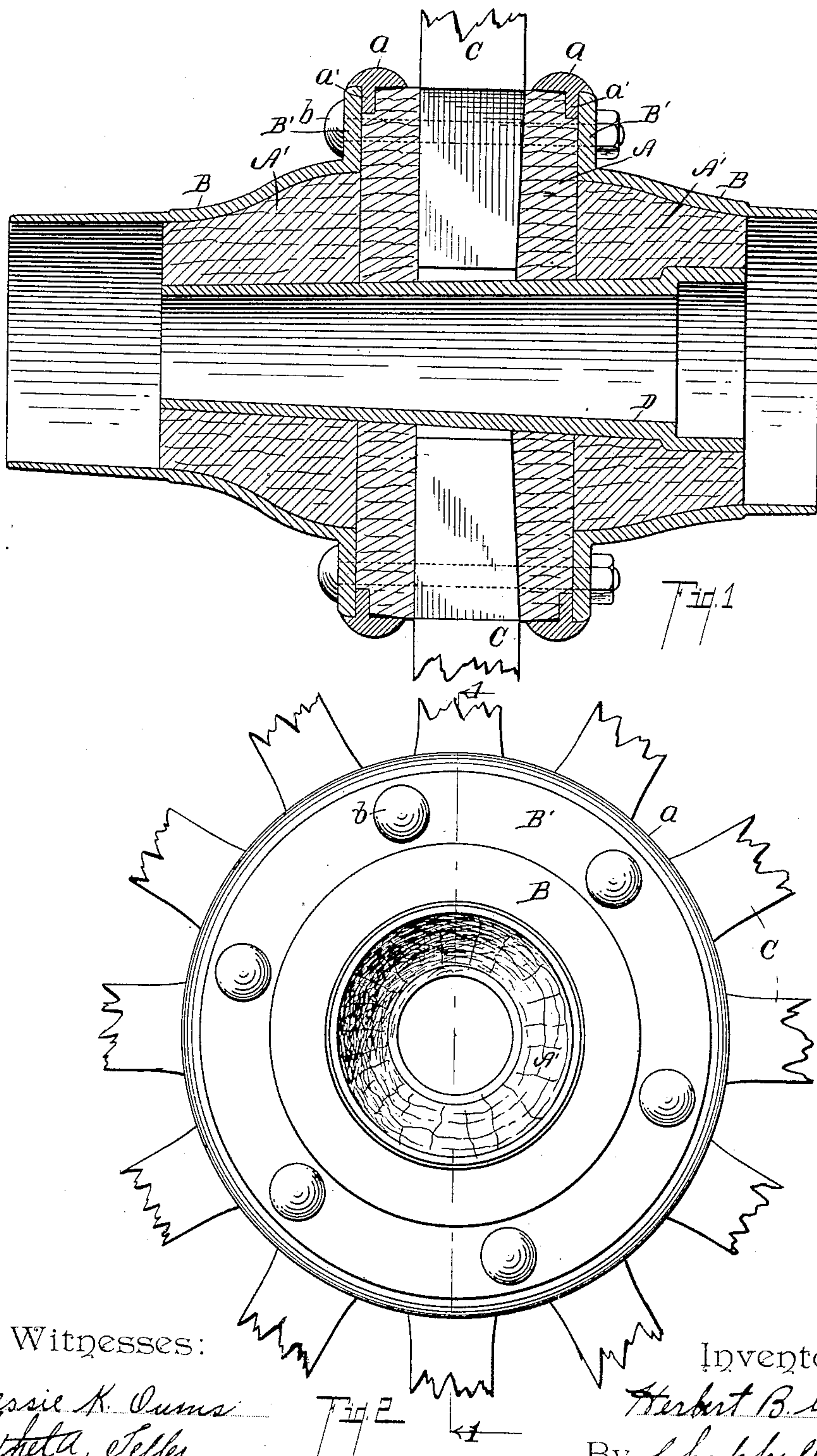


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PATENTED APR. 3, 1906.

H. B. GILLETTE.
VEHICLE WHEEL.

APPLICATION FILED DEC. 5, 1904.



Witnesses:

Bessie K. Cums
Ethel A. Teller

Inventor,

Herbert B. Gillette

By Chappell & Earl
Att'y's

UNITED STATES PATENT OFFICE.

HERBERT B. GILLETTE, OF GRAND RAPIDS, MICHIGAN.

VEHICLE-WHEEL.

No. 816,576.

Specification of Letters Patent.

Patented April 3, 1906.

Application filed December 5, 1904. Serial No. 235,650.

To all whom it may concern:

Be it known that I, HERBERT B. GILLETTE, a citizen of the United States, residing at the city of Grand Rapids, county of Kent, State of Michigan, have invented certain new and useful Improvements in Vehicle-Wheels, of which the following is a specification.

This invention relates to improvements in vehicle-wheels.

The objects of this invention are, first, to provide a very strong wheel which is economical to construct; second, to provide an improved construction of wheel which will utilize inexpensive material; third, to provide an improved construction of hub which insures a very strong support for the spokes.

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

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

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

A structure embodying the features of my invention is clearly illustrated in the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a detail longitudinal sectional view through the hub of my improved wheel, taken on a line corresponding to line 1 1 of Fig. 2 looking in the direction of the little arrows at the ends of the section-line. Fig. 2 is a side elevation view of my improved wheel looking from the left of Fig. 1.

In the drawings similar letters of reference refer to similar parts in both views.

Referring to the lettered parts of the drawings, the wheel is made up of a comparatively short central block A and end blocks A' A'. The central block A is mortised to receive the spokes C. The ends of the central block A are preferably flat. Casings B, having outwardly-projecting perforated flanges B' at their inner ends, are provided for the end blocks A'. The end blocks are forced or pressed into these casings and are preferably cut off flush with the inner faces of the flanges. The flanges B' are of substantially the same diameter as the central block A. The end blocks are clamped against the ends of the central block by bolts or rivets, as b, which are arranged through the central block and through the flanges of the end-block casings. Thus arranged the end blocks sustain the central portion of the block A against lat-

eral pressure, and the flanges of the block-casings sustain the outer portion thereof.

Hub-bands a are provided for the central blocks A. These bands are preferably arranged to embrace the flanges of the casings for the end blocks. These hub-bands are provided with inwardly-projecting annular rib-like flanges a', which are set into the central block, so that their outer faces lie flush with the end faces of the block. The hub-bands a are preferably made slightly flaring, so that they may be readily pressed upon the central hub-block. The flanges B' of the end-block casings are clamped against the ends of the center block. The ribs a' of the bands are securely retained in position thereby.

After the end casings are clamped in position the outer edges of the hub-bands are preferably rolled down upon the flanges, as is shown in the drawings.

After the parts described are assembled the hub is bored to receive the boxing, as D.

A hub is thus produced with a wood center into which the usual form of boxing can be driven, or the same can be cut away to receive any special boxing for ball or roller or other bearings desired. The central block A may be cut from a tree in short lengths, and the end blocks A' may be cut from small trees or poles. I am thus enabled to utilize material for the wood portion of the hub which is worthless for use in hubs of the common construction. The wood portion is so strengthened that there is no liability of checking, and at the same time comparatively light material may be used in the construction, and I am still able to produce a satisfactory wheel structure.

The bands a, overlapping the flanges of the casing B, reduce the strain on the bolts b to a minimum. By clamping the flanges of the casings of the end sections against the ends of the center block the flanges a' of the bands a are retained in position, so that the bands cannot become loosened. The bands a, owing to their peculiar shape, may be of very light material and at the same time are very strong. While the joints between the center block and the end blocks of the hub are preferably flat, I will state that any form of joint properly conformed can be used. The parts of my improved wheel are so firmly secured together and support each other so effectively that they may be made comparatively light and still be very strong and rigid.

I have illustrated and described my im-

proved wheel in detail in the form preferred by me on account of its structural simplicity and economy, although I am aware that it is capable of considerable variation without departing from my invention, and I desire to claim the same specifically as described as well as broadly.

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

1. In a vehicle-wheel, the combination of a short central block having substantially flat ends and having spokes mortised thereinto; end blocks having substantially flat inner ends adapted to contact with the ends of said central block; casings for said end blocks having outwardly-projecting perforated flanges on their inner ends; hub-bands for said central block, arranged to embrace the flanges of said end-block casing, said hub-bands having inwardly-projecting rib-like flanges which are set into said central block so that their outer faces are flush with the end faces of said central block; and bolts arranged through the flanges of said end-block casings and said central block, for the purpose specified.
2. In a vehicle-wheel, the combination of a short central block having substantially flat ends; end blocks having substantially flat inner ends adapted to contact with the ends of said central block; casings for said end blocks, having outwardly-projecting perforated flanges on their inner ends; hub-bands for said central block arranged to embrace the flanges of said end-block casing, said hub-bands having inwardly-projecting rib-like flanges which are set into said central block so that their outer faces are flush with the end faces of said central block; and bolts arranged through the flanges of said end-block casings and said central block, for the purpose specified.
3. In a vehicle-wheel, the combination of a short central block having substantially flat ends and having spokes mortised thereinto; end blocks having substantially flat inner ends adapted to contact with the ends of said central block; casings for said end blocks, having outwardly-projecting perforated flanges on their inner ends; hub-bands for said central block, arranged to embrace the flanges of said end-block casing, said hub-bands having inwardly-projecting rib-like flanges; and bolts arranged through the flanges of said end block casings and said central block, for the purpose specified.
4. In a vehicle-wheel, the combination of a short central block having substantially flat ends; end blocks having substantially flat inner ends adapted to contact with the ends of said central block; casings for said end blocks, having outwardly-projecting perforated flanges on their inner ends; hub-bands for said central block, arranged to embrace the flanges of said end-block casing, said hub-

bands having inwardly-projecting rib-like flanges; and bolts arranged through the flanges of said end-block casings and said central block, for the purpose specified.

5. In a vehicle-wheel, the combination of a short central block having substantially flat ends, and having spokes mortised thereinto; end blocks having substantially flat inner ends adapted to contact with the ends of said central block; casings for said end blocks, having outwardly-projecting perforated flanges on their inner ends; hub-bands for said central block, arranged to embrace the flanges of said end-block casing; and bolts arranged through the flanges of said end-block casings and said central block, for the purpose specified.
6. In a vehicle-wheel, the combination of a short central block having substantially flat ends; end blocks having substantially flat inner ends adapted to contact with the ends of said central block; casings for said end blocks, having outwardly-projecting perforated flanges on their inner ends; hub-bands for said central block, arranged to embrace the flanges of said end-block casing; and bolts arranged through the flanges of said end-block casings and said central block, for the purpose specified.
7. In a vehicle-wheel, the combination of a short central block having substantially flat ends with spokes mortised thereinto; hub-bands for said central block having inwardly-projecting flanges set into said central block so that their outer faces are flush with the end faces of said central block; end blocks having substantially flat inner ends, adapted to contact with the ends of said central block; casings for said end blocks into which they are forced, having outwardly-projecting perforated flanges at their inner ends adapted to contact with the ends of said central block and with said hub-bands; and bolts arranged through the flanges of said casings and central block, for the purpose specified.
8. In a vehicle, the combination of a short central block having substantially flat ends; hub-bands for said central block having inwardly-projecting flanges set into said central block so that their outer faces are flush with the end faces of said central block; end blocks having substantially flat inner ends, adapted to contact with the ends of said central block; casings for said end blocks into which they are forced, having outwardly-projecting perforated flanges at their inner ends adapted to contact with the ends of said central block and with said hub-bands; and bolts arranged through the flanges of said casings and central block, for the purpose specified.
9. In a vehicle-wheel, the combination of a short central block having substantially flat ends with spokes mortised thereinto; bands for said central block having inwardly-pro-

jecting flanges; end blocks having substantially flat inner ends, adapted to contact with the ends of said central block; casings for said end blocks into which they are forced, 5 having outwardly - projecting perforated flanges at their inner ends adapted to contact with the ends of said central block and with said bands; and bolts arranged through the flanges of said casings and central block, for 10 the purpose specified.

10. In a vehicle-wheel, the combination of a short central block having substantially flat ends; hub-bands for said central block having inwardly-projecting flanges; end 15 blocks having substantially flat inner ends, adapted to contact with the ends of said central block; casings for said end blocks into which they are forced, having outwardly-projecting perforated flanges at their inner 20 ends adapted to contact with the ends of said central block and with said hub-bands; and bolts arranged through the flanges of said casings, and central block, for the purpose specified.

25 11. In a vehicle-wheel, the combination of a short central block having substantially flat ends with spokes mortised thereinto; hub-bands for said central block; end blocks having substantially flat inner ends, adapted 30 to contact with the ends of said central block; casings for said end blocks into which they are forced, having outwardly-projecting perforated flanges at their inner ends adapted to contact with the ends of said central 35 block; and bolts arranged through the flanges of said casings and central block, for the purpose specified.

40 12. In a vehicle-wheel, the combination of a short central block having substantially flat ends; hub-bands for said central block; end blocks having substantially flat inner ends, adapted to contact with the ends of 45 said central blocks; casings for said end blocks into which they are forced, having outwardly - projecting perforated flanges at

their inner ends adapted to contact with the ends of said central block; and bolts arranged through the flanges of said casings and central block, for the purpose specified.

13. In a vehicle-wheel, the combination of 50 a short central block; bands for said central block having inwardly-projecting flanges set into said central block so that their outer faces are flush with the end faces of said central block; end blocks adapted to contact 55 with the ends of said central block; casings for said end blocks, having outwardly-projecting flanges at their inner ends adapted to contact with the ends of said central block and with said bands; and bolts arranged 60 through the flanges of said casings and central block, for the purpose specified.

14. In a vehicle-wheel, the combination of a short central block; bands for said central block having inwardly - projecting flanges; 65 end blocks adapted to contact with the ends of said central block; casings for said end blocks, having outwardly-projecting flanges at their inner ends adapted to contact with the ends of said central block and with said 70 bands; and bolts arranged through the flanges of said casings and central block, for the purpose specified.

15. In a vehicle-wheel, the combination of a short central block; bands for said central 75 block; end blocks adapted to contact with the ends of said central blocks; casings for said end blocks, having outwardly-projecting flanges at their inner ends adapted to contact with the ends of said central block; and 80 bolts arranged through the flanges of said casings and central block, for the purpose specified.

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

HERBERT B. GILLETTE.

Witnesses:

AMELIA J. ALBER,
OTIS A. EARL.