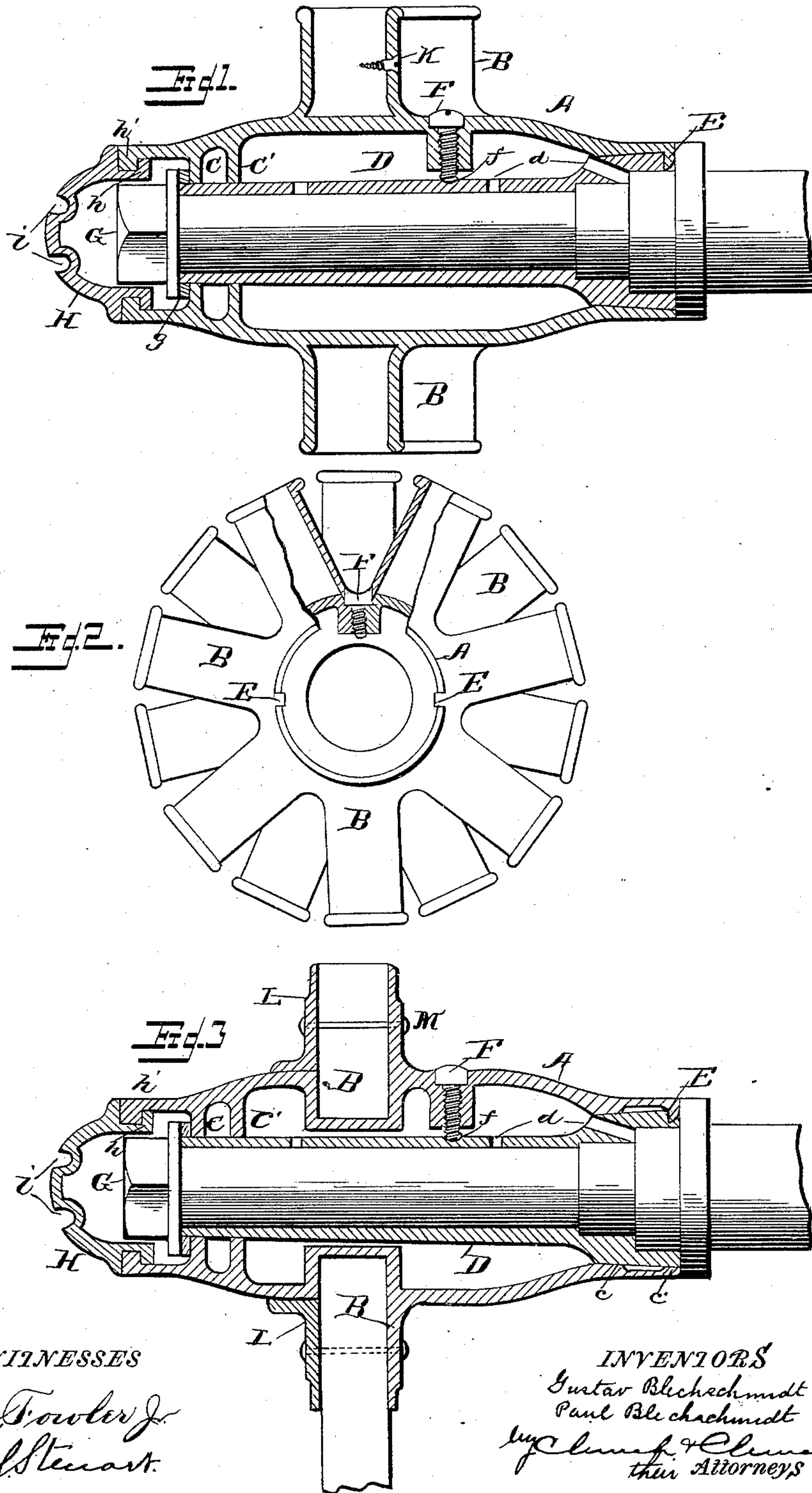


(No Model.)

G. & P. BLECHSCHMIDT.  
VEHICLE HUB.

No. 473,607.

Patented Apr. 26, 1892.



WITNESSES  
*J. M. Fowler Jr.*  
*Alfred Stewart*

INVENTORS  
*Gustav Blechschmidt* and  
*Paul Blechschmidt*  
*by* *Chas. F. Clemens*  
*their Attorneys*



# UNITED STATES PATENT OFFICE.

GUSTAV BLECHSCHMIDT AND PAUL BLECHSCHMIDT, OF QUINCY, ILLINOIS.

## VEHICLE-HUB.

SPECIFICATION forming part of Letters Patent No. 473,607, dated April 26, 1892.

Application filed December 30, 1891. Serial No. 416,608. (No model.)

*To all whom it may concern:*

Be it known that we, GUSTAV BLECHSCHMIDT and PAUL BLECHSCHMIDT, of Quincy, in the county of Adams and State of Illinois, have invented certain new and useful Improvements in Vehicle-Hubs; and we do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, and to the letters of reference marked thereon.

This invention has for its object to provide an improved metallic hub for vehicles which shall combine great strength with simplicity and lightness; to which ends the invention consists in certain novel details of construction and combinations and arrangements of parts to be hereinafter described, and pointed out particularly in the appended claims.

Referring to the accompanying drawings, Figure 1 is a section through a hub, box, and end of the axle, illustrating our invention. Fig. 2 is an end elevation with the axle removed. Fig. 3 is a section similar to Fig. 1, showing a slightly-different arrangement of spoke-sockets.

Like letters of reference indicate the same parts in all the figures.

The letter A indicates the shell or hub proper, cast or formed in one piece, of convenient shape, preferably circular in cross-section, and tapered toward each end for strength. Around the center of the hub are arranged the spoke-sockets B, cast integral with the shell and projecting entirely above it, as in Fig. 1, or formed partially below the level of the shell, as in Fig. 3. The sockets are preferably enlarged at the bottom to assist in retaining the spokes in place, and are each cast separate, with no communication with the interior of the shell, which latter is utilized as an oil-chamber, as will be presently described.

Within the hub, at the outer end, two annular flanges C C' are formed, separated slightly and adapted to support and form a close bearing with the axle-box D. At the rear end the axle-box is of somewhat larger diameter and fills the rear end of the box completely; but, if desired, relatively small annular flanges c c', Fig. 3, may be formed at this point to give additional strength. The

axle-box is thus supported at each end, and in turn braces and strengthens the hub, besides forming a perfect oil-receptacle, from which oil may be fed to the axle through openings d in the axle-box. The double flanges at front and rear of the box serve to effectually prevent the escape of oil from the hub, besides forming a most effectual support for the box to prevent bending of the box or hub from lateral strains on the wheel—an effect not to be secured were a single flange at each end employed.

To prevent the withdrawal of the box by accident or otherwise small lugs E are formed on the hub, which is of malleable metal at the rear end, which lugs are bent down over the rear end of the box by hammering or otherwise, and, if desired, fit into recesses in the end of the same, as shown, to lock the box and hub against independent rotation. To further lock the box and hub together, the screw F, which fills the oil-supply hole, is long enough to fit into a recess or concavity f in the box, and the wall of the shell supporting the screw is strengthened to resist lateral strain on the screw.

The nut G, which retains the wheel on the axle, is provided with a flange g, which projects beyond the box and effectually prevents the separation of the hub and box when the wheel is in use, thus permitting of the use of an exceedingly strong and light hub.

The end of the hub is closed by a cap H, having wedge shaped flanges h, forming, in effect, sections of screw-threads, which co-operate with similar flanges h' inside the hub to hold the cap in place. The exterior of the cap is preferably convex and is provided with small holes or recesses i, by means of which it may be turned and removed.

It may be preferable in some instances to secure the spokes in place by screws K or to employ a removable ring L around one side, particularly where the sockets are formed partially below the level of the hub, as shown in Fig. 3. When such a removable ring is employed, bolts M should be passed through between each spoke in the usual manner to lock the whole firmly in place.

The device as a whole is simple, light, and efficient, both because of its strength and because of the excellent automatic lubrication

possible. Practically but two pieces are required in the formation of a complete hub, and of necessity the first cost is reduced to the minimum.

5 We claim as our invention—

1. The combination, with the hub or shell having independent spoke-sockets formed integral therewith on the outside and the series of internal annular flanges, of the axle-  
10 box fitting tightly in said flanges and having the oil-holes, substantially as described.

2. The combination, with the hollow hub or shell having the spoke-sockets formed integral therewith and the two internal annu-  
15 lar flanges at the front end to prevent the escape of oil, of the box fitting tightly in

said flanges and having the enlarged rear end fitting the hub and provided with oil-holes communicating with the interior of the shell, substantially as described. 20

3. The combination, with the hollow hub or shell having the spoke-sockets formed integral therewith, the internal annular flanges on the hub, and the box fitting tightly in said flanges, of the lugs on the hub or shell bent  
25 down over the rear end of the hub, substantially as described.

GUSTAV BLECHSCHMIDT.  
PAUL BLECHSCHMIDT.

Witnesses:

L. E. EMMONS.  
A. W. WELLS.