

(No Model.)

J. E. FITTS.
WAGON HUB.

No. 415,503.

Patented Nov. 19, 1889.

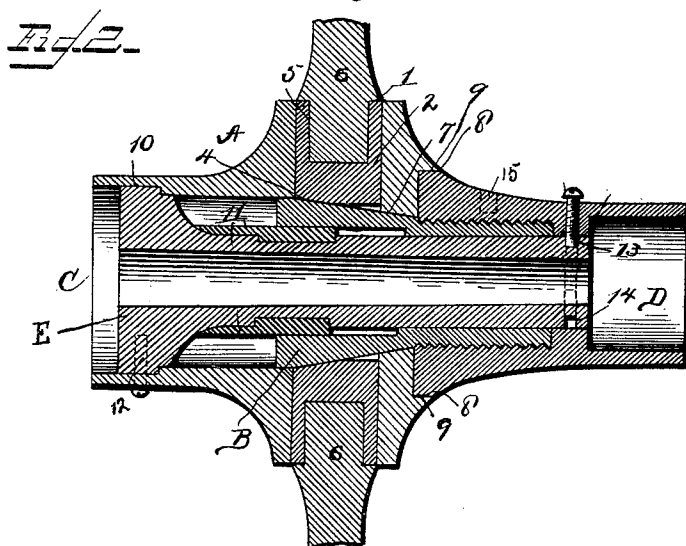
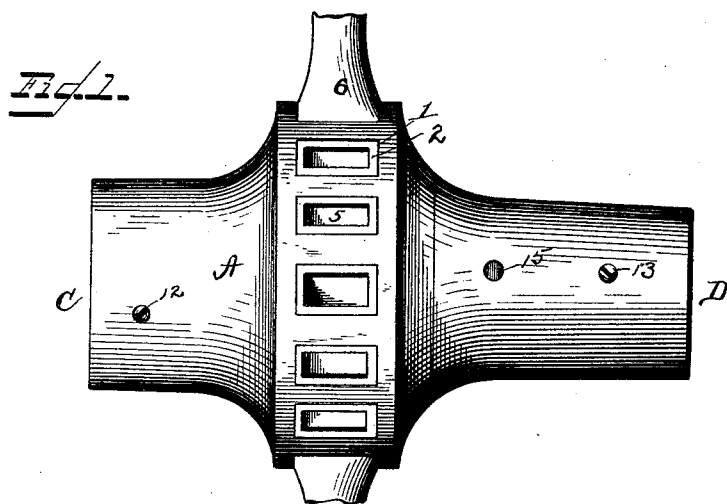
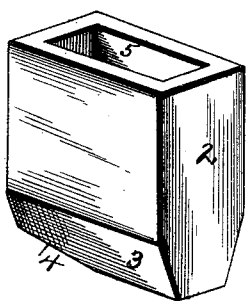


Fig. 3.



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UNITED STATES PATENT OFFICE.

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WAGON-HUB.

SPECIFICATION forming part of Letters Patent No. 415,503, dated November 19, 1889.

Application filed June 15, 1889. Serial No. 314,375. (No model.)

To all whom it may concern:

Be it known that I, JAMES E. FITTS, a citizen of the United States, and a resident of Connellsville, in the county of Fayette and State of Pennsylvania, have invented certain new and useful Improvements in Wagon-Hubs; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

This invention relates to vehicle-hubs.

It is the object of this invention to construct a hub in such a manner that should the tire or spokes become loosened either from use or shrinkage this defect may be overcome in a simple and effective manner; and to these ends the invention consists in the improved construction and combination of parts, as hereinafter more fully described in the specification, illustrated in the drawings, and pointed out in the claims.

In the accompanying drawings, forming part of this specification, and in which like letters of reference indicate corresponding parts, Figure 1 is a side elevation of my improved hub, showing the spoke-sockets in place therein. Fig. 2 is a longitudinal sectional view of the same, showing the relative positions of the tubular axle-box, the cone-shaped wedge, and the spoke-sockets; and Fig. 3 is a perspective detail view of one of the sockets.

Referring to the drawings, A designates the hub, which may be constructed of any material, but preferably in this instance of wood, and provided with the usual spoke-openings 1. Within these openings are snugly fitted the spoke-sockets 2, which, as will be observed, are beveled at their lower end 3 to form a device that is approximately wedge-shaped. The bottom is also inclined from a point near the center to the edge, as shown at 4, the purpose of which will be fully described farther on. The upper end is provided with a socket 5 for the reception of the spoke 6, the dimension of the said recess being regulated by the size of the spoke to be used.

B designates the sleeve, on which is mounted

a cone-shaped wedge 7 for forcing out the said sockets. This wedge may be made of any suitable material, and is inserted within the hub from the end C, which is made larger than the end D. The inclined portion 4 of the sockets is arranged toward the wedge, so that when the same is inserted the inclined portion before referred to will rest upon the wedge, thus allowing it to force the sockets up gradually and at the same time vertically, so as to prevent any binding of the sockets against the sides of the spoke-openings, which would inevitably follow were the bottom of the sockets left square. The end of the sleeve opposite that upon which the wedge is mounted is provided with screw-threads adapted to be engaged by threads within the inner end of the portion D of the hub. This portion is provided with a flange 8, adapted to fit within a recess 9 formed in the side of the hub, so that when screwed into position, as shown in Fig. 1, it will prevent the entrance of dust to the interior of the hub and also form a rigid joint for preventing the tubular axle-box E working loose. This tubular axle-box is enlarged on its inner end, as shown at 10, to fill entirely the opening within the end C through which the sleeve is admitted, and it is also provided with two feathers 11, adapted to engage grooves within the sleeve to prevent the axle-box turning within the hub.

Having now described the different parts of my device, I will show the manner in which it operates.

The spokes are first rigidly secured within the sockets and are then driven in place in the hub in the ordinary manner, care being taken that they all extend downward precisely the same distance, in order to allow them to rest with equal pressure upon the wedge on the sleeve. The felly is then placed on the spokes in the usual manner and the tire upon the felly. Screws 12 are then inserted through the end C and engage the enlarged portion of the axle-box to hold the same rigidly in place, and the end D is then screwed in place and held there by means of screws 13, which rest in a groove 14 formed upon the outer end of the axle-box. Now should the tire or spokes become loosened from use it is only necessary to turn the outer end D, which may

be readily done by inserting a pin-wrench through an opening 15 formed therein, or by means of a monkey-wrench, when the wedge will be drawn out and thus force the spoke-sockets outward, thus taking up any play in either the tire or spokes. It is obvious that the axle (not shown in the drawings) passes through the tubular axle-box, and its outer end passes far enough into the outer end or annular recess D to receive a nut and be held rigidly in the usual and well-known manner.

It will be readily seen from the foregoing description that, although this form of a hub is comparatively simple of construction, it will be found of the highest efficiency and durability in use, and may be constructed at a slight expense, and that by means of this peculiar device the tire and spokes of the vehicle may be kept always tight, thereby preventing injury to the same, which frequently follows when they have become loose from use.

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

1. In a hub, the combination of a fixed portion provided with a series of rectangular socket-openings, spoke-sockets fitting therein, having their bottoms inclined from a point near the center to the outer edges, and also having their sides inclined or wedge-shaped at their lower portions, a sleeve fitting within said fixed portion and formed or provided with a cone-shaped wedge engaging the inclined portions of the spoke-sockets, and a movable portion provided with female threads registering with the threaded portion of said sleeve, substantially as set forth.

2. In a hub, the combination of a fixed portion having a series of rectangular socket-openings, and also having its bore near the outer end thereof provided with a shoulder forming an outer annular recess, spoke-sockets fitting in the rectangular openings of the

fixed portion, a sleeve fitting in said fixed portion and formed or provided with a cone-shaped wedge for engaging the said inclined ends, a movable portion engaging the threaded end of said sleeve, and a tubular axle-box having an inner enlarged portion fitting in the inner recess formed in the bore of the fixed portion and adapted to hold the sleeve in place, substantially as set forth.

3. In a hub, the combination of a fixed portion having a series of rectangular socket-openings, spoke-sockets fitting in the rectangular openings, a sleeve fitting in said fixed portion and formed or provided with a cone-shaped wedge for engaging said inclines, and also having grooves therein, a movable portion engaging the threaded end of said sleeve, a box provided with seats or depressions, and feathers disposed between the inner tubular axle-box and the wedge-shaped portion of the sleeve and fitting in the depressions and grooves, respectively, of said axle-box and sleeve, substantially as set forth.

4. In a hub, the combination of a fixed portion provided with a series of rectangular socket-openings, and also provided with an annular flange forming an annular recess, spoke-sockets fitting in said rectangular socket-openings, a sleeve fitting within said fixed portion and formed or provided with a cone-shaped wedge, and a movable portion provided with female threads registering with the threaded portion of said sleeve, and also having its inner end flanged, said flanged portion fitting within the annular end recess of the fixed portion, so as to form a rigid joint, substantially as set forth.

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

JAMES E. FITTS.

Witnesses:

AUGUST PETERSON,
GEO. A. WOOSTER.