

(No Model.)

N. STEDMAN.
Ball and Socket Hanger.

No. 235,711.

Patented Dec. 21, 1880.

Fig. 1.

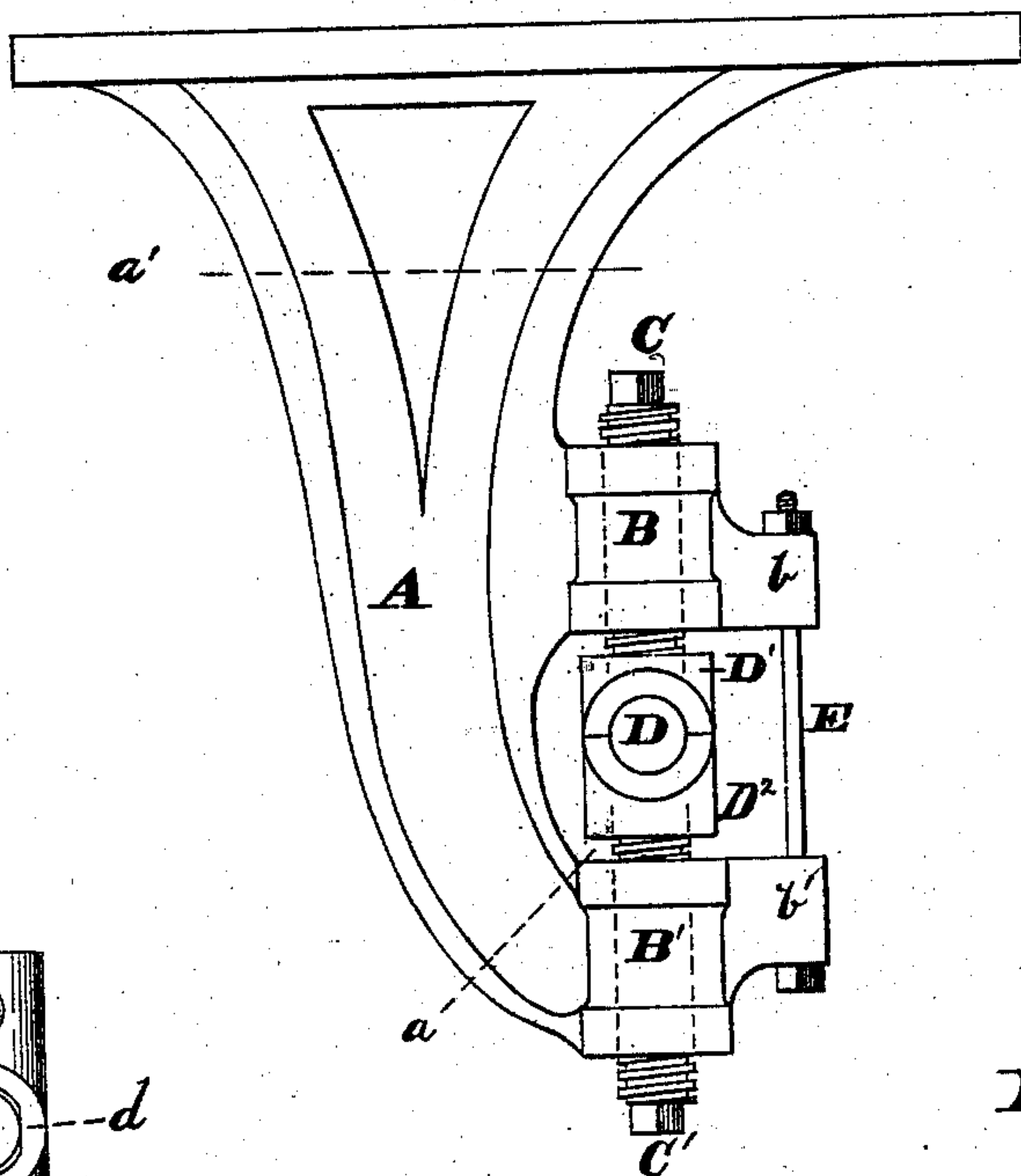


Fig. 3.

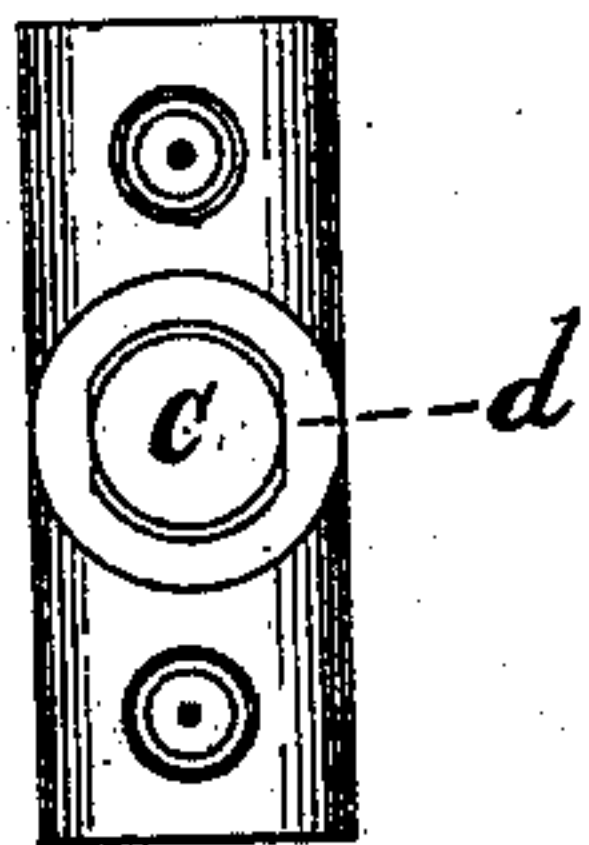


Fig. 2.

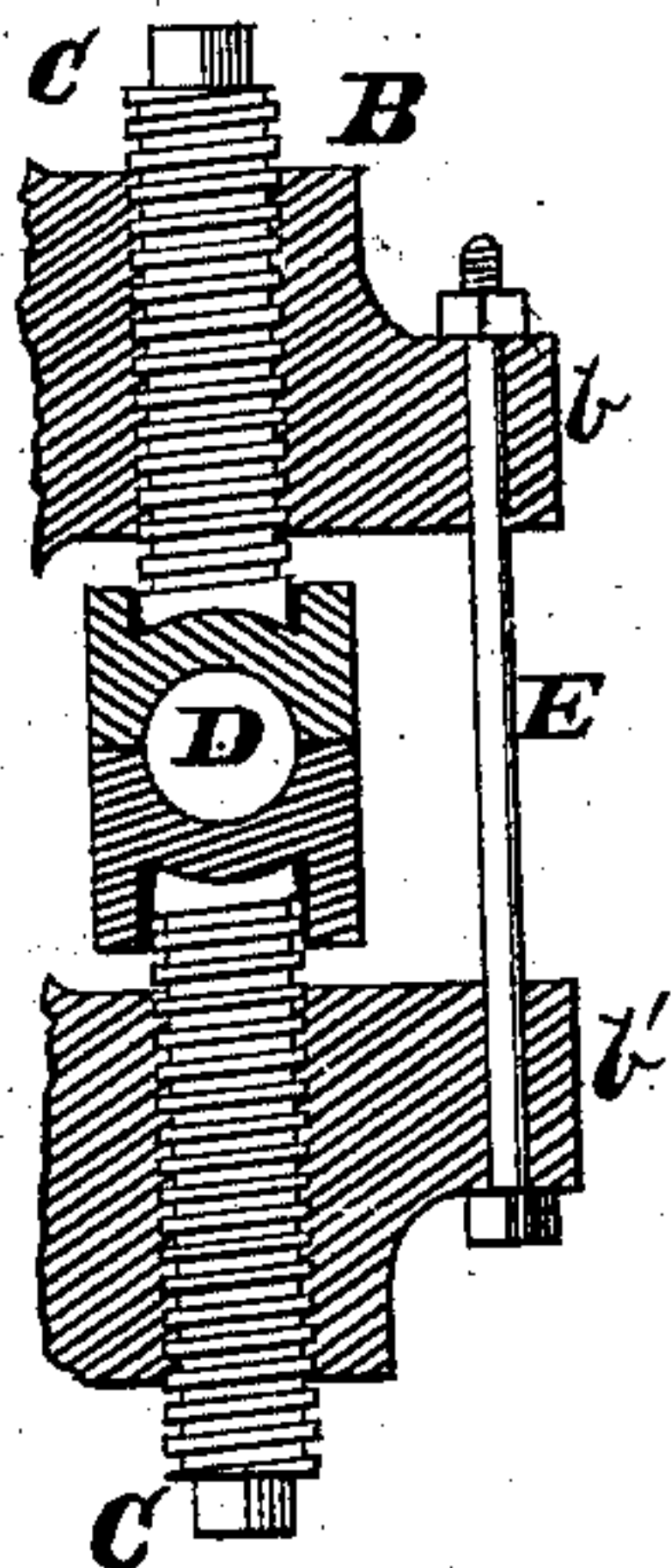


Fig. 5.

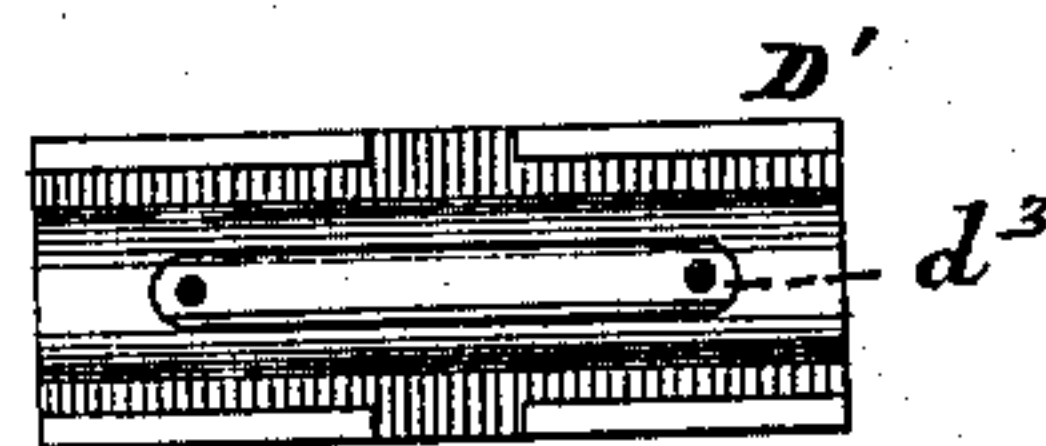


Fig. 6.

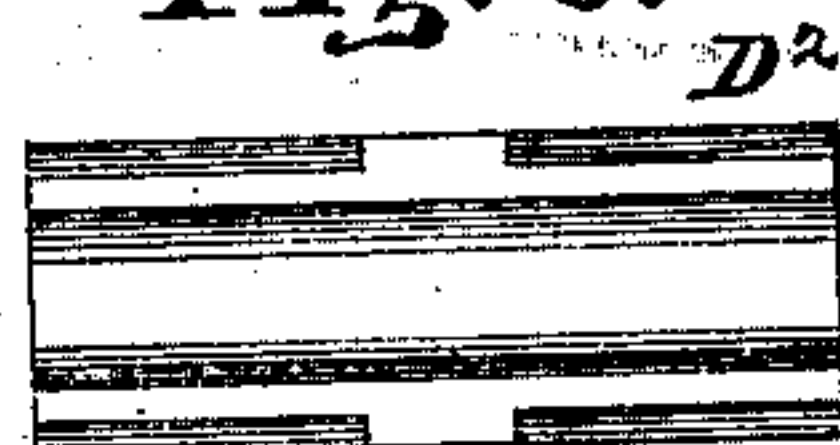
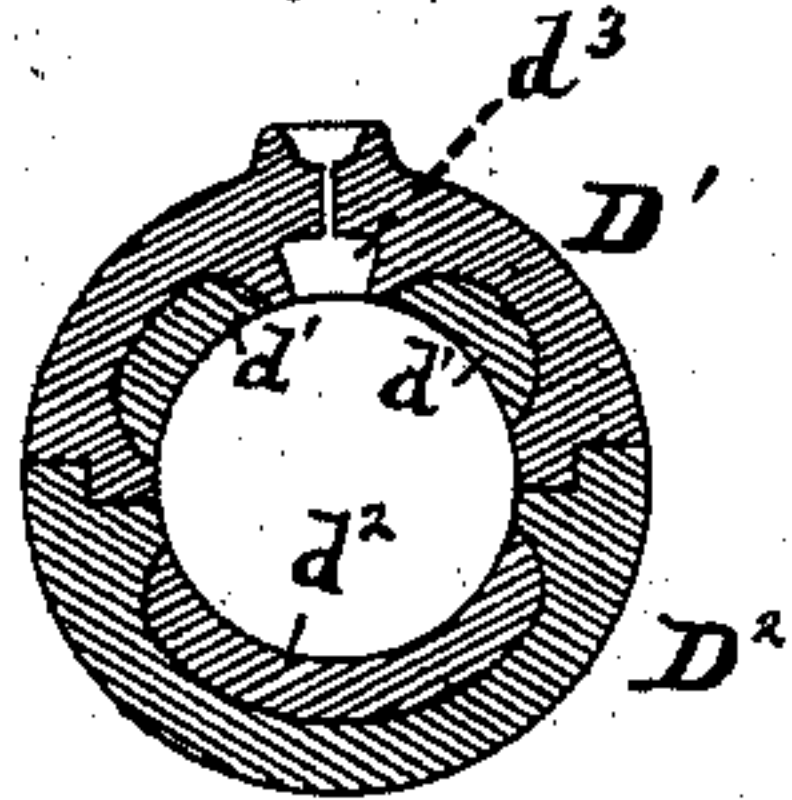


Fig. 4.



Attest
Collin Ford
Edgar J. Gross

Inventor.
Nathan Stedman
By John H. Hill
Attorney

UNITED STATES PATENT OFFICE.

NATHAN STEDMAN, OF AURORA, INDIANA.

BALL-AND-SOCKET HANGER.

SPECIFICATION forming part of Letters Patent No. 235,711, dated December 21, 1880.

Application filed October 21, 1880. (No model.)

To all whom it may concern:

Be it known that I, NATHAN STEDMAN, of Aurora, in the county of Dearborn and State of Indiana, have invented certain new and useful Improvements in Ball-and-Socket Hangers, of which the following is a specification.

My invention is in the nature of an improvement upon what are known as "ball-and-socket hangers" for shafting; and it consists, first, in providing upon each of the two bosses or jaws through which the supporting and aligning screws pass a heavy lug, which is drilled to receive a tie-bolt. The tie-bolt joins the two bosses in such a manner that the strain due to the vertical or angular downward pull of a belt shall be concentrated in the web of the hanger near the top, and where the section of the web is usually the greatest, instead of locating the strain in the web near its junction with the lower boss, usually the weakest portion of the hanger. By this construction I am able to have all the strength and rigidity of the favorite ball drop hanger without detracting from any of the advantages of the open drop hanger.

My invention consists, secondly, in slightly flattening the sides of the socket-seat on the shells parallel to the axis of the box in such a manner that the points of the aligning and supporting screws impinge upon the flattened surfaces and prevent rotation of the box on and in the direction of motion of the shaft.

My invention consists, thirdly, in providing in the "quarters" of the upper shell of the journal-box recesses for the reception of Babbitt-metal linings, between which I construct a long channel for the reception of oil or grease or other lubricator.

In the accompanying drawings, Figure 1 is an elevation of the ordinary drop-hanger, showing the application of the tie-bolt. Fig. 2 is a vertical section through the bosses and lugs of the hanger. Fig. 3 is a plan of the socket-seat of top shell of the journal-box. Fig. 4 is a cross-section of the two shells of the journal-box. Figs. 5 and 6 are plans of the two shells of the journal-box.

Similar letters of reference indicate similar parts.

A is the frame of the ordinary open drop

hanger, provided with the usual screw bosses or jaws B B', and supporting and aligning screws C C'.

D is the usual journal-box, consisting of two shells, D' and D², mounted upon the points of the screws C C'.

b b' are lugs or ears on the bosses B B', respectively, through which passes the tie-bolt E.

D' is the upper shell of the journal-box D, and D² is the lower shell. In the shell D' two recesses are formed for the reception of the Babbitt-metal linings d' d', and in the shell D² a single recess is formed for the Babbitt-metal lining d². Between the Babbitt linings d' d' an oil-channel, d³, is formed, as shown in Figs. 4 and 5.

The seats on the exterior surface of the shells D' and D² are flattened upon opposite sides parallel with the axis of the box D, one of said flattened portions, d, of the shells being shown in Fig. 3. The ends of the screws will, of course, be made square, so as to present broad surfaces to the flattened surfaces d of the shells.

In Figs. 5 and 6 are shown the matching-surfaces of the shells D' and D². In the shell D' the ribs are formed upon the outer edge, and match corresponding recesses in the edge of the shell D².

In the ordinary form of the open drop hanger the downward pull of the belt produces a strain in the web across the narrow section, (indicated by dotted line at a,) while by uniting the two bosses B B' by the tie-bolt E the strain is located in the web of the hanger at the point indicated by dotted line at a', producing a tensile strain on one branch of the hanger and a compressive strain upon the other branch, by which means the ordinary open drop hanger may be made to equal in strength and stiffness the ball-hanger without diminishing its merits as an open hanger.

The removal of the tie-bolt E is easily and quickly accomplished for any purpose necessary in the use of the hanger.

The ordinary journal-box for ball-and-socket hangers depends entirely upon the bearing of the Babbitt metal upon the surface of the shaft to center and hold the shells in position; but by means of the matching ribs and channels

shown in Figs. 5 and 6 the box is centered and retained in position as perfectly as though the box D were solid.

By means of the oil chamber or channel d^3 a large supply of lubricating oil or grease can always be maintained in contact with the surface of the shaft to avoid heating of the journal and diminish the frictional resistance of the shaft in its bearings.

I do not broadly claim a tie-rod connecting two lugs of the hanger, as such is not my invention.

Having described my invention, what I claim is—

1. The hanger A, constructed with the laterally-projecting internally-threaded bosses B B', through which pass the vertically-arranged aligning-screws, the lower one of which supports the shaft-boxing, said bosses being provided with projecting parallel lugs $b b'$, con-

nected by a tie-bolt, E, the whole being constructed and arranged substantially as shown and described.

2. The box D of an open drop ball-and-socket hanger, consisting of two semi-cylindrical shells, D^1 and D^2 , each of said shells having a seat upon its exterior surface for the reception of the points of the screws C C', and said seats having their surfaces flattened parallel with the axis of the box, so as to impinge upon the points of the screws, substantially as and for the purpose described.

In testimony whereof I have signed my name to the foregoing specification in the presence of two subscribing witnesses.

NATHAN STEDMAN.

Witnesses:

COLLIN FORD, Jr.,
C. W. WITHEBURY.