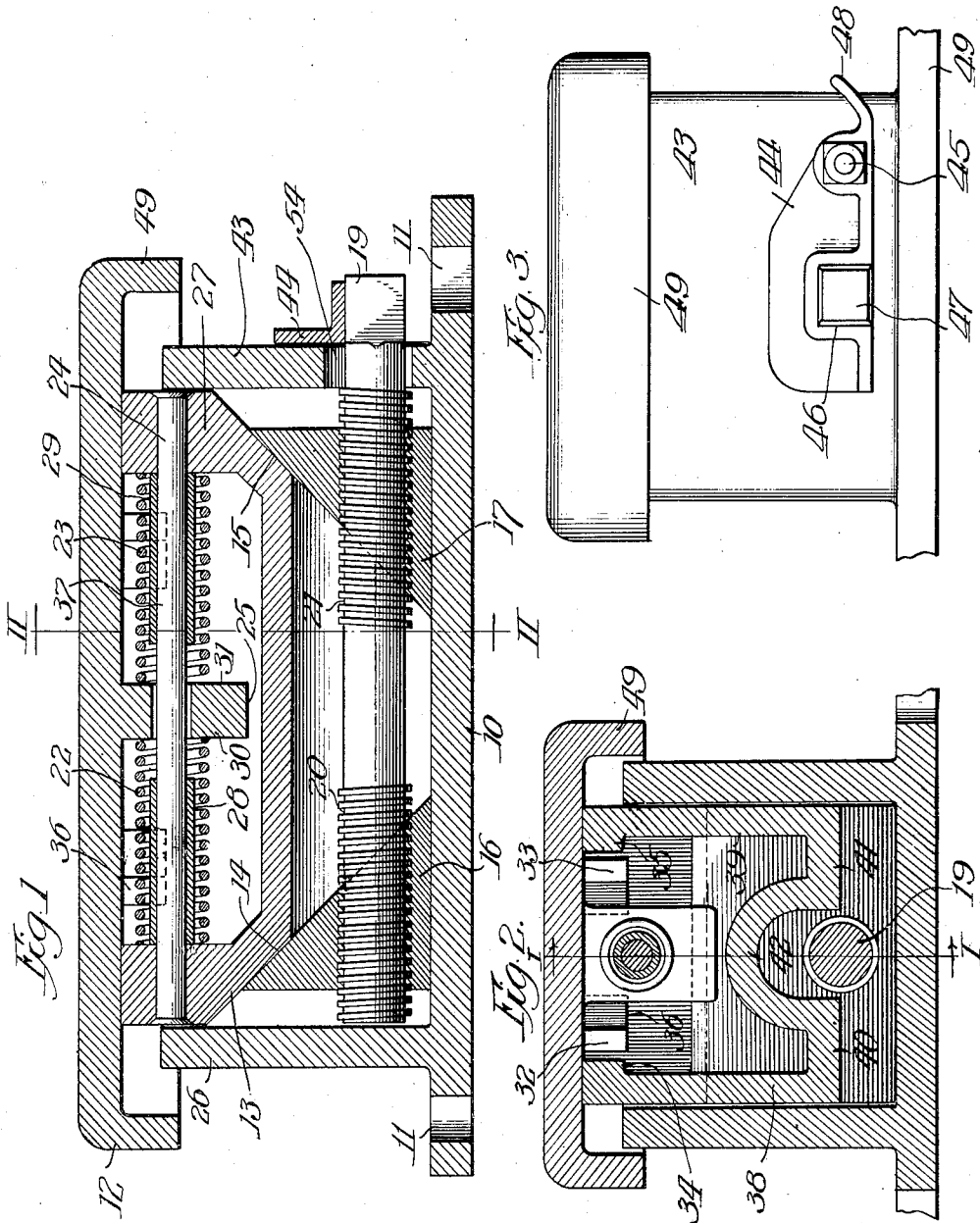


P. E. M. NORELL.
SIDE BEARING FOR CARS.
APPLICATION FILED FEB. 15, 1911.

1,037,511.

Patented Sept. 3, 1912.

2 SHEETS—SHEET 1.



Witnesses:

Geo. Davison.
Harold Bennett.

Inventor:

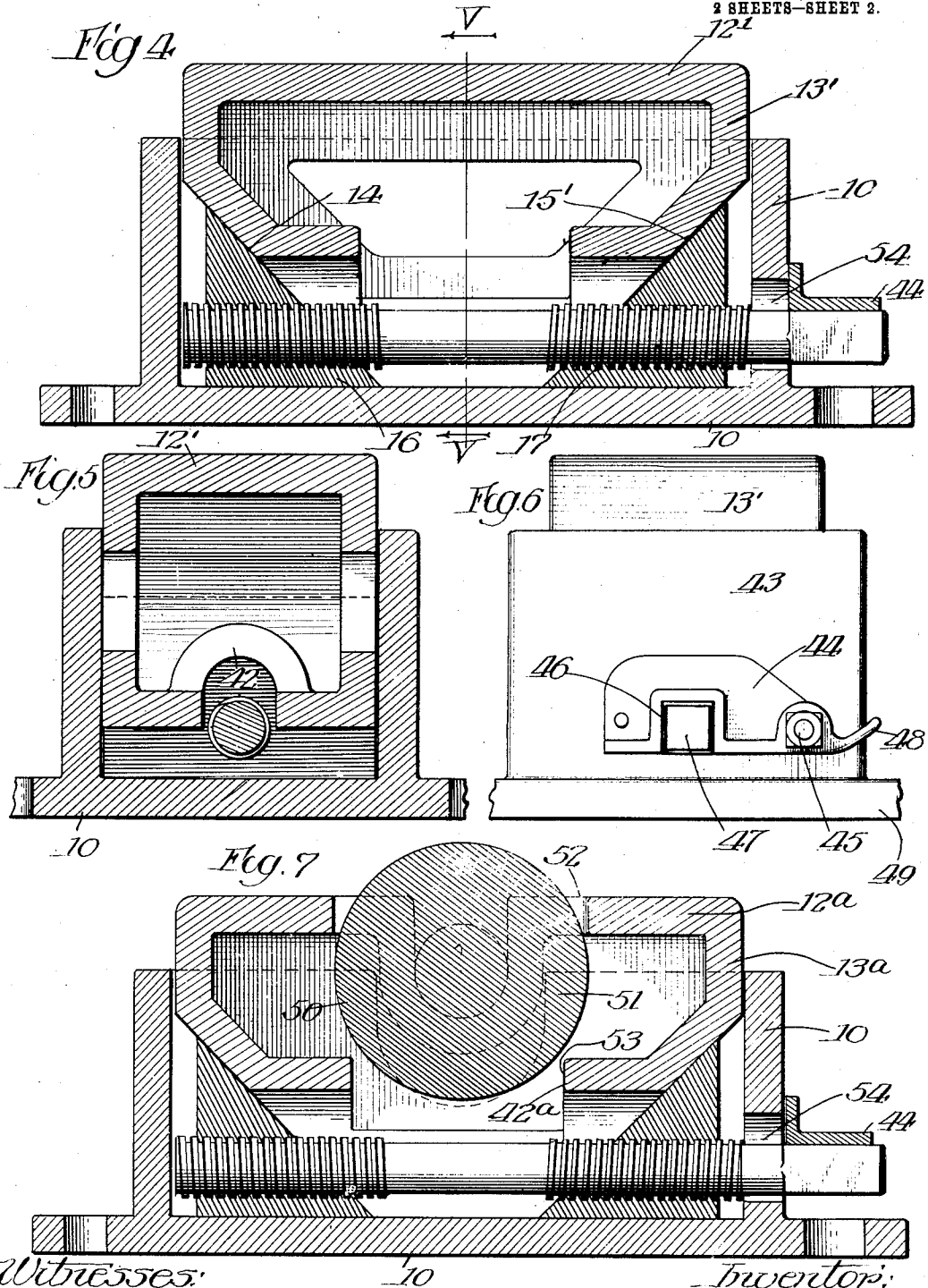
P. E. Martin Norell
by Attorney
Paul Carpenter

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Witnesses:
Ed. Davison
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Inventor:
P. E. Martin Norell
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UNITED STATES PATENT OFFICE.

PER ERIK MARTIN NORELL, OF CHICAGO, ILLINOIS.

SIDE BEARING FOR CARS.

1,037,511.

Specification of Letters Patent.

Patented Sept. 3, 1912.

Application filed February 15, 1911. Serial No. 608,829.

To all whom it may concern:

Be it known that I, PER ERIK MARTIN NORELL, a subject of the King of Sweden, and a resident of Chicago, in the county of Cook, State of Illinois, having made application for United States citizenship, have invented certain new and useful Improvements in Side Bearings for Cars, of which the following is a specification.

My present invention relates to side bearings for cars, and more particularly to those types wherein the bearing surface is horizontally movable relatively to the base, and wherein such bearing surface is relatively adjustable to the base, and contemplates the provision of improved means for returning the bearing surface to its proper position relatively to the base, and improved means for securing vertical adjustment of the bearing surface relatively to the base.

The principal objects of my invention are the provision of an improved side bearing employing yieldingly resistant means for returning the bearing member to its central position relatively to the base, and one wherein the returning means is operative in both directions; the provision of improved means for varying the height of the bearing member relatively to the base, in order to compensate for the wear of the parts in service and for slight differences in height met in applying side bearings to cars, and one wherein the means whereby vertical adjustment is secured will operate to elevate the bearing surface as an entirety and maintain it firmly parallel to its original plane without any tendency to raise one end of the bearing more than the other, to move the bearing surface laterally with respect to the base in which it is mounted, or to remove any part of its support whereby a tendency of the bearing surface to tilt relatively to the base arises, together with such other objects as may hereinafter appear.

In attaining the foregoing objects, as well as such other benefits and advantages as may be below disclosed, I have provided the construction illustrated in the accompanying drawings, wherein—

Figure 1 is a longitudinal sectional view taken on the line I—I of Fig. 2, wherein I have illustrated a preferred form of construction; Fig. 2 is a transverse sectional view taken on the line II—II of Fig. 1; Fig. 3 is an end view of the structure of

Fig. 1; Figs. 4, 5 and 6 are views similar to Figs. 1, 2 and 3 wherein I have illustrated a modified structure embodying my invention, Fig. 5 being taken on the line IV—IV of Fig. 1; and Fig. 7 is a view similar to Fig. 1 illustrative of yet another modification.

Referring first more particularly to Figs. 1 and 2, it will be noted that in carrying out my invention, I employ a base 10 adapted to be rigidly fixed, as by bolts passing through the apertures 11—11, to a truck bolster or transom, mounting thereupon a bearing member 12 adapted for contact with a car side bearing. For the purpose of sustaining the bearing member 12, I interpose between such member 12 and the base 10 a supporting member 13 and to secure vertical adjustability between the members 10 and 13, and thus between the members 10 and 12, I provide the member 13 with a pair of oppositely inclined surfaces as indicated at 14 and 15 and in the interstitial spaces insert oppositely inclined wedge blocks 16 and 17 co-acting with the surfaces 14 and 15. In order to attain simultaneous movement of the blocks 16 and 17 toward the transverse center line of the device with consequent raising of the bearing surface 12, or like movement thereof away from such center with consequent lowering of the surface 12 relatively to the casing 10, I make use of a screw 19 having right and left hand threads 20 and 21 engaging the said blocks 16 and 17.

To the end that the bearing surface 12 may automatically return to its proper position relatively to the base 10, when relieved from pressure incident to its movement from such position as the car rounds a curve, I employ a pair of springs 22 and 23 encircling a rod 24 carried in a downward extension 25 of the member 12 and the ends 26 and 27 of the member 13. The springs 22 and 23 are mounted on sleeves 28 and 29 and on opposite sides of the member 25 which acts as an abutment to retain the springs in position, the surface 30 thereof compressing the spring 22 when the bearing surface 12 moves to the left of the position indicated in Fig. 1, and the surface 31 of such abutment comprising the spring 23 when such surface 12 moves to the right of the position indicated in Fig. 1.

As will be more clearly seen on reference

to Fig. 2 the member 12 is provided with downwardly extending projections whose longitudinal portions 32 and 33 contact with internal ribs 34 and 35 on the member 13 to prevent undue lateral motion of the surface 12 and whose transverse portions 36 and 37 limit the longitudinal movement of the surface 12 by abutment against the portions 26 and 27 of such member 13; and that the bearing surfaces 38 and 39 of the member 13, whereby such member is prevented from tilting laterally on its longitudinal axis are provided with angular extensions 40 and 41 terminating in an arched portion 42 over the screw 19, to the end that the member 13 may be stiffened and yet fully lowered without contact with the threaded portions 20 and 21 of such screw.

On viewing Fig. 3, it will be observed that for the purpose of providing means for preventing any accidental turning of the screw 19 and thus undesired change in the height of the bearing surface, I provide on the outer end of the member 10 a weighted latch 44 pivoted to such member as indicated at 45 and cut away as indicated at 46 to accommodate the head 47 of the screw 19, by means of which construction the position of such screw 19 can only be changed by lifting the latch 44 as by holding the lever 48 depressed until it strikes the surface 49^a and then manually operating the screw 19. When the lever 48 is released the latch 44 will descend of its own weight and reengage the head 47, so that failure to lock the screw in adjusted position is impossible.

Referring now to the modification of my invention illustrated in Figs. 4 to 6, it will be observed that the structure here shown is in some particulars similar to that of Figs. 1 to 3, but that in lieu of relatively movable members 12 and 13 I make use of a horizontally immobile bearing shoe 12' provided with an adjusting portion 13' having inclined surfaces 14' and 15' where-with the blocks 16 and 17 co-act, to secure vertical adjustability of the device. It will however, be observed that the device of Figs. 1 to 3 is superior to that here shown in respect not only of having a movable and a larger bearing surface, but that by virtue of the peripheral flange 49 of the device of Fig. 1 the entrance of all foreign matter to the interior of the casing is prevented.

In Fig. 7, I have shown the application of my invention to a side bearing wherein there is employed instead of the longitudinal moving surface 12 a roller 50 removably mounted in stirrups 51 depending from the upper part 12^a of the vertically adjustable block 13^a, the portions 12^a and 42^a being cut away as indicated at 52 and 53 to accommodate such roller.

From inspection of Figs. 1, 4 and 7, it will be readily apparent that the members 13—13' and 13^a may be readily removed from the casing 10, and that by reason of the enlarged aperture 54 through which the bolt 19 projects, the blocks 16 and 17 with such bolt 19 may readily be removed from or implaced in the said casing 10.

It is thought in view of the foregoing specification that no further and more particularized description of my device will be necessary to a full understanding of the operation thereof by those who are skilled in the art to which it pertains.

Having thus described my invention and illustrated its use, what I claim as new and desire to secure by Letters Patent is the following:

1. A side bearing comprising, in combination, a base, a bearing member, and wedge means for simultaneously moving both ends of the bearing member vertically only relatively to the base.

2. A side bearing comprising, in combination, a base, a bearing member, cooperating inclined planes carried by said bearing member and said base, and means for varying the relation of said inclined planes whereby said bearing member may be moved vertically only relatively to said base.

3. A side bearing comprising, in combination, a base, a bearing member, cooperating inclined planes carried by said bearing member and said base, means for varying the relation of said inclined planes whereby said bearing member may be moved vertically only relatively to said base, and means for locking said varying means in predetermined position.

4. A side bearing comprising, in combination, a base, a bearing member, a plurality of sets of inclined planes one vertically and the other horizontally movable relatively to said base, and means for varying the relation of said sets of inclined planes whereby said bearing member may be moved relatively to said base.

5. A side bearing comprising, in combination, a base, a bearing member supported from said base and provided with a plurality of inclined planes, interposed means between said base and bearing members provided with a plurality of inclined planes, the planes of one member being relatively movable, and threaded means engaging the movable planes and adapted to move them toward and from each other whereby the bearing member may be moved vertically relatively to the base.

6. A side bearing comprising, in combination, a base, a bearing member, means for moving the bearing member vertically only relatively to the base, and means for locking the moving means in predetermined position.

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7. A side bearing comprising, in combination, a base, a supporting member having a contact surface horizontally movable relatively to the base, and means for moving the contact surface vertically only relatively to the base.

8. A side bearing comprising, in combination, a base, a supporting member having a contact surface horizontally movable relatively to the base, means for moving the contact surface vertically only relatively to the base, and means for locking the moving means in predetermined position.

9. A side bearing comprising in combination, a base, a bearing member supported by and horizontally movable relatively to said base, means for limiting the relative movement of said base and bearing member, yieldingly resisting means acting directly on said bearing member for returning the latter to operative position relatively to said base when moved therefrom and means interposed between said base and bearing member for moving the latter vertically.

10. A side bearing comprising, in combination, a base, a bearing member supported by and horizontally and vertically movable relatively to said base, means acting upon opposite ends of the bearing member to move the same vertically and spring actuated means acting directly on said bearing member for returning the latter to operative position relative to said base when moved therefrom, said bearing member being provided with downwardly extending portions at a distance from its ends for limiting its movement relatively to the base.

11. A side bearing comprising, in combination, a base, a bearing member horizontally movable relatively to said base and provided with a fixed abutment, springs on opposite sides of said abutment for returning said bearing member to operative position relative to said base when moved therefrom, and means on each side of said abutments for limiting the relative movement of said base and bearing member.

12. The combination with a car side bearing and a truck bolster, of a base fixed relatively to said bolster, a bearing member supported from said base and adapted to contact with said car side bearing, and wedge means for moving said truck bearing member vertically only relatively to said bolster.

13. The combination with a car side bearing and a truck bolster, of a base fixed relatively to said bolster, a bearing member frictionally supported from said base and adapted to contact and move horizontally with said car side bearing, and yieldingly resistant means acting directly upon said truck bearing member for returning it to operative position relative to said base when moved therefrom.

14. A side bearing comprising, in combination,

a base, a bearing member supported from said base and provided with a plurality of inclined planes, interposed means between said base and bearing member provided with a plurality of inclined planes, the planes of one member being relatively movable, threaded means engaging the movable planes and adapted to move them toward and from each other whereby the bearing member may be moved vertically relatively to the base, and means for locking said threaded member in predetermined position.

15. A side bearing comprising, in combination, a base, a bearing member, means for moving the bearing member relatively to the base and pivoted means for locking the moving means in predetermined position, said locking means being provided with an operating lever at one end.

16. A side bearing comprising, in combination, a base, a bearing member, means for moving the bearing member relatively to the base and pivoted means for locking the moving means in predetermined position, said locking means being provided with an operating lever at one end extended to prevent said locking means from tipping over when raised, and counterweighted at the opposite end.

17. A side bearing comprising, in combination, a base, a bearing member horizontally movable relatively to said base and provided with an abutment, a base provided with supporting portions for said bearing member, springs interposed between said abutment and supporting portions, and a rod engaging said abutment, supporting portions and springs.

18. A side bearing comprising, in combination, a base, a bearing member horizontally movable relatively to said base and provided with an abutment, a base provided with supporting portions for said bearing member, coiled springs interposed between said abutment and supporting portions, sleeves in said springs, and a rod engaging said abutment, supporting portions and springs.

19. A side bearing comprising, in combination, a base, a supporting member having a contact surface horizontally movable relatively to the support, and means for moving the support vertically relatively to the base.

20. A side bearing comprising, in combination, a base, a supporting member having a contact surface horizontally movable relatively to the support, means for moving the support vertically relatively to the base, and means for locking the moving means in predetermined position.

21. A side bearing comprising, in combination, a base, a bearing member, a plurality of oppositely disposed sets of cooperating inclined planes carried by said bearing mem-

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ber and said base, and means for varying the relation of said inclined planes whereby said bearing member may be moved relatively to said base.

- 5 22. A side bearing comprising, in combination, a base, a bearing member and wedge means at each end of the bearing member for moving both ends of the bearing member vertically relatively to the base.
- 10 23. A side bearing comprising, in combination, a base, a bearing member, wedge means at each end of the bearing member for moving both ends of the bearing member vertically relatively to the base, and means
- 15 for moving said wedge means simultaneously.
24. A side bearing comprising in combination, a base, a bearing member horizontally movable relatively to said base, compressible means for returning said bearing member to operative position relative to said base when moved therefrom, and means
- 20 within the compressible means for limiting the relative movement of said base and bearing member to a distance less than the amount of compressibility of said returning means.
- 25 25. A side bearing comprising, in combination, a base, a bearing member horizontally movable relatively to said base and provided with an abutment, a base provided with upwardly extending portions, springs interposed between said upwardly extending portions and abutment, and means for maintaining the springs in alinement.
- 30 26. A side bearing comprising, in combination, a base, a bearing member, and variable means for simultaneously moving both ends of the bearing member vertically only
- 35 relatively to the base, and preventing variation of their parallel relation.
27. A side bearing comprising, in combination, a base, a bearing member and unitary variable means acting on each end of
- 40 the bearing member for moving both ends of the bearing member vertically only relatively to the base.
- 45 28. A side bearing comprising, in combination, a base, a bearing member, and movable means for simultaneously moving both ends of the bearing member vertically only relatively to the base and preventing variation of their parallel relation.
- 50 29. A side bearing comprising, in combination, a base, a bearing member and unitary movable means acting on each end of the bearing member for moving both ends of the bearing member vertically only relatively to the base.
- 55 30. The combination with a car side bearing and a truck bolster, of a base fixed relatively to the bolster, a bearing member supported relatively to said bolster and adapted to contact and move substantially
- 60 horizontally with said car side bearing, yield-
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ingly resistant means for returning said truck bearing member to operative position relatively to said base when moved therefrom, and movable means for lifting said bearing relatively to said base.

31. A side bearing comprising, in combination, a base, a bearing member and variable means acting simultaneously on both ends of the bearing member for moving them vertically only relatively to the base.

32. A side bearing comprising, in combination, a base, a bearing member and movable means acting simultaneously on both ends of the bearing member for moving them vertically only relatively to the base.

33. A side bearing comprising, in combination, a base, a bearing member and horizontally disposed means acting on each end of the bearing member for moving both ends of the bearing member vertically relatively to the base.

34. A side bearing comprising, in combination, a base, a bearing member, and horizontally disposed means for simultaneously moving both ends of the bearing member vertically only relatively to the base.

35. A side bearing comprising, in combination, a base, a bearing member movable on a horizontal plane relatively thereto, and means for simultaneously moving both ends of the bearing member vertically only relatively to the base.

36. A side bearing comprising, in combination, a base, a bearing member movable on a horizontal plane relatively thereto, and means for moving both ends of the bearing member vertically relatively to the base.

37. A side bearing comprising, in combination, a base, a bearing member horizontally movable relatively to said base, means for limiting the relative movement of said base and bearing member, and yieldingly resistant means for returning said bearing member to operative position relative to said base when moved therefrom, said yieldingly resistant means being provided with means extending throughout the length thereof for preventing distortion thereof.

38. A side bearing comprising, in combination, a base, a bearing member horizontally movable relatively to said base, and spring actuated means for returning said bearing member to operative position relative to said base when moved therefrom, said bearing member being provided with portions extending downwardly within the base for limiting its longitudinal movement relatively to the base, and said spring actuated means being provided with means for preventing distortion thereof.

39. A side bearing comprising, in combination, a base, a bearing member and means disposed substantially longitudinally and horizontally acting on each end of the bearing member for moving both ends of the

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bearing member vertically relatively to the base.

40. A side bearing comprising, in combination, a base, a bearing member, and means
5 disposed substantially longitudinally and horizontally for simultaneously moving both ends of the bearing member vertically only relatively to the base.

In testimony whereof I have hereunto signed my name in the presence of the two 10 subscribed witnesses.

PER ERIK MARTIN NORELL.

Witnesses:

PAUL CARPENTER,
EVELYN C. NAYLOR.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,
Washington, D. C."