

(No Model.)

J. H. & E. S. COYLE.
HUB.

No. 468,220.

Patented Feb. 2, 1892.

FIG. 2.

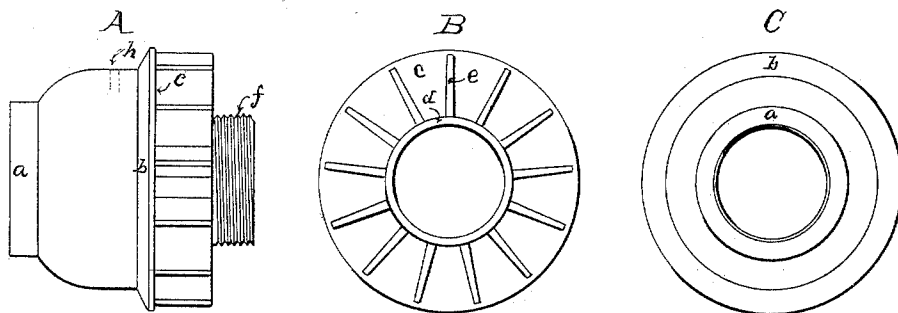


FIG. 3.

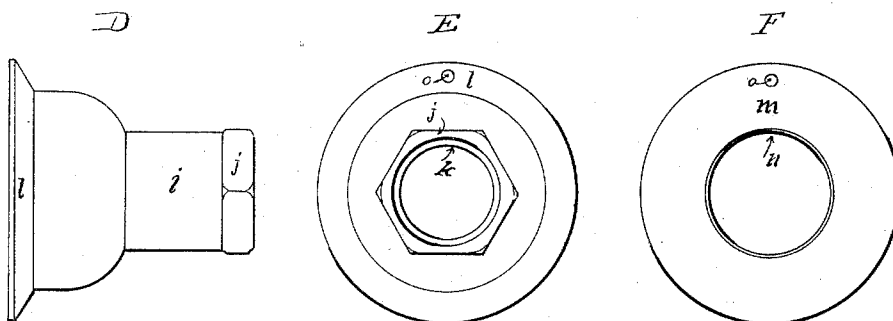


FIG. 1.

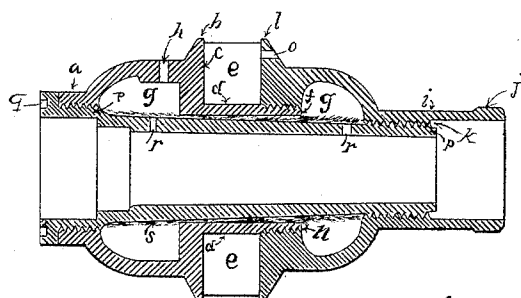
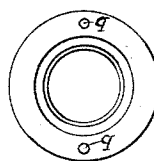


FIG. 4.



WITNESSES:

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UNITED STATES PATENT OFFICE.

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NEW YORK.

HUB.

SPECIFICATION forming part of Letters Patent No. 468,220, dated February 2, 1892.

Application filed December 24, 1890. Serial No. 375,684. (No model.)

To all whom it may concern:

Be it known that we, JAMES H. COYLE, of Albany, in the county of Albany, and EDWARD S. COYLE, of Ballston Spa, in the county of Saratoga and State of New York, citizens of the United States, have invented certain new and useful Improvements in Hubs or Naves of Wagons, Carriages, Carts, Trucks, &c.; and we 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 part of this specification.

Our invention relates to an improvement in hollow hub or nave lubricators, which are made of iron, steel, or metal and finished in brass, copper, silver, or nickel, and is adapted to all kinds of wagons, carriages, carts, trucks, &c.

The objects of our invention are, first, to construct a hub or nave in sections with greater strength and durability; second, to provide means by which repairing can be done in the way of removing and replacing the spokes to and from the wheel without removing the felly or tire; third, to provide a chamber in the body of the hub or nave to receive, hold, and distribute oil to the external surface of the arm or axle-tree upon which the wheel turns. We obtain these objects in a manner that will be understood by reference to the accompanying drawings, in which—

Figure 1 represents a vertical longitudinal section of a hub or nave embodying our invention with axle-box attached.

Fig. 2 represents a side and end view of the heel or butt-end of a hub or nave, it being oval and oblong in form, made of iron, steel, or metal, smooth on its outer surface, and smooth and hollow on its inner, terminating at the internal end in a reduced portion *a*, letter A, band-like in form, smooth on its outer surface, and screw-threaded on its inner surface, as shown in Fig. 1. The outer edge has a raised annular rib *b*, beveled on the inner side, the outer presenting a flat surface or face *c*, letter B, extending down and joining to a reduced portion *d*, as shown in Fig. 1, which projects in front and forms a floor to lips E, which are

attached to and project out from face *c*, letters A and B, Fig. 2. The reduced portion extending in front of lips *e* is provided with a screw-thread *f*, letter A, Fig. 2, the inside of reduced portion being hollow and uniting with chambers *g* in hub, as shown in Fig. 1. Letter *h* is the aperture to fill hub with oil.

Fig. 3 represents side and end views of the outer end of the hub or nave, it being oval and oblong in form, made of iron, steel, or metal, is smooth on its outer surface, hollow and smooth on its inner, the outer end terminating in a reduced portion *i*, letter D, smooth on its inner surface, back to an internal annular rib or shoulder *k*, provided with a screw-thread, as shown in Fig. 1, to correspond with screw-thread on outer end of axle-box. The bead *j* on outer edge of band *i* is hexagon in form, letters D and E, Fig. 3. The inner edge has an external annular rib *l*, letter D, the outer side beveled, the inner side presenting a smooth and flat surface or face *m*, letter E, with an internal annular rib or shoulder *n*, extending in from face *m*, screw-threaded to correspond with screw-thread *f*, letter A, Fig. 2, as shown in Fig. 1. The aperture *o*, letters E and E, is to apply a set-screw.

Fig. 4 represents a shoulder on the inner end of axle-box, it being of ordinary form, the outer end being slightly raised and screw-threaded, with a screw-thread on the inner end to shoulder, as shown in section by letter P, Fig. 1, and when screwed in position forms oil-chambers *g g*, Fig. 1. The apertures *r* in axle-box are supply-holes to lubricate arm or axle-tree upon which hub turns. *s* is a covering to axle-box, which can be of felt or other porous substance, which extends the whole length of box between screw-threads on each end to govern the flow of oil.

Manner of construction.—The hub or nave being hollow and in sections, the front and back parts, A and D, Figs. 2 and 3, are screwed together, the screw-thread *n*, letter E, Fig. 3, engaging with screw-thread *f*, letter A, Fig. 2, and turned until in proper position, when flat surfaces or faces *m*, letter E, abut against lips *e*, Fig. 2, as shown in Fig. 1, forming openings or mortises to receive the tenons of the spokes. The hub is now ready to receive the axle-box, which has a shoulder on its internal

end and is screw-threaded on its outer and inner ends up to shoulder, it being passed inside of hub, the screw-threads engaging with screw-threads *k* and *f*, Figs. 2 and 3, letters A and E, as shown in section, Fig. 1, where it then becomes part of the hub by forming a floor to the oil-chambers *g*, as shown. Now in case a spoke should need to be removed or put in, it can be done by screwing off the outer portion of the hub, exposing the outer faces of the spokes, any one of which can be removed without removing the felly and tire or impairing the wheel in any form.

Having thus described our invention, what we claim, and desire to secure by Letters Patent, is—

1. The combination, with the axle-box having apertures, of the porous covering to said box, the back and front parts of the hub detachably connected together by screw-threads and each part detachably held to the axle-box independent of the other, substantially as described.

2. The combination, with the axle-box having apertures, of the porous covering to said box, the back and front parts of the hub detachably connected together by screw-threads, each part detachably held to the axle-box independently of the other, each part having an oil-chamber *g*, and one part provided with radial ribs *e*, substantially as described.

3. The combination, with the axle-box having apertures, of the porous covering to said box, the back and front parts of the hub detachably connected together by screw-threads, each part detachably held to the axle-box independently of the other, each part having an oil-chamber *g*, and one part provided with radial ribs *e* and apertures *h* and *o*, substantially as and for the purpose described.

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Witnesses:

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