

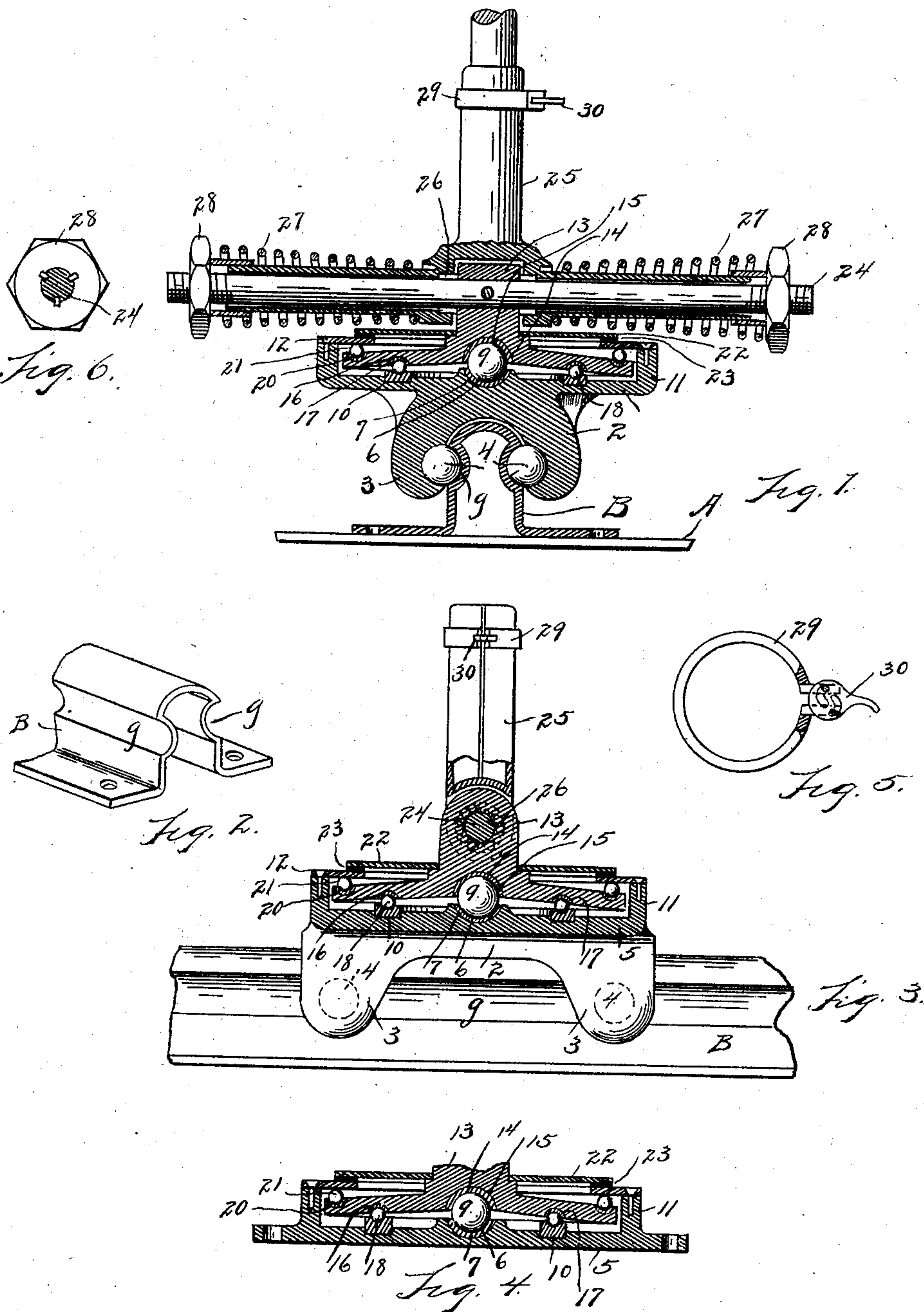
No. 717,423.

Patented Dec. 30, 1902.

O. F. LIDKE.
TROLLEY STAND.

(Application filed Dec. 14, 1901.)

(No Model.)



WITNESSES

Chas. E. Meyer.
May E. Kott.

INVENTOR

Otto F. Lidke
Parker & Burton

By

Attorneys.

UNITED STATES PATENT OFFICE.

OTTO F. LIDKE, OF DETROIT, MICHIGAN, ASSIGNOR TO DETROIT TROLLEY AND MANUFACTURING COMPANY, LIMITED, OF DETROIT, MICHIGAN.

TROLLEY-STAND.

SPECIFICATION forming part of Letters Patent No. 717,423, dated December 30, 1902.

Application filed December 14, 1901. Serial No. 85,950. (No model.)

To all whom it may concern:

Be it known that I, OTTO F. LIDKE, a citizen of the United States, residing at Detroit, county of Wayne, State of Michigan, have invented a certain new and useful Improvement in Trolley-Stands; and I 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 pertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

This invention relates to trolley-stands, and has for its object improvements in the base or stand of a trolley-pole, by means of which the universal movement of the pole on the stand is made easy and efficient.

In the drawings, Figure 1 is a vertical cross-section, showing the stand mounted on a traveling carriage on the roof of a car. Fig. 2 is a perspective showing a short section of the rail. Fig. 3 is a horizontal vertical section of the stand and carriage. Fig. 4 is a detail, on a somewhat larger scale, of the bearing between the parts of the stand. Fig. 5 is a detail of the pole-socket. Fig. 6 is an end view of the spring-holding nut.

A indicates the roof of the car, on which is mounted a single rail B, preferably made from bent sheet metal. The rail is provided with a groove *g* at each side, and the groove runs the length of the rail. Over the rail hangs a saddle 2, which constitutes the bottom part of the trolley-base proper and also constitutes the running part of the carriage. In each lobe 3 of the saddle is a cavity for the reception of a ball 4. The ball 4, resting in the cavity and engaging in the groove *g*, pulls the saddle in position on the rail, but allows it to travel along the rail from one end to the other thereof. On the saddle rests a base-plate 5, which may be made integral with the saddle or separate therefrom and secured thereto. At the central point in the saddle is a cavity 6, in which rests a steel bushing 7. The steel bushing is concaved and nearly hemispherical, being slightly less than a hemisphere. In the bushing is placed a bearing-ball 9. Concentric with the center of the bushing is an annularly-grooved steel bearing-track 10, arranged to rest on the plate 5

and to be held in place either by being inserted in a groove or being otherwise secured thereto. The edges of the plate 5 are turned upward to form side walls 11, and the upper edges of the side walls 11 supported on a circular plate 12 with a central opening through the plate, and this plate is secured to the side walls 11 by screws or bolts. The opening through the plate is comparatively large, giving to the plate 12 the appearance of an inturned flange on the side walls 11. A rotary bearing-stud 13, provided with a central cavity 14, in which is inserted a hemispherical hardened bushing 15, rests on the ball 9. The foot-flange of this bearing is extended and is circular and is provided with an annular groove 16, in which is inserted an annular grooved hardened bearing-plate 17, and between the hardened bearing-plate 17 and the bearing-plate 10 are inserted balls 18. Near the edge and on the upper side of the foot-plate is a grooved annular track concentric with the center and fitted with a hardened bearing-plate 20, and in the track thus formed are inserted balls 21, that bear against the flange-plate 12. Above the flange-plate 12 is a cover-plate 22, that rests loosely on the plate 12, separated therefrom by a cushion 23. The plate 22 engages closely around the stem of the bearing 13, and it may be either secured to it or only in loose engagement with it.

Through the stem of the bearing 13 is a horizontal opening, through which is inserted a long bearing pin or rod 24, and this bearing-rod 24 is also inserted through journal-holes in the base of the socket-piece 25. The socket-piece 25 is provided with a forked base, through which are the journal-holes above referred to, and between the walls of the socket-piece and the pin 24 are inserted roller-bearings 26. Springs 27 are made fast to the socket-piece and the tension-nuts 28 on the rod 24. The socket-piece 25 is itself a split ring with a split clamp 29 at its upper end and with a cam-closure 30 for the split ring.

What I claim is—

1. In a trolley-base, in combination with a plate fixed against rotary movement and provided with a central cavity, a stud provided

with a central cavity, and with a concentric groove on the under side and a concentric groove on the upper side of a foot-flange thereof, a central bearing-ball inserted in the
5 cavity of the fixed plate, and in the cavity of the stud, bearing-balls engaging in the concentric groove on the under side of the foot, bearing-balls engaging in the groove on the upper side of the foot, a bearing-surface on
10 the plate for the under balls, and a bearing-surface over the upper balls, substantially as described.

2. In a trolley-base, in combination with a

bearing-plate fixed against rotative movement, a stud arranged for rotative movement, 15
a bearing-ball arranged between said stud and plate and central thereto and bearing-balls arranged concentric to said central ball and between said stud and bearing-plate, substantially as described. 20

In testimony whereof I sign this specification in the presence of two witnesses.

OTTO F. LIDKE.

Witnesses:

MAY E. KOTT,

CHARLES F. BURTON.