No. 641,969. Patented Jan. 23, 1900.

C. P. JONES.

CAR WHEEL.

(Application filed May 15, 1899.)

(No Model.)

FIG. 1.

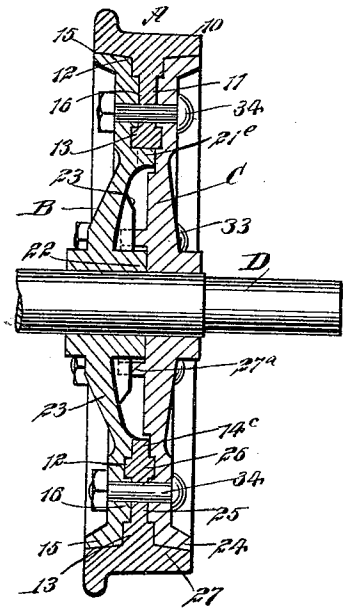


FIG. 2.

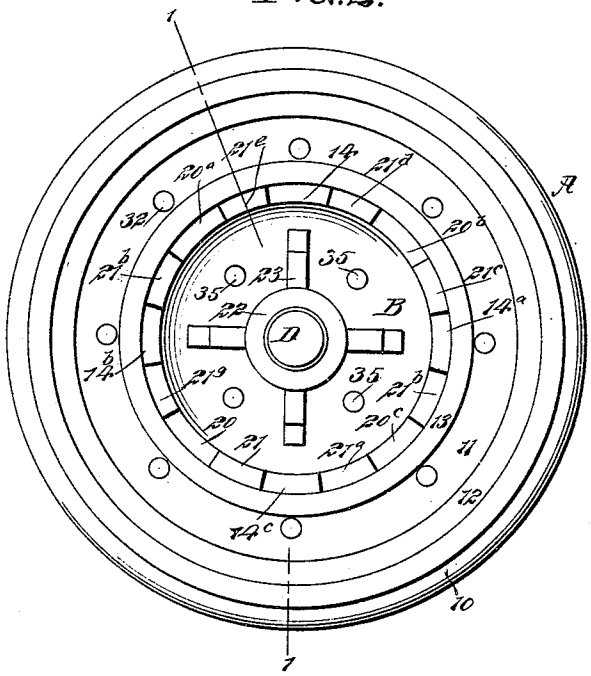


FIG. 3.

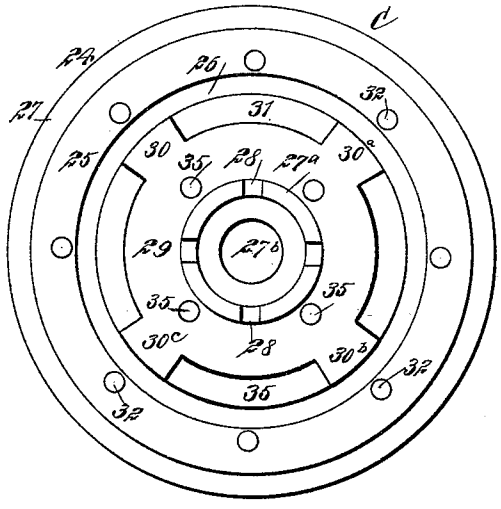
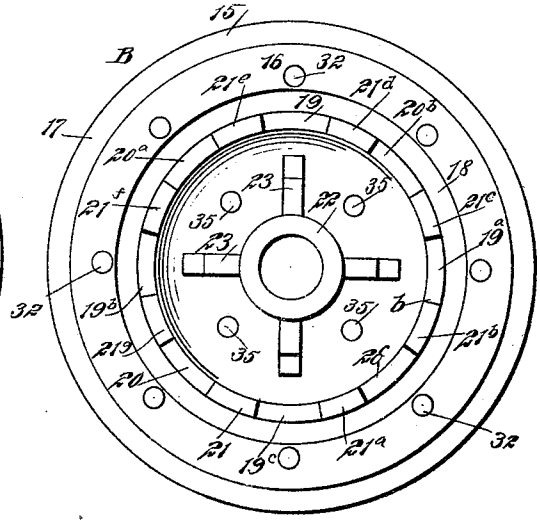


FIG. 4.



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CHARLES PAUL JONES, OF CLEVELAND, OHIO.

CAR-WHEEL.

SPECIFICATION forming part of Letters Patent No. 641,969, dated January 23, 1900.

Application filed May 15, 1899. Serial No. 716,876. (No model.)

To all whom it may concern:

Be it known that I, CHARLES PAUL JONES, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented a new and Improved Car-Wheel, of which the following is a full, clear, and exact description.

The object of the invention is to so construct a sectional metal car-wheel that the sections will perfectly interlock and whereby all the sections will be positively held against movement upon each other, providing a wheel that will be as light, if not lighter, than a solid wheel or one made in one piece and much stronger and more readily preserved in condition for effective use.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a vertical section through the complete wheel, the section being taken practically on the line 1 1 of Fig. 2. Fig. 2 is a side elevation of the improved wheel with the inner section removed. Fig. 3 is an outer face view of the inner section of the wheel, and Fig. 4 is an inner face view of the outer section of the wheel.

The wheel practically consists of three parts—an outer section B, an inner section C, and a tire-section A—and the complete wheel is adapted to revolve upon an axle D in the customary manner. The tire-section A consists of a tread 10, provided with the usual flange, and a central ring-web 11, which web is provided with a corresponding central annular recess in each of its faces, forming thereby upon each face of said web an upper rib or shoulder 12 and a lower rib or shoulder 13, as shown in Fig. 1. The ring-web 11 is provided at its inner peripheral surface with four lugs 14 and 14^a and 14^b and 14^c, placed at regular intervals apart, all of the lugs being shown in Fig. 2, and one of them, 14^c, in cross-section in Fig. 1. The outer section B of the wheel is outwardly arched and is provided with an outwardly-extending peripheral flange 15, which engages with the inner face of the outer portion of the tread of the tire-section, as shown in Fig. 1, and an annular rib 16, adjacent to the periphery, which rib forms an outer recess 17 and an inner recess 18. The inner wall of the inner recess 18 is defined by an annular rib *b*, which rib, as shown in Fig. 4, is provided with recesses 19, 19^a, and 19^b, so placed that they will receive the lugs 14, 14^a, and 14^c of the tire-section. The inner rib *b* of the outer section B of the wheel is likewise provided with slots 20, 20^a, 20^b, and 20^c, adapted to receive lugs on the inner section C, to be hereinafter described. The said inner rib *b* is also provided with a series of lugs 21, 21^a, 21^b, 21^c, 21^d, 21^e, 21^f, and 21^g, and these lugs are adapted to enter spaces between the lugs of the inner section C, as will be hereinafter explained. A collar 22 is formed around the opening, through which the axle D is to pass, and a series of arms 23 extends in cruciform order from the said collar. These arms are usually four in number. The inner section C is provided also with a marginal outwardly-extending flange 24, (shown particularly in Fig. 1,) and the said inner section C is provided with an annular rib 25 upon its outer face, near its periphery, forming two recesses 26 and 27, corresponding to the recesses 18 and 17 in the inner face of the outer section B. A collar 27^a is formed around the opening 27^b, through which the axle D is to pass, and this collar is provided with a series of recesses 28, adapted to receive the arms 23 of the outer section B of the wheel. An annular recessed surface 29 is provided adjacent to the outer portion of the collar 27^a, and this recessed or embossed surface 29 is of annular form and is provided with similarly-embossed or raised lugs 30, 30^a, 30^b, and 30^c, that extend from its periphery to the inner recess 26, and these lugs are adapted to enter the slots 20, 20^a, 20^b, and 20^c in the inner flange *b* of the outer section B of the wheel. Thus it will be observed that recesses 31 are formed between the lugs 30, 30^a, 30^b, and 30^c, and when the parts of the wheel are assembled the lugs 21, 21^a, 21^b, 21^c, 21^d, 21^e, 21^f, and 21^g enter the said recesses 31 in groups. In this manner a thorough interlocking engagement is effected between the various sections of the wheel, and when the parts are assembled the ribs 12 and 13 of the ring-web 11 of the peripheral section A enter, respectively,

the annular recesses 17 and 18 of the outer section of the wheel and the recesses 26 and 27 of the inner section of the wheel, as shown in Fig. 1.

The various sections are secured together through the medium of bolts 34, that are passed through openings 32, made in the web and in the ribs 16 and 25 of the outer and inner sections of the wheel, and in order to render the parts of the wheel still more firmly united bolts 33 are passed through openings 35, made in the inner and outer sections B and C of the wheel around their hub portion, as is shown also in Fig. 1.

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

1. A car-wheel consisting of a peripheral section comprising a tread and a central ring-web, an outer and an inner section having locking engagement with the ring-web, the said outer and inner sections being provided with annularly-arranged lugs and recesses whereby the said outer and inner sections have locking engagement with each other, and fastening devices for securing all of the sections together, for the purpose set forth.

2. A car-wheel consisting of a peripheral section, comprising a tread and a central ring-web, an outer and an inner section having locking engagement with the ring-web and locking engagement with each other, bolts passed through the inner and outer sections and the web of the peripheral section, and a second series of bolts passed through the inner and outer sections around their hub portions, for the purpose set forth.

3. In the construction of car-wheels, the combination, with a peripheral section, comprising a flanged tread and a central apertured ring-web having corresponding ribs upon both side faces and lugs projected from the inner peripheral surface of the said web, of an outer facing-section, having its inner surface prepared to receive the ribs on the outer side of the said web, the said outer face-section being likewise provided with an inner annular rib having alternately-arranged recesses and lugs, and a series of arms radiating from the opening through which the axle is to pass, the inner face-section having its outer surface also prepared to receive the ribs on the outer face of the said web, the outer face of the inner side section being also provided with lugs arranged to enter sundry of the recesses in the rib of the outer face-section, some of the recesses in said rib being arranged to receive the lugs from the web, the lugs of the inner rib on the outer face-section being arranged to enter the spaces between the lugs on the inner face-section, a hub-flange formed upon the inner face-section, having slots to receive the arms of the outer face-section, and bolts connecting all of the sections, for the purpose specified.

4. A car-wheel consisting of a peripheral section comprising a tread and a central ring-web, an outer and an inner section having locking engagement with the ring-web, the said outer and inner sections being also provided with registering lugs and recesses, and the hub portion of one of said sections having arms adapted to enter slots in the other section, and fastening devices passed through all of the sections for the purpose set forth.

5. A car-wheel consisting of a peripheral section comprising a tread and a central ring-web having a recess in each of its faces and provided at its inner peripheral surface with lugs, an outer and an inner section having their surfaces arranged to engage the recesses in the faces of the web, the said outer and inner sections being each provided with lugs and recesses, whereby the outer and inner sections have locking engagement with each other, some of the recesses in one of said sections being arranged to receive the inner peripheral lugs of the web, and fastening devices for securing the sections together, substantially as set forth.

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Witnesses:
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