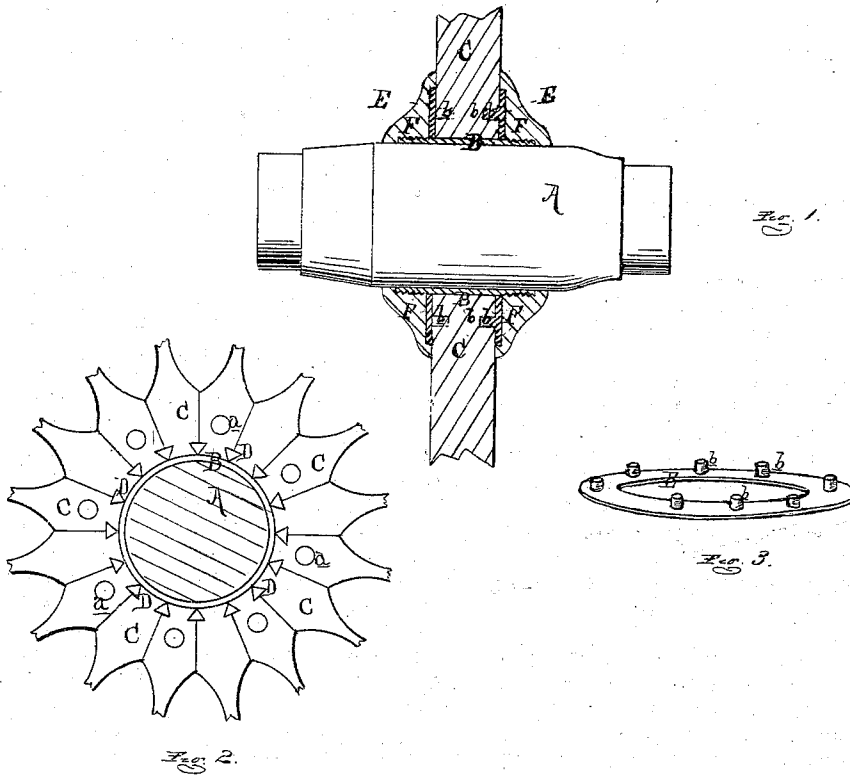


H. B. LECKENBY.

Wheels for Vehicles.

No. 135,434.

Patented Feb. 4, 1873.



ATTEST:
H. S. Sprague
Clerk of Court

INVENTOR:
H. B. Leckeny
By Atty-
H. S. Sprague

UNITED STATES PATENT OFFICE.

HARMON B. LECKENBY, OF KALAMAZOO, MICHIGAN.

IMPROVEMENT IN WHEELS FOR VEHICLES.

Specification forming part of Letters Patent No. **135,434**, dated February 4, 1873.

To all whom it may concern:

Be it known that I, H. B. LECKENBY, of Kalamazoo, in the county of Kalamazoo and State of Michigan, have invented a new and useful Improvement in Wagon-Wheels; and I do declare that the following is a true and accurate description thereof, reference being had to the accompanying drawing and to the letters of reference marked thereon, and being a part of this specification, in which—

Figure 1 is a vertical longitudinal section through the hub. Fig. 2 is an elevation, in section, with the supports and holding-ring removed. Fig. 3 is a perspective of one of the holding-rings.

Like letters refer to like parts in each figure.

The nature of this invention relates to an improvement in the construction of wagon-wheels, so arranged that there need be no mortises or tenons, and consequently no weakening of the hub or spoke, thereby making a strong, durable, and easily-repaired wheel. My invention consists in securing the spokes to the hub and metallic band by means of holding-rings and metallic flanges, as more fully hereinafter described.

In the accompanying drawing, A represents a wooden hub, upon which is driven or screwed the metallic band B, against which the spokes C rest. The inner ends of these spokes are of the general form shown in Fig. 2, and they are secured together and from drawing out by means of the dovetailed keys

D. A small hole, *a*, is bored into the shank of each alternate spoke on one face of the wheel, and the holding-ring E, with corresponding lugs *b* to fit into said holes, is driven upon the metallic band until the lugs engage with the holes. A like ring engages in like manner with the alternate spokes on the opposite face of the wheel. The two ends of the metallic band are provided with threads. The metallic flanges F are screwed onto the metallic bands, tightly against the face of the spokes and holding-rings, as shown in Fig. 1.

A wheel thus constructed may be made very light in the hub, which is not weakened by cutting mortises to receive tenons on the ends of the spokes, while the latter are held more rigidly in place by the devices above described.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In combination with said spokes, secured by keys D, the holding-rings E, provided with studs or lugs *b*, as and for the purposes described.

2. A wagon-wheel wherein the hub A, metallic band B, spokes C, keys D, holding-rings E, and metallic flanges F are arranged and constructed to operate substantially as and for the purposes set forth.

HARMON B. LECKENBY.

Witnesses:

AMOS D. ALLEN.

GEO. W. WINSLOW.