A. NORRANDER.

WHEEL.

APPLICATION FILED APR. 6, 1908.

916,480.

Patented Mar. 30, 1909.

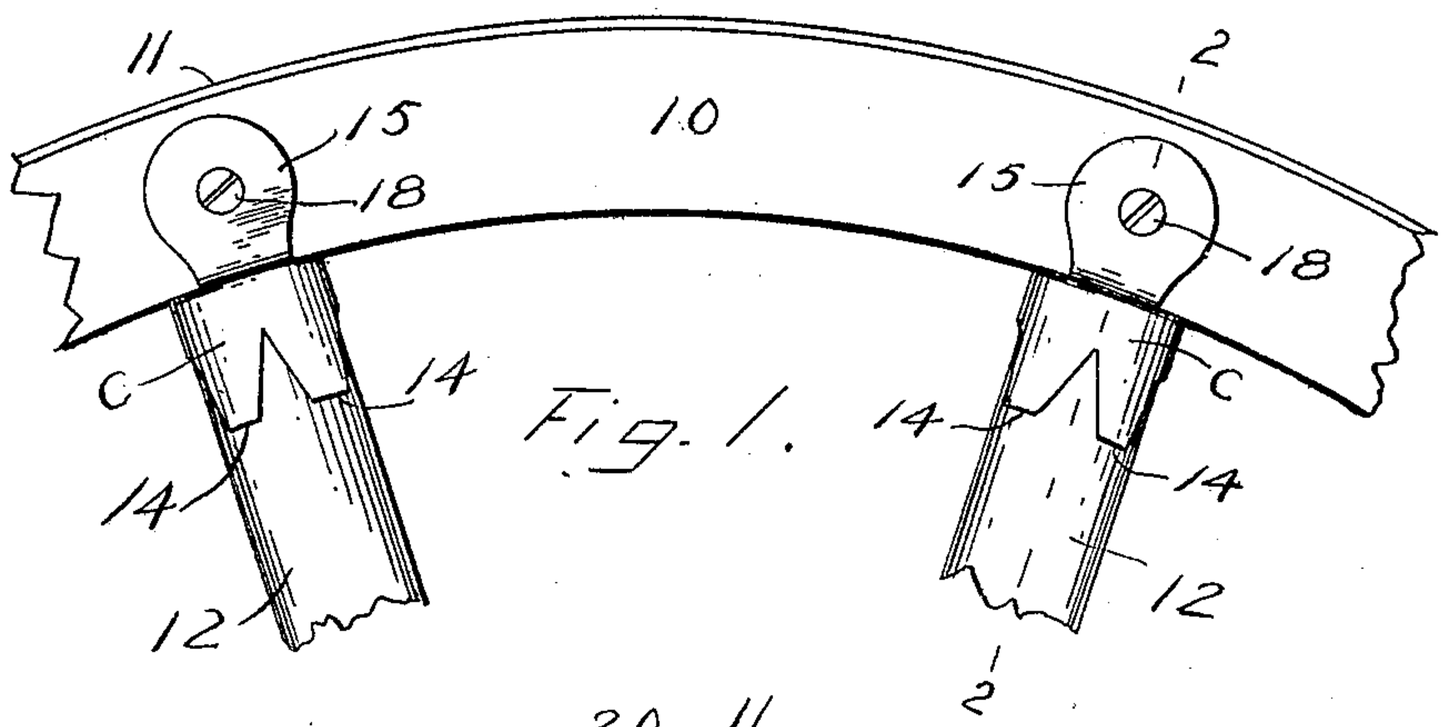


Fig. 1.

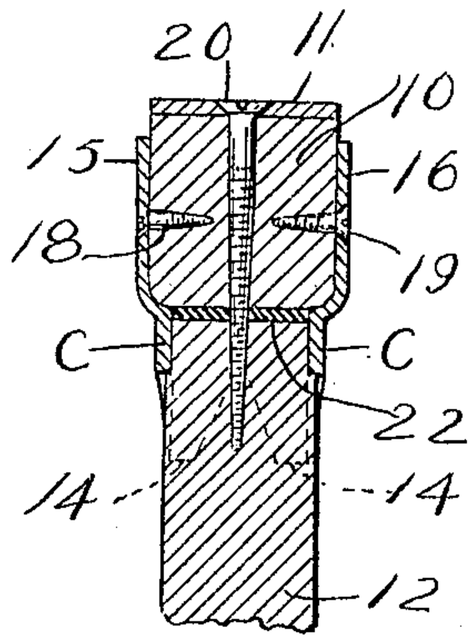
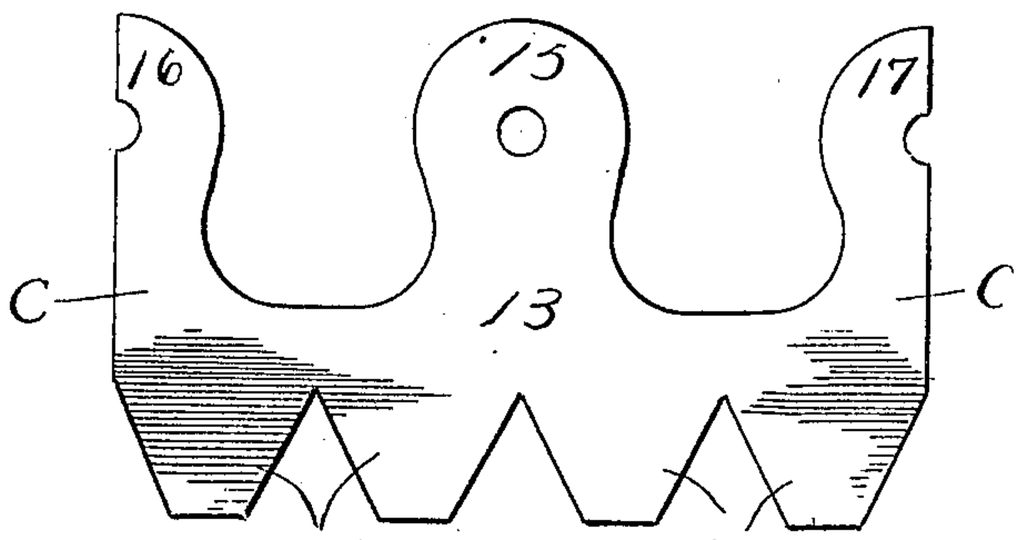


Fig. 2.

Fig 3.



WITNESSES:

J. C. Simpson

C. M. Woodward

INVENTOR

Andrew Norrander.

BY Chandlee & Chandlee

Attorneys.

UNITED STATES PATENT OFFICE.

ANDREW NORRANDER, OF CLARA CITY, MINNESOTA.

WHEEL.

No. 916,480. Specification of Letters Patent. Patented March 30, 1909.

Application filed April 6, 1908. Serial No. 425,570.

To all whom it may concern:

Be it known that I, ANDREW NORRANDER, a citizen of the United States, residing at Clara City, in the county of Chippewa, State of Minnesota, have invented certain new and useful Improvements in 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 appertains to make and use the same.

This invention relates to wheels, more particularly to that class of wheels comprising wood fellies and wood spokes, and has for one of its objects to provide a simply constructed means between the spokes and felly, to increase the efficiency and utility, and strengthen the wheel construction, while at the same time decreasing the expense of construction.

With these and other objects in view the invention consists in certain novel features of construction as hereafter shown and described and then specifically pointed out in the claims, and in the drawings illustrative of the preferred embodiment of the invention, Figure 1 is a side elevation of a portion of a wheel including a section of the felly, tire, and a number of the spokes, with the improved fastening means applied, Fig. 2 is a transverse section on the line 2—2 of Fig. 1, and, Fig. 3 is a view of the plate from which the improved fastening device is constructed shown in its distended form.

In the drawings, 10 represents a portion of the felly, 11 a portion of the tire, and 12 sections of the spokes, the outer ends of the spokes abutting squarely against the inner face of the felly and not tenoned therein as in the ordinary construction of wheels.

The fastening means between the spokes and fellies is formed from a plate of sheet metal, preferably steel, stamped or otherwise constructed in the form shown in Fig. 3 with a central portion 13 with spaced wings depending from one side, a central whole clip 15 extending centrally from the opposite side and two half clips 16—17 extending from the ends at the same side as the whole clip 15, and then when the plate 13 with its projections is rolled into tubular form as indicated in Figs. 1 and 2, the two half clips 16—17 will unite at the opposite side of the tubular structure from the whole clip 15, the two clip devices adapted to bear against opposite sides of the felly 10 as shown, while the spaced wings 14 form a socket to bear over the adjacent end of the adjacent spoke 12. The contiguous edges of the half clips 16—17 and the ends of the central portion 13 of the plate may be secured together after being rolled into tubular form by brazing or welding, to complete the structure of the fastener, and the ears thus formed may be fastened lightly to the felly by small screws 18—19 if found necessary.

The spaced wings 14 provide means for readily compressing the socket portion of the device firmly against the felly and embedding it therein, to effectually prevent any tendency of the fastening device to move inwardly toward the head, and under ordinary conditions this compression of the wings 14 will be sufficient to hold the fastening device without having resource to the screws 18—19, but the latter may be employed as an additional holding means if desired, but it will be understood that the screws 18 having only to support the fastening device from movement longitudinally of the spokes need be relatively small, and their presence therefore would not weaken the felly. Additional holding means may be employed between the felly and the spokes comprising screws 20 inserted through the tire 11, the felly 10 and into the spoke 12, as shown in Fig. 2.

Disposed between the ends of the spokes 12 and the felly 10 are packing elements 22, of rubber or the like, to not only receive the impact between the felly and spokes, but also to exclude moisture, and thus preserve the spokes and fellies and prevent decay.

The device is simple in construction, can be applied to wheels of various sizes and forms, and to wheels employed under all the various forms of vehicle bodies, and are as equally applicable to the lightest bodies and the heaviest truck wheels.

What is claimed as new, is:—

1. The combination with a wheel felly, of a spoke, and a fastening device between the spoke and the felly and comprising a plate having spaced projections at one side and a whole clip element and two half clip elements spaced apart, and extending respectively from the central and each end portion at the other side, said plate adapted to be rolled into a ferrule for bearing over the spoke with the spaced wings embedded in the same and

the whole clip element bearing against one side of the felly and the half clip elements bearing over the opposite side of the felly.

2. A fastening device adapted to connect a wheel felly to a spoke and comprising a plate formed with spaced projections at one side and clip elements at the other side, the plate adapted to be rolled into a ferrule for bearing over the spoke with the projections embedded into the body of the same and the clips bearing against opposite sides of the felly.

3. The combination with a wheel felly of a spoke, a packing element between the spoke and the felly, and a fastening device between the spoke and the felly and comprising a plate having spaced projections at one side and a whole clip element and two half clip elements spaced apart and extending respectively from the central and each end portion at the other side, said plate adapted to be rolled into a ferrule for bearing over the spoke with spaced wings embedded in the same and the whole clip element bearing against one side of the felly and with the two half clip elements united and bearing over the other side of the felly.

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

ANDREW NORRANDER.

Witnesses:
C. S. SWIERS,
A. W. SIMS.