E. S. WOODBURY & G. H. McKELVEY.

HUB ATTACHING DEVICE.

APPLICATION FILED FEB. 17, 1910.

996,190. Patented June 27, 1911.

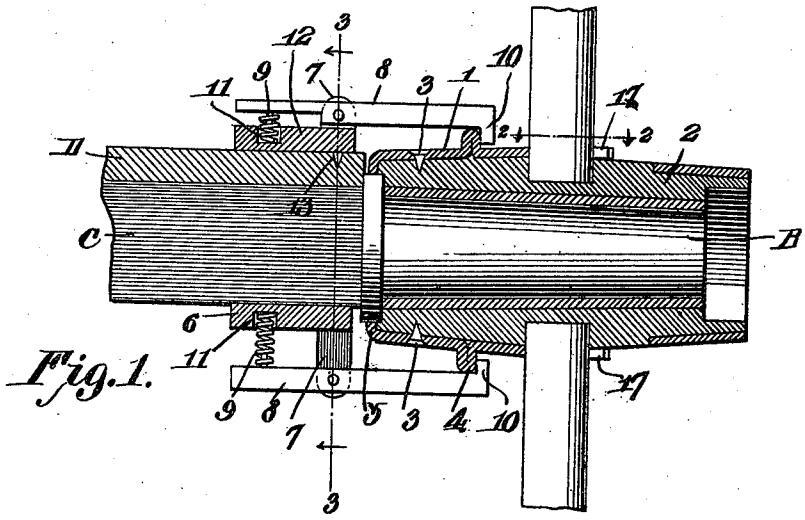


Fig. 1.

Fig. 2.

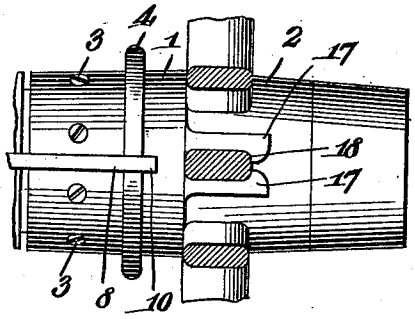
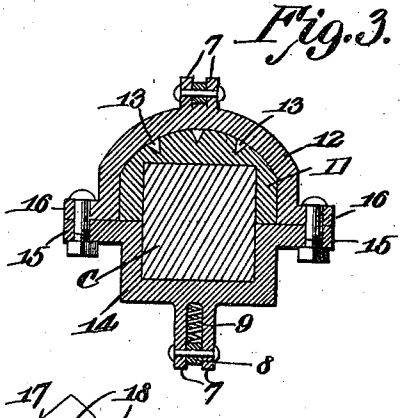


Fig. 3.



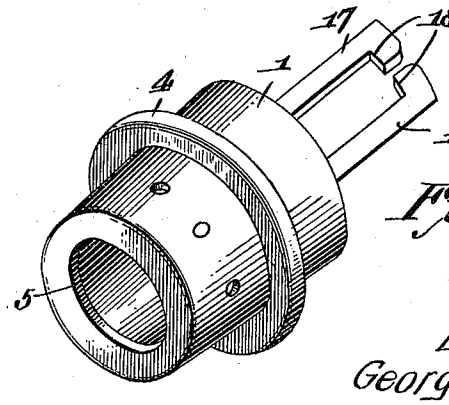


Fig. 4.

Witnesses

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HUB-ATTACHING DEVICE.

996,190. Specification of Letters Patent. Patented June 27, 1911.

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To all whom it may concern:

Be it known that we, EARL S. WOODBURY and GEORGE H. McKELVEY, citizens of the United States of America, residing at Augusta, in the county of Lewis and Clark and State of Montana, have invented new and useful Improvements in Hub-Attaching Devices, of which the following is a specification.

This invention relates to hub-attaching devices, and has for an object to provide a device of this character whereby the hub of a wheel can be effectively mounted upon the spindle of an axle and operatively held thereon without the use of the well known retaining nuts, the said means being of such construction which will readily permit the removal of the wheel when it is desired to lubricate the same.

In the drawing, forming a portion of this specification and in which like characters of reference indicate similar parts in the several views:—Figure 1 is a sectional elevation of our improved hub-attaching device showing the manner of attaching the hub to the axle of a vehicle. Fig. 2 is a section taken on line 2—2 of Fig. 1. Fig. 3 is a detail transverse section taken on the line 3—3 of Fig. 1. Fig. 4 is a detail perspective view of the hub-carried collar.

Our improved hub-attaching device consists of a collar 1 which is formed from suitable sheet metal and secured to the inner end of the hub 2 of the vehicle wheel by means of screws or similar suitable devices 3. At the outer end the collar is stamped to form an outwardly extending annular flange 4 which entirely surrounds the inner portion of the hub. The inner end of the said collar is stamped to form an inwardly extending guard member 5 which is bent against the inner face of the hub, this member serving to hold the hub against unnecessary wear incident to its frictional engagement with the surface C of the axle B. The collar 1 also serves the purpose of a reinforcing band to greatly strengthen the hub at the point where it is subjected to the greatest amount of strain.

A collar 6 is secured to the axle at a point adjacent to the inner face of the hub, and as shown, the said collar is formed upon opposite sides with pairs of ears 7. Pivoted between each pair of ears is a dog 8 with which is engaged a spring 9 for holding the nose 10 of the dog at one side of the flange 4 of the collar 1. The springs 9 are seated in cavities 11 formed in the collar, the said cavities serving to hold the springs against casual displacement. Upon reference to Fig. 1 of the drawing it will be seen that when the dogs 8 are moved against the tension of the springs 9 the nose ends 10 of the dogs can be moved out of engagement with the flange of the collar and the hub 2 may be freely removed from the axle. The construction of the device herein set forth and described is extremely simple and its use will permit the operator to readily remove the vehicle wheel when it is desired to lubricate the axle, furthermore, the construction of the device entirely obviates the necessity of employing the usual well known axle-engaging nuts which are employed for holding the wheel on the axle. In rotation of the wheel it cannot become casually disengaged from its axle.

The collar 6 is preferably formed of two parts, the upper part 12 being provided upon its interior surface with a plurality of inwardly directed spurs 13. The section 14 of the collar is provided with ears 15 which aline with similar ears 16 upon the upper section. These ears receive suitable fastening devices whereby the two sections may be drawn toward each other and the spurs 13 of the upper section securely embedded in the member D of the axle.

The collar 1 is formed with a plurality of pairs of spring arms 17 which are provided at their outer extremities with shoulders 18 which are adapted to engage the spokes of the wheel as shown in Fig. 2 of the drawing. These arms are so constructed that through their engagement with a number of the spokes of the wheel considerable strain is relieved from the fastening devices 3 and the collar 1 is more securely mounted upon the hub. It will be seen that the improved construction permits of its attachment to hubs and vehicle axles of ordinary construction.

We claim:—

1. The combination with an axle and a vehicle wheel therefor, of a hub-attaching device comprising a collar surrounding a portion of the hub, fastenings securing the collar to the hub, retaining means supported by the axle and engaging the collar to hold the wheel operatively associated with the axle, and spring gripping arms on the collar engaging the spokes of the wheel so that

strain on the collar is in part transmitted to the spokes.

2. In a hub-attaching device, a collar secured to the hub and provided with spring spoke-gripping arms, and means engaging the collar to hold the hub operatively associated with the axle.

In testimony whereof we affix our signatures in presence of two witnesses.

EARL S. WOODBURY.
GEORGE H. McKELVEY.

Witnesses:
THOS. CLARK,
C. F. MCKELVEY.