

(No Model.)

W. O. GUNCKEL.
ROLLER BEARING.

No. 551,891.

Patented Dec. 24, 1895.

FIG. 1.

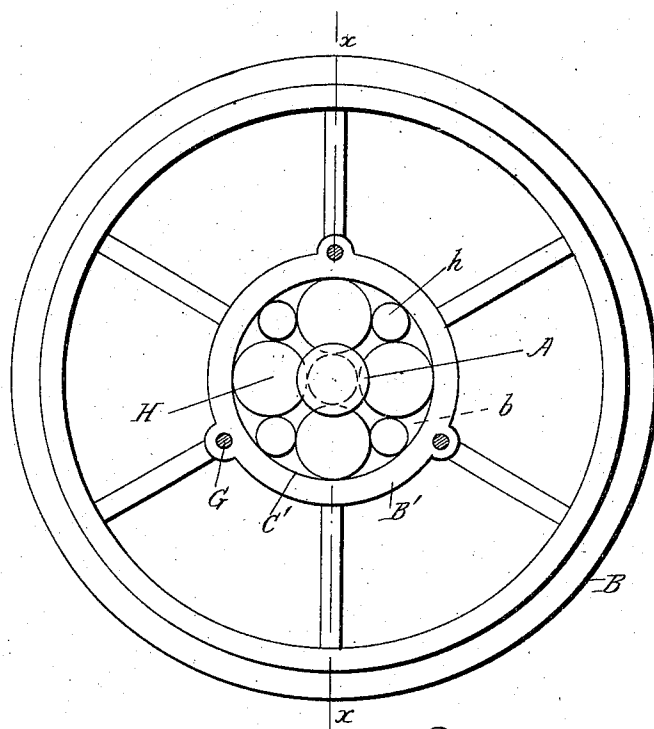
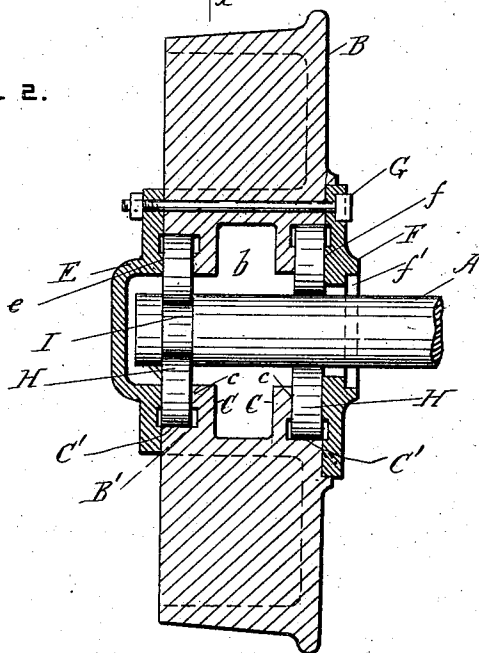


FIG. 2.



Witnesses
Walter Allen
James McLean

Inventor
Winfield O. Gunckel
By Attorney Herbert W. Feiner.

UNITED STATES PATENT OFFICE.

WINFIELD O. GUNCKEL, OF TERRE HAUTE, INDIANA.

ROLLER-BEARING.

SPECIFICATION forming part of Letters Patent No. 551,891, dated December 24, 1895.

Application filed April 24, 1895. Serial No. 547,008. (No model.)

To all whom it may concern:

Be it known that I, WINFIELD O. GUNCKEL, a citizen of the United States, residing at Terre Haute, in the county of Vigo and State of Indiana, have invented certain new and useful Improvements in Roller-Bearings; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to roller-bearings for the axles of car-wheels; and it consists in the novel construction and combination of the parts hereinafter fully described and claimed.

In the drawings, Figure 1 is a front view of a car-wheel provided with a roller-bearing according to this invention, the outer cover of the bearing being removed. Fig. 2 is a section through the same, taken on the line xx in Fig. 1.

A is the axle of a car, and B is a car-wheel journaled on the end of the axle. The wheel B is provided with a central cavity b , which may be filled with lubricating material, if desired. The cavity b is formed between two internal flanges C in the wheel-hub B', and each flange C has on its outer side a projecting annular extension c , of chill-hardened metal. C' are chambers outside the said flanges. These chambers are formed in the hub of the wheel concentric with the axle, and their peripheries are chill-hardened and form roller-races. The car-wheel is made of cast-iron or steel, and the smooth and hard surfaces of the said annular extensions and roller-races are formed by embedding plates of metal in the mold in which the wheel is cast to chill the metal of the wheel at the desired places.

E is the cover for the outer end of the wheel and axle. This cover is provided with a chill-hardened projecting flange e arranged opposite one of the annular extensions c and parallel with it when the cover is secured in position.

F is an annular cover for the inner end of the wheel-hub. This cover has a chill-hardened

projecting flange f opposite and parallel to the other annular extension c . The groove f' is for the collar on the wheel-axle to run in when the axle is provided with a collar.

G are bolts which pass through holes in the covers and in the wheel-hub and secure the covers in position.

H are large rollers interposed between the axle and the roller-races, and h are small rollers interposed between the adjacent rollers H and the roller-races. The rollers H and h are cast in chills to make them smooth and hard all over. The rollers run between the projecting annular extensions and flanges c and e and c and f at each end of the wheel-hub.

I is a groove in the axle A. One set of rollers H runs in this groove and prevents the axle from slipping endwise out of the hub of the wheel. The chamber inclosing the groove I is shown smaller in diameter than the other chamber, but it is obvious that both chambers may be made of the same diameter if the diameter of the rollers H which run in the groove I be increased in proportion to the depth of the said groove. The same device may be used to support a revolving shaft, the wheel-hub being held stationary and then being equivalent to a bearing-block.

What I claim is—

The combination, with an axle provided with a circumferential groove; of a hub provided with a chamber at each end of it having outwardly-projecting chill-hardened annular-extensions and chill-hardened roller races; covers secured one at each end of the hub and provided with inwardly-projecting chill-hardened flanges; and chill-hardened rollers H and h running in the said chambers, the large rollers H engaging with the said groove, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

WINFIELD O. GUNCKEL.

Witnesses:

P. H. BOWSER,
EDWARD J. NORRIS.