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L. E. CRESWELL.
WHEEL.
FILED Nov. 24, 1920.

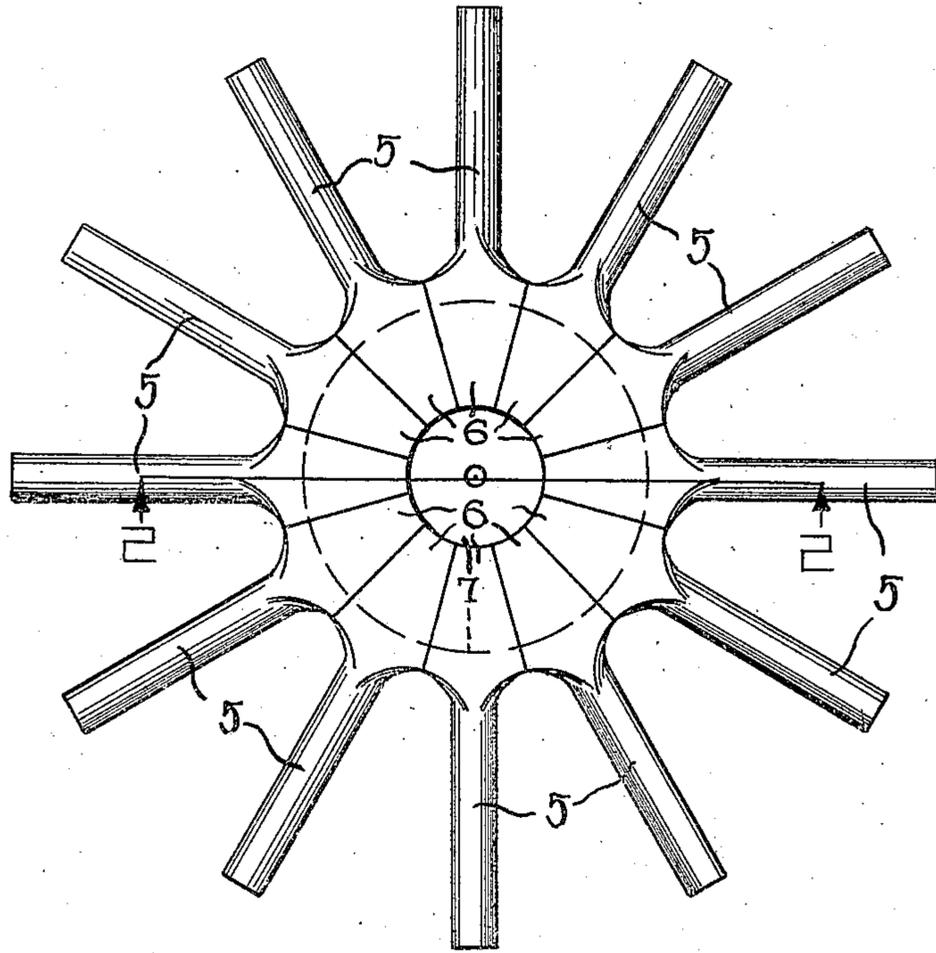


FIG 1

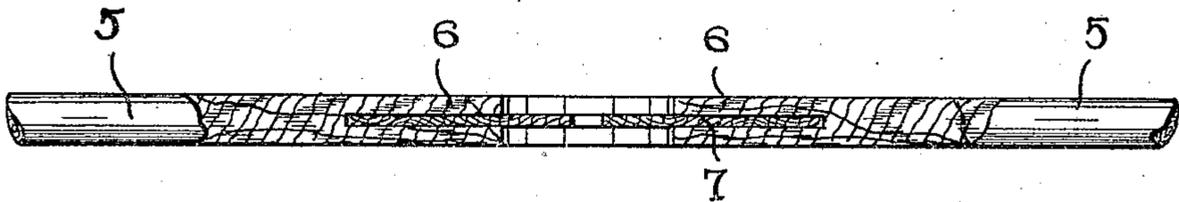


FIG 2

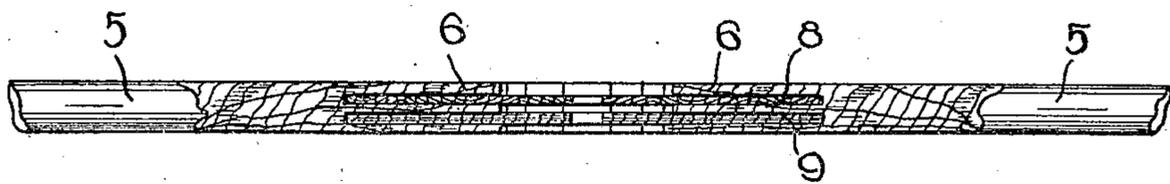


FIG 3

WITNESSES

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LUTHER E. CRESWELL, OF CHICAGO, ILLINOIS.

WHEEL.

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To all whom it may concern:

Be it known that I, LUTHER E. CRESWELL, a citizen of the United States, and a resident of the city of Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Wheels, of which the following is a specification.

My invention relates to wheels and it has for its principal object the provision of a new and improved construction by which a very strong structure shall be produced and by reason of which the complete spider, comprising the spokes attached together without the hub and felly in position thereon, can be shipped to advantage in shape for use with different types and sizes of hubs and rims without danger normally of being broken in transit.

Other objects will appear hereinafter.

The invention consists in the combinations and arrangements of parts hereinafter described and claimed.

The invention will be best understood by reference to the accompanying drawings forming a part of this specification, and in which,

Fig. 1 is a face view of a spider embodying my improved construction.

Fig. 2 is a cross section taken on line 2—2 of Fig. 1, and,

Fig. 3 is a cross section similar to Fig. 2 but showing a modified form of construction.

Referring to Figs. 1 and 2 which show the simpler form of construction, 5 indicates the spokes of my improved wheel structure, a plurality of which are used as may be desired. Each of the spokes is mitered at its inner end portion, the arrangement being such that the complete set of spokes are fitted snugly together to form a complete circle, as is common practice in wheel construction. In the construction shown, each of the spokes is provided with an enlarged head 6 at its inner end, whereby the extent of the engagement of adjacent spokes with each other is very materially increased, said heads being provided with circumferentially aligned notches or grooves at their inner ends extending outwardly to the outer end portions of the heads.

As is clearly shown in Fig. 2, the aligned grooves have a disk 7 positioned within them for holding the spokes in position with re-

spect to each other. In the construction shown, the disk 7 is made of wood, the grain of which extends across the circle of the spokes. Preferably the spokes 6 are glued together about the disk 7 and the disk in turn is glued to the spokes.

In the construction shown in Fig. 3, the inner end of each of the spokes is provided with a plurality of grooves, the grooves of each of the spokes being in alignment with the corresponding grooves of the adjacent spokes. A plurality of disks are employed in the respective sets of grooves, the grain of the wood of one of the disks being disposed at an angle to the grain of the wood of the other disk or disks. In the construction illustrated, the two disks employed are indicated by the numerals 8 and 9. In the construction of Fig. 3, the spokes are glued together about the disks and the disks are also glued to the spokes.

By the use of my construction, I am enabled to provide a spider structure which is of such strength as to be capable of standing the hard usage of shipment without the use of a felly or other protecting band about the outer ends of the spokes. It is thus possible for me to ship a spider by itself where such a structure is desired, without the necessity for shipping also other elements which are not desired and for which the purchaser should not be compelled to pay. By the use of my construction, the ultimate strength of the completed wheel is also materially increased, and particularly as against side strains. As will be readily understood, if it is desired, the grooves in the ends of the spokes can be disposed at a slight angle with respect to the spoke whereby the desired dish is provided in the wheel, the disk being adapted in such construction to maintain the desired shape of the wheel.

While I have illustrated and described the preferred form of construction for carrying my invention into effect, this is capable of variation and modification without departing from the spirit of the invention. I, therefore, do not wish to be limited to the precise details of the construction set forth, but desire to avail myself of such variations and modifications as come within the scope of the appended claims.

Having described my invention, what I

claim as new and desire to secure by Letters Patent, is:—

1. A wheel structure comprising a plurality of wooden spokes having their inner ends mitered to fit together in a complete circle, said spokes being provided with circumferentially aligned notches in their inner end portions, and a disk of wood fitted in said notches for holding the spokes in operative position with respect to each other, said spokes being glued together and being glued to said disk.

2. A wheel structure comprising a plurality of wooden spokes having their inner ends mitered to fit together in a complete circle, said spokes being provided with aligned grooves in their mitered ends, and a disk fitted snugly in said grooves for holding said spokes in operative position with respect to each other, said spokes being glued together about said disk.

3. A wheel structure comprising a plurality of wooden spokes having enlarged mitered heads on their inner ends fitted together in a complete circle, said heads being provided with aligned grooves in their inner ends extending outwardly to the outer end portions of the heads, and a disk of wood fitted snugly in said grooves for holding said spokes in operative position with respect to each other, said disk being glued to said spokes and the spokes being glued together about the disk.

4. A wheel structure comprising a plurality of wooden spokes having their inner ends mitered to fit together in a complete circle, said spokes being provided with circumferentially aligned notches in their inner end portions, and a plurality of disks of wood fitted in said notches with the grain of the wood of one disk running at an angle to the grain of the wood of the other disk, said spokes being glued together about said

disks and said disks being glued to the spokes for holding the spokes in operative position with respect to each other.

5. A wheel structure comprising a plurality of wooden spokes having their inner ends mitered to fit together in a complete circle, said spokes being provided with aligned grooves in their inner end portions, and a plurality of disks of wood fitted snugly in said grooves for holding said spokes in operative position with respect to each other, said disks being glued to said spokes and the spokes being glued together about the disks.

6. A wheel structure comprising a plurality of wooden spokes having their inner ends mitered to fit together in a complete circle, each of said spokes being provided with a plurality of grooves in alignment with the corresponding grooves of the adjacent spokes, and a plurality of disks of wood fitted snugly in said grooves respectively for holding the spokes in operative position with respect to each other, said disks being glued to said spokes and the spokes being glued together about the disks.

7. A wheel structure comprising a plurality of wooden spokes having their inner ends mitered to fit together in a complete circle, said spokes being provided with aligned grooves in their mitered ends, and a disk fitted snugly in said grooves for holding said spokes in operative position with respect to each other, said spokes being glued to each other and to said disk.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

LUTHER E. CRESWELL.

Witnesses:

CLARENCE E. THREEDY,
JOSHUA R. H. POTTS.