

C. E. BELL.
VEHICLE WHEEL.

No. 463,241.

Patented Nov. 17, 1891.

FIG. 1.

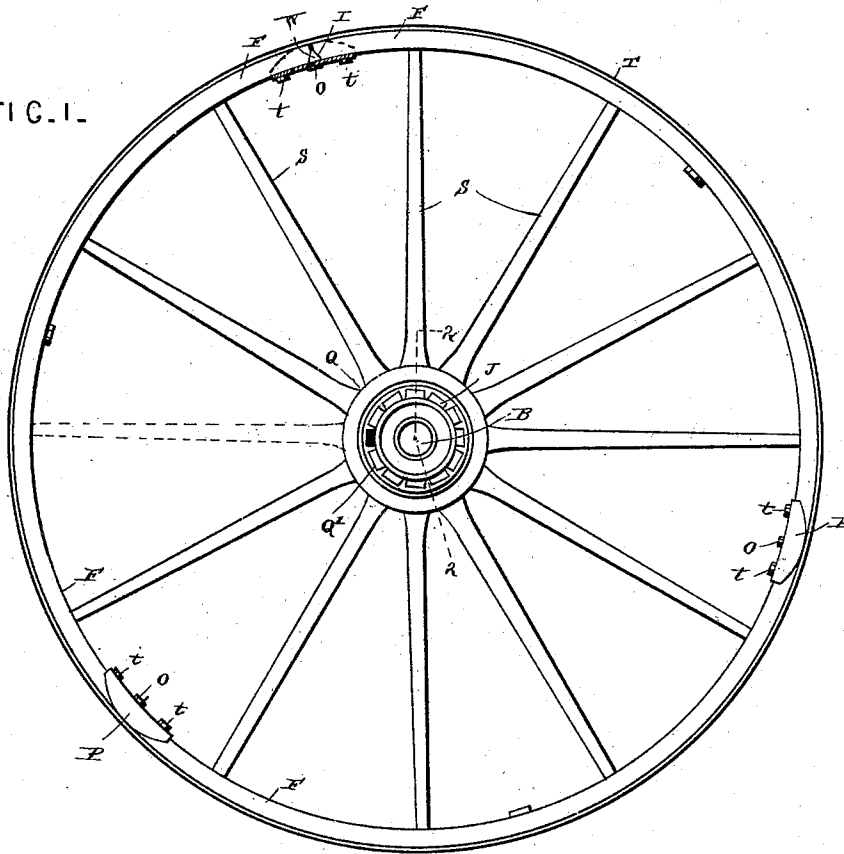
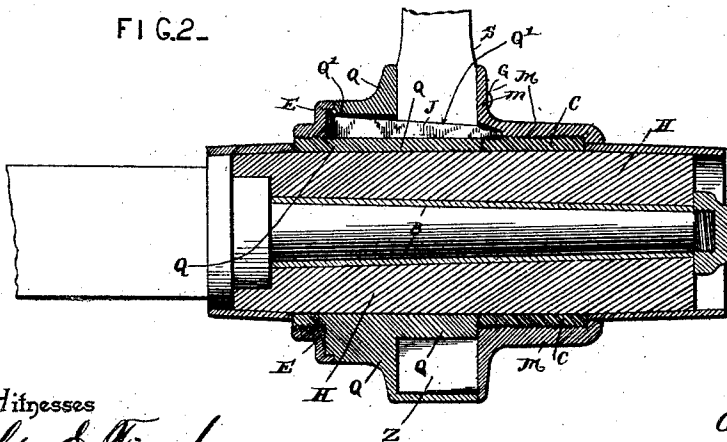


FIG. 2.



Witnesses

Geo. C. French.

N. J. Collamer.

By *H. J. S.* Attorneys,

Charles E. Bell Inventor

C. A. Snow & Co.

(No Model.)

2 Sheets—Sheet 2.

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FIG. 3.

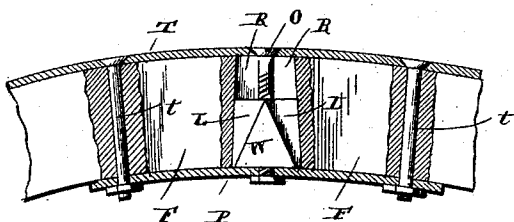


FIG. 4.

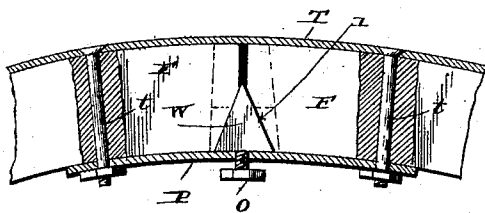


FIG. 6.

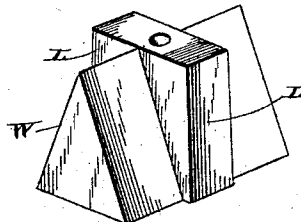
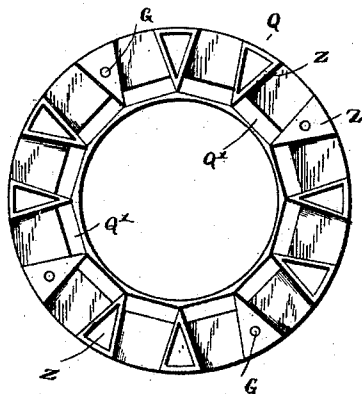


FIG. 5.



Witnesses

Geo. C. Freck.

N. L. Collamer.

Inventor
Charles E. Bell

By *his* Attorneys,

Cash & Co.

UNITED STATES PATENT OFFICE.

CHARLES E. BELL, OF NASHVILLE, TENNESSEE.

VEHICLE-WHEEL.

SPECIFICATION forming part of Letters Patent No. 463,241, dated November 17, 1891.

Application filed November 19, 1890. Serial No. 371,976. (No model.)

To all whom it may concern:

Be it known that I, CHARLES E. BELL, a citizen of the United States, residing at Nashville, in the county of Davidson and State of Tennessee, have invented a new and useful Vehicle-Wheel, of which the following is a specification.

This invention relates to vehicle-wheels; and the object of the same is to produce a wheel of this character possessing certain improvements over those now in use.

To this end the invention consists of a wheel having independent felly-sections, means for adjusting them to and from each other, a hub having sockets in which the inner ends of the spokes are seated, wedges beneath said inner ends, and a ring screwing onto the body of the hub and pressing said wedges beneath the spoke ends, together with certain details of construction and auxiliaries preferably used, all as hereinafter more fully described and claimed, and as illustrated in the drawings, in which—

Figure 1 is an elevation of this improved wheel, taken from the inside and with the tightening-ring removed. Fig. 2 is a vertical transverse section of the hub on a considerably enlarged scale. Fig. 3 is a central vertical longitudinal section of the connection between the ends of the felly-sections. Fig. 4 is a similar section showing a slightly-different arrangement of parts. Fig. 5 is an elevation of the spoke-ring from the end opposite that seen in Fig. 1. Fig. 6 is a perspective detail of one of the felly-wedges.

Referring to the said drawings, the letter T designates the tire; F, the felly-section; S, the spokes, and H the wooden body of the hub proper, preferably having a metallic box B through its center for the reception of the axle-spindle, as is customary. The meeting ends of the felly-sections are beveled or inclined, as shown at I, and between them is located a wedge W, which is moved outwardly when desired by a bolt or set-screw O. The sides of the wedge preferably have square lugs L, which take into correspondingly-shaped recesses R in the sides of the inclined faces I, whereby the wedge is properly guided in its movement. When it is desired to adjust the felly-sections, the set screw or bolt O is turned so as to move the wedge W in

the proper direction, and the sections are thereby moved circumferentially beneath the tire T in a manner which will be readily understood. *t* are bolts or rivets connecting the felly with the tire and holding in place plates P, which embrace the ends of the felly-sections and the mechanism for separating them.

Upon the inner end of the wooden body of the hub is a spoke-ring Q, secured thereto in any manner, preferably by screws, and having a screw-threaded outer face, and this ring has triangular blocks Z, adapted to pass between the inner ends of adjacent spokes, and openings Q' opposite the inner ends of the spokes, which latter are slightly dove-tailed. Upon the outer end of the wooden body of the hub is fixed a collar C, having a beveled inner edge for the reception of the tips of the wedges J. Surrounding this collar and screwed onto the same is a closing-collar M, having a broad inner edge *m*, which closes the openings between the outer ends of the triangular blocks Z, and having a cut-away inner face to receive the tips of the wedges J, all as best seen in Fig. 2. A pushing-ring E screws onto the thread upon the ring Q and abuts against the larger ends of the wedges J to push them through the spoke-ring Q and beneath the inner ends of the spokes and to hold them in position. These parts being properly made and the outer ends of the spokes being inserted in sockets in the inner faces of the felly-sections, their inner dove-tailed ends are passed from the outer end of the hub into the openings between the triangular blocks Z. The wedges J are then inserted through the spoke-ring Q, with their tips beneath the inner ends of the spokes. The closing-ring M is then screwed upon the collar C tightly against the outer ends of the blocks Z, and screws G are inserted through the flange *m* and into certain of the blocks Z to hold this ring in place. The pushing-ring E is then brought into position at the inner end of the hub, passed over the spoke-ring, and screwed slowly onto the same, its inner face striking the inner larger ends of the wedges J and pushing them slowly outward through the spoke-ring Q, under the spokes S, and into the openings between the fixed collar C and closing-collar M.

If at any time the wheel becomes loose,

new and larger wedges J may be substituted. When these are driven home, it will be seen that the spokes will be driven radially farther from the hub than before and tightened
 5 between the blocks 2 by reason of the inner ends of the spokes being dovetailed, and the felly will thereby be pressed outwardly, although still retained within the tire. To take up what looseness between the felly-sections
 10 consequently occurs, the bolts or set-screws O are turned in the proper directions to move the wedges W outwardly between the inclined ends I of the felly-sections until the felly as a whole is tight within the tire and
 15 its sections do not move circumferentially.

Various changes in the construction and arrangement of details may be made without departing from the spirit of my invention, and I reserve the right to incorporate the same
 20 should experience and experiment demonstrate the advisability of so doing.

What is claimed as new is—

1. In a wheel, the combination, with the tire, the felly-sections having inwardly-diverging meeting ends, the spokes, and the
 25 hub, of wedges between said ends, plates surrounding said meeting ends and wedges, and set-screws through said plates bearing against the outer ends of the wedges, as and for the
 30 purpose set forth.

2. In a wheel, the combination, with the tire, the felly, and the spokes, of the hub proper, the spoke-ring thereon having triangular blocks between which the inner ends of the
 35 spokes are seated, an independent wedge beneath the inner end of each spoke, and means for driving said wedges, as set forth.

3. In a wheel, the combination, with the tire, the felly, and the spokes, of the hub proper, the spoke-ring thereon having blocks
 40 between which the inner ends of the spokes are seated and provided with longitudinal openings inside the spaces between said blocks, wedges passing through said opening and under the inner ends of the spokes, said ring
 45 having a threaded outer face, and a pushing-ring screwed thereon and bearing against the larger ends of the wedges, as and for the purpose set forth.

4. In a wheel, the combination, with the tire, the felly, and the spokes, of the hub proper, the spoke-ring thereon having blocks

extending outwardly therefrom and being separated at their outer ends, the inner ends of the spokes being seated between said blocks, 55 wedges beneath the spokes, means for driving said wedges, a collar fixed upon the body of the hub outside the line of the spokes and provided with a threaded outer face, a closing-collar screwed onto said fixed collar and 60 having a radial flange standing against the outer ends of said blocks, and screws passing through said flange into certain of the blocks, said collars having a recess between them for the reception of the tips of the wedges, as set 65 forth.

5. In a wheel, the combination, with the tire, the felly, and the spokes, of the hub proper, a spoke-ring thereon having triangular blocks extending outwardly from its body 70 and separated at their outer ends, the inner ends of the spokes being seated between said blocks, a collar fixed upon the body of the hub outside the line of the spokes and provided with a threaded outer face, a closing-collar 75 screwed onto said fixed collar and having a radial flange standing against the outer ends of said blocks, bolts passing through said flange into certain of the blocks, said collars having a recess between them, wedges passing 80 through the spoke-ring under the spokes and into said recess, and a pushing-ring screwed onto the inner end of said spoke-ring against the larger ends of the wedges, the whole constructed as and for the purpose 85 hereinbefore set forth.

6. In a wheel, the combination, with the tire, the felly, and the spokes, of the hub proper, the spoke-ring thereon having triangular blocks between which are transversely 90 dovetailed openings open at their outer ends and wherein the dovetailed inner ends of the spokes are seated, an annular radial closing-ring seated against said outer ends, an independent wedge beneath the inner end of each 95 spoke, and means for driving said wedges, as set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

CHARLES E. BELL.

Witnesses:

B. J. BELL,
 WM. W. DORRAH.