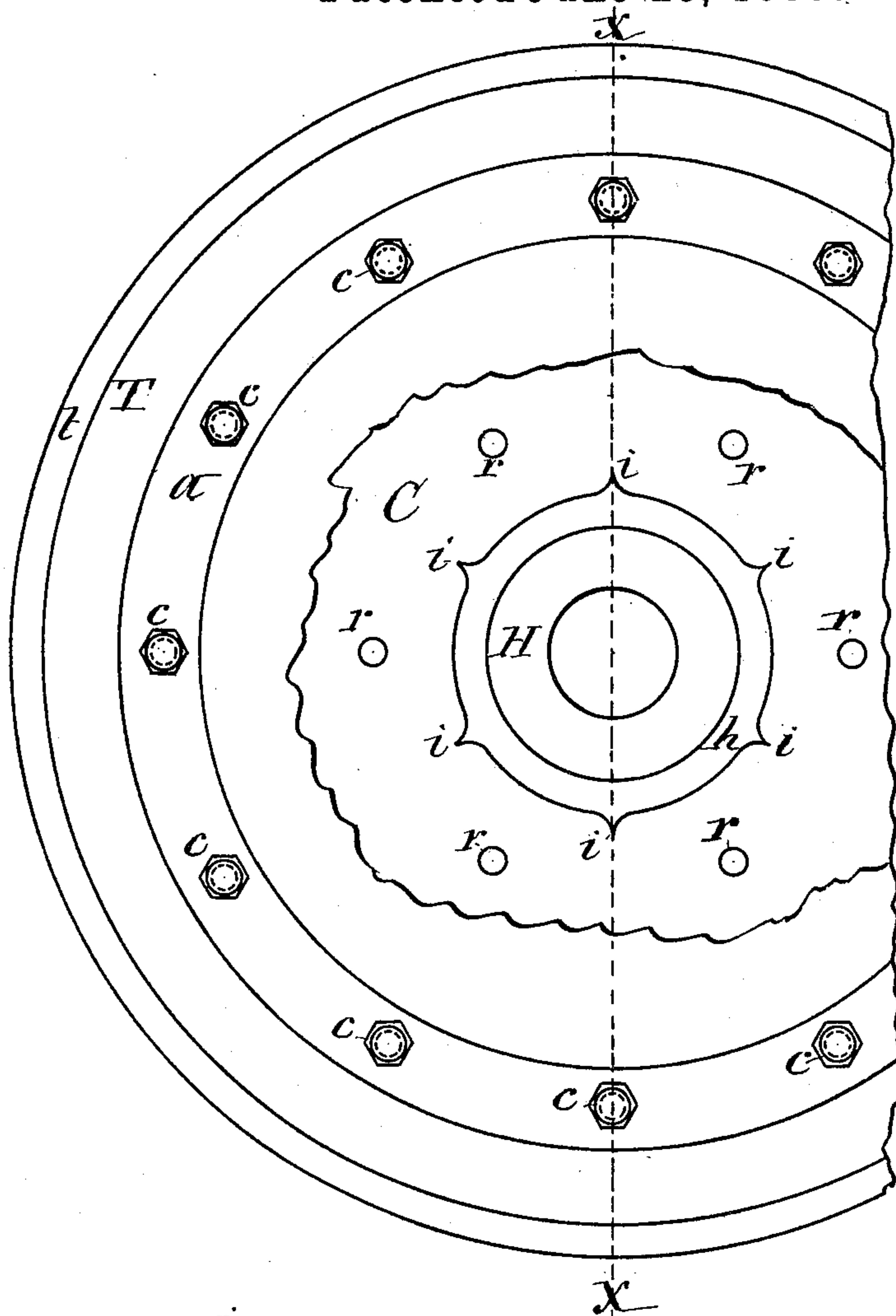
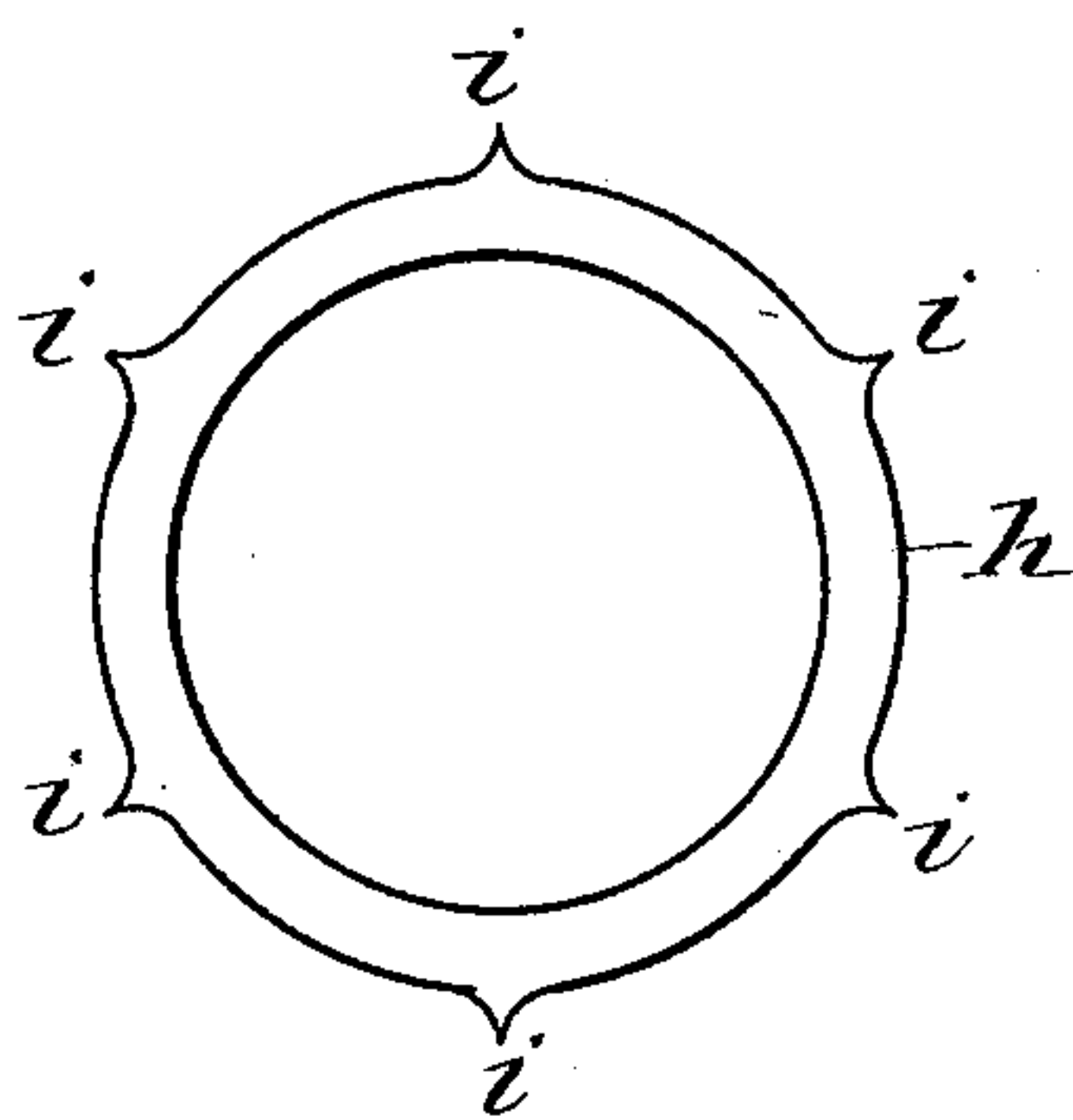


E. PECKHAM.  
CAR WHEEL.

Patented June 25, 1889.



*Fig. 1*



*Fig. 3*

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# UNITED STATES PATENT OFFICE.

EDGAR PECKHAM, OF NEW YORK, N. Y.

## CAR-WHEEL.

SPECIFICATION forming part of Letters Patent No. 405,847, dated June 25, 1889.

Application filed July 9, 1888. Serial No. 279,378. (No model.)

*To all whom it may concern:*

Be it known that I, EDGAR PECKHAM, of New York, in the county of New York, in the State of New York, have invented new and  
5 useful Improvements in Car-Wheels, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

This invention relates to the class of car-  
10 wheels which have the body of the wheel formed separate from the hub, and said body composed of a core of paper or other non-metallic material secured between web-plates, which core serves to cushion the wheel, so as  
15 to relieve it from severe jars, which tend to crystallize the metal and destroy the integrity of the wheel.

My present invention consists in novel, simple, and effective means for securing to  
20 the central portion of the non-metallic core the metallic bushing by which the wheel-body is seated upon the hub, said bushing being of such a form as to cause it to effectually interlock with the core and thus securely unite  
25 said parts; and my invention also consists in novel means for securing the tire to a wheel-body having the non-metallic core extending to the periphery of said body, as hereinafter fully described, and specifically set forth in  
30 the claims.

In the annexed drawings, Figure 1 is an outer side view of the main portion of a car-wheel embodying my improvements, a portion of the web-plate being broken away to illustrate  
35 the attachment of the metallic bushing. Fig. 2 is a transverse section on line *x x*, Fig. 1; and Fig. 3 is a detached plan view of the metallic bushing.

Similar letters of reference indicate corresponding parts.

C represents the non-metallic core, which is confined between the metallic web-plates P P', secured to opposite sides thereof by bolts or rivets *r*, passing transversely through said  
45 parts. Said core and web-plates all extend to the periphery of the wheel-body, as shown in Fig. 2 of the drawings.

*h* denotes the metallic bushing, by which the core C is seated upon the annular rabbet  
50 *f*, formed on the hub H by the circumferential flange *l* on said hub. The outer peripheral face of the said bushing I form with pro-

jections *i i*, of any suitable shape, though preferably V-shaped, as illustrated in Figs. 1 and 3 of the drawings. By providing the core  
55 C with a central aperture of a diameter equal to or slightly smaller than that of the main portion of the bushing *h* and pressing the latter into said aperture, the V-shaped projections cut their way into the sides of the  
60 aperture of the core and become effectually embedded therein, and thus the bushing becomes firmly interlocked with the core, so as to effectually prevent said parts from slipping circumferentially one on the other and  
65 compel them to rotate conjointly. The bushing is to be applied to the core before the body of the wheel is mounted on the hub, and in order to allow the bushing to cut its way into the aperture of the core, as aforesaid, it  
70 is necessary to support the core during said operation by the web-plate P', which is provided with a central eye of the same diameter and shape as the exterior of the bushing  
75 *h*, and by making the bushing of sufficient length to pass through the eye of the web-plate, as shown in Fig. 2 of the drawings, said parts become interlocked in the same manner as the core and bushing before described, and therefore nearly all parts of the wheel-  
80 body are interlocked with each other.

T denotes the steel tire, which is formed at one side of its inner peripheral face with the inward-projecting circumferential flange *a*,  
85 and is provided at the opposite side of said face with the circumferential rabbet *e*, and with a circumferential groove *b* in the wall of the rabbet, which is parallel with the plane of the wheel. The tire is pressed laterally  
90 onto the aforesaid wheel-body and made to bear with its flange *a* on one side of said body, and when the tire is in place the opposite side of the wheel-body or outer face of the web-plate P' is flush with the rabbet *e*. To this latter web-plate is applied the retain-  
95 ing-ring *d*, which laps onto the tire and projects into the rabbet *e* thereof, and is formed with a circumferential flange *d'*, which enters the groove *b* of the tire. By means of bolts or rivets *c*, passing transversely through the  
100 retaining-ring *d*, flange *a*, and intervening portion of the wheel-body, said parts are firmly united and the tire is securely retained on the wheel-body. The flange *a*, being near



the outer edge, or the edge opposite to that which is provided with the guide-flange *t*, effectually prevents the tire from being crowded off from the wheel-body by the lateral strain on the aforesaid guide-flange, and the interlocking of the retaining-ring *d* with the grooved portion of the tire prevents the tire from being thrown radially from the wheel-body in case the tire is broken transversely.

10 Aside from this it will be observed that the construction of the wheel is simple and inexpensive, and the tire is readily pressed onto the wheel-body, and the latter is firmly clamped between a flange which is integral

15 with the tire and a ring interlocked with said tire and firmly secured to the aforesaid flange.

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

20 1. In combination with the hub and the non-metallic core *C*, the bushing *h*, formed on its outer peripheral face with projections embedded in the sides of the aperture of the core, and the web-plate *P'*, provided with a

25 central eye of the same shape and diameter as the exterior of the bushing and receiving the end of the latter through it, substantially as described and shown.

30 2. The combination, with the tire formed at one side of its inner peripheral face with the inward-projecting flange *a*, and provided at the opposite side with the circumferential

groove *b*, of the wheel-body composed of the non-metallic core *C* and web-plates *P P'*, all extending to the periphery of said body and seated on the tire at the inner side of the aforesaid flange, the retaining-ring *d*, applied to the plate *P'*, and formed with the flange *d'*, entering the groove *b*, and bolts or rivets *c*, uniting said parts, substantially as described and shown.

3. The combination, with the tire formed at one side of its inner peripheral face with the flange *a*, and provided at the opposite side with the rabbet *e* and groove *b* in said rabbet, the wheel-body composed of the core *C*, and web-plates *P P'* at opposite sides of said core, and all extending to the periphery of the body and seated on the tire, with the face of the plate *P'* flush with the rabbet *e*, the retaining-ring *d*, applied to the latter plate and projecting into the said rabbet and formed with the flange *d'*, entering the groove *b*, and bolts or rivets *c*, uniting said parts, substantially as described and shown.

In testimony whereof I have hereunto signed my name, in the presence of two witnesses, at New York, in the county of New York, in the State of New York, this 12th day of June, 1888.

EDGAR PECKHAM. [L. S.]

Witnesses:

JOSEPH H. BURTON,  
H. H. WILLIAMSON.