

(No Model.)

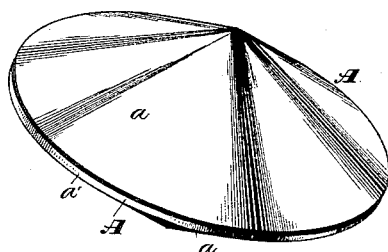
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E. B. COXE & S. SALMON.  
MECHANICAL MOVEMENT.

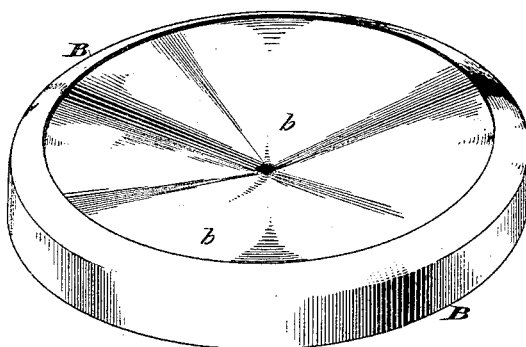
No. 419,036.

Patented Jan. 7, 1890.

*Fig. 1.*



*Fig. 2.*



*Witnesses*  
*Chas. Williamson*  
*Henry C. Hazard*

*Inventors*  
*E. B. Cox & S. Salmon, by*  
*Chas. Russell, their Attys.*

(No Model.)

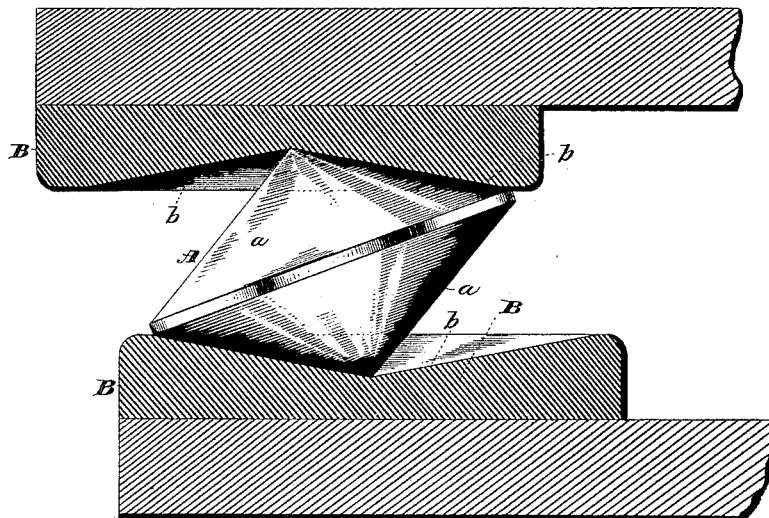
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MECHANICAL MOVEMENT.

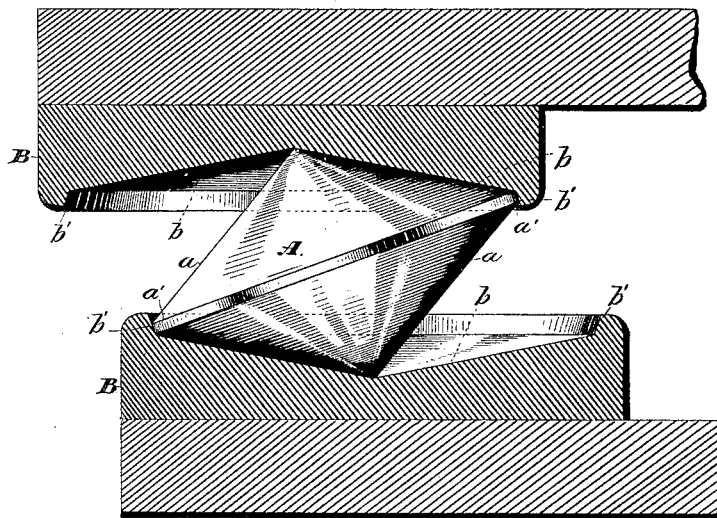
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*Fig. 5.*



*Fig. 4.*



Witnesses  
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# UNITED STATES PATENT OFFICE.

ECKLEY B. COXE AND SAMUEL SALMON, OF DRIFTON, PENNSYLVANIA; SAID  
SALMON ASSIGNOR TO SAID COXE.

## MECHANICAL MOVEMENT.

SPECIFICATION forming part of Letters Patent No. 419,036, dated January 7, 1890.

Application filed May 11, 1889. Serial No. 310,433. (No model.)

### *To all whom it may concern:*

Be it known that we, ECKLEY B. COXE and SAMUEL SALMON, of Drifton, in the county of Luzerne, and in the State of Pennsylvania, have invented certain new and useful Improvements in Mechanical Movements; and we do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective view of our roller separated from its bearings. Fig. 2 is a like view of one of said bearings. Fig. 3 is a side elevation, partly in section, of the same when combined; and Fig. 4 is a like view of the same, showing a modification in the forms of the bearing-surfaces.

Letters of like name and kind refer to like parts in each of the figures.

Our invention is an improvement upon a rolling support for a gyratory part which is shown in Letters Patent No. 369,233, issued August 11, 1887, and relates to the form of the roller and of the surfaces with which it has rolling contact; and to this end our invention consists in the relative forms of the roller and its bearings, substantially as and for the purpose hereinafter specified.

In the use of double-cone rollers for gyratory purposes the diagonally-opposite faces *a* of each roller *A* are parallel, and such faces at the points of contact with the bearings *B* and *B* have heretofore been horizontal in consequence of the horizontality of the faces of such bearings; but in practice it is found that with a high speed there is a tendency upon the part of the rollers to work outward from their true positions. To counteract such tendency, we give to the face *b* of each bearing *B* a conical form, as shown, so as to cause the weight upon the roller *A*, acting upon such inclined surface, to hold said roller at the center of the bearing, and by varying the inclina-

tion of said surface are able to neutralize the centrifugal action and to cause the roller to travel freely around its prescribed track without tendency to deviate therefrom. When the gyrations are rapid, as a further precaution we provide each bearing *B* with an annular flange *b'*, which is concentric with the axis thereof and has such inclination as to adapt it to furnish a track for the periphery or central portion *a'* of the roller *A*, by which means it is rendered impossible for said roller to become displaced while the parts are whole and free to act.

Having thus described our invention, what we claim is—

1. As an improvement in means for producing gyratory motion in a horizontal plane, a double-cone roller, in combination with bearing-plates which are relatively adapted to furnish a support for and to rest upon the upper side of the same and are each provided with an inclined or conical face or track that engages the conical portions of said roller, substantially as and for the purpose specified.

2. As an improvement in means for producing gyratory motion in a horizontal plane, a double-cone roller, in combination with a bearing-plate which has an inclined or conical face that engages with the conical portion of said roller and is provided with an annular flange that is concentric with the axis of said bearing and forms a track for the central portion of said roller, substantially as and for the purpose shown.

In testimony that we claim the foregoing we have hereunto set our hands this 7th day of May, 1889.

ECKLEY B. COXE.  
SAMUEL SALMON.

Witnesses:

HARRY J. DAVIS,  
ELLIOTT A. OBERRENDER.