No. 781,710. PATENTED FEB. 7, 1905.

E. E. BRIGHT.

SLIDING DOOR SHEAVE.

APPLICATION FILED MAR. 4, 1904.

Fig. 1.

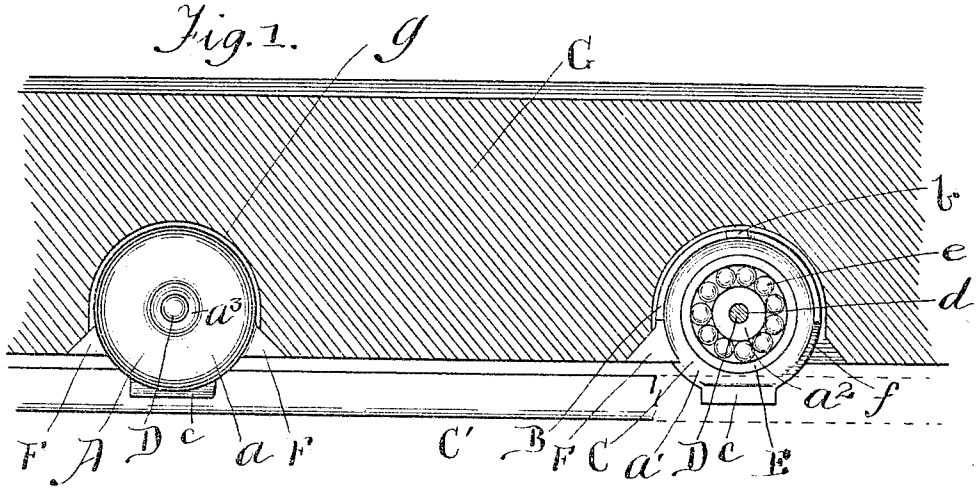


Fig 2

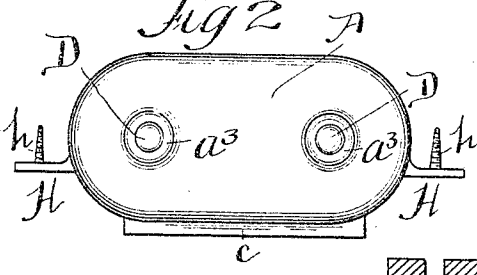


Fig. 3.

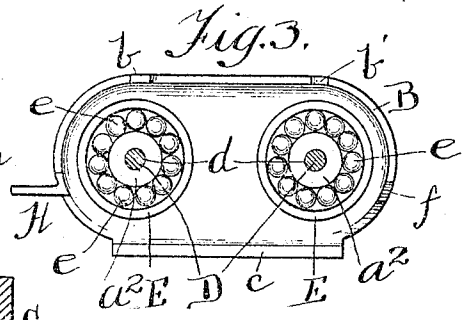
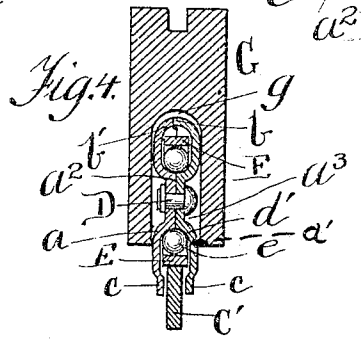


Fig. 4.



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UNITED STATES PATENT OFFICE.

EDWARD E. BRIGHT, OF MORRIS, ILLINOIS, ASSIGNOR TO NICKEL MANUFACTURING COMPANY, OF MORRIS, ILLINOIS, A CORPORATION OF ILLINOIS.

SLIDING-DOOR SHEAVE.

SPECIFICATION forming part of Letters Patent No. 781,710, dated February 7, 1905.

Application filed March 4, 1904. Serial No. 196,538.

To all whom it may concern:

Be it known that I, EDWARD E. BRIGHT, a citizen of the United States, residing at Morris, in the county of Grundy and State of Illinois, have invented certain new and useful Improvements in Sliding-Door Sheaves, of which the following is a specification.

The sheave of this invention is primarily intended for use in connection with sliding doors for show-cases which are mounted upon tracks, although it may be used in other connections in which it is desirable to mount a door or other member upon a track, and the sheave is intended to be noiseless and dust-proof, as well as simple in construction, easy of adjustment, and perfect in operation.

A further object of the invention is to so arrange the parts that the sheave-casing may be easily formed and its parts readily assembled and when so assembled will mount the roller-wheel to have a large bearing-surface on the rail and have its axis held in perfect alinement when in operation.

The invention consists in the features of construction and combination of parts hereinafter described and claimed.

In the drawings illustrating the invention, Figure 1 is a view showing two sheaves mounted within a door-casing, one of the sheaves having a portion of its casing removed; Fig. 2, a face view of a tandem sheave; Fig. 3, a view showing the interior arrangement of the sheave of Fig. 2, and Fig. 4 a cross-sectional view of the sheave of Fig. 1.

The sheave of Fig. 1 is constructed to have a casing A of circular form, and said casing is constructed of two companion halves or sections a and a', adapted to coincide with one another, and each section is provided at its center with an inwardly-extending boss a^2, stamped or pressed to leave a corresponding recess or depression a^3 in the exterior face of the sections, and the sections are further provided around their closed edge with an inwardly-turned flange B, which flanges have a facial contact with one another, and one of the flanges is provided with a lug b, adapted to fit into a recess b' in the companion flange, although it is obvious that the number of lugs and recesses can be multiplied, if so desired. Each of the companion sections, as shown, has its flange cut away at its lower or acting side to leave an opening C, and the sections are provided with depending lips c, suitably spaced to straddle a rail C' when the parts are in operative position. The parts are connected by means of a rivet D, which passes through holes or openings d through the inwardly-extending bosses, which bosses are of a size to have a facial contact with one another and, as shown in Fig. 4, have their peripheries d' outwardly rounded, so that when the two circular bosses are in facial contact with one another a complete runway will be formed for the movement of ball-bearings e, and said ball-bearings are arranged to rotate concentric with the rivet-mounting for the sections of the sheave-casing and bear against the inner face of a circular bearing ring or wheel E, which forms the roller-bearing for contact with the upper edge of the rail. The bearing ring or wheel may be formed of steel, hard rubber, vulcanized fiber, or other similar material. When the two sections of the casing are removed, the bearing ring or wheel will serve to prevent the displacement of the ball-bearings, and at the same time the ball-bearings will keep the bearing ring or wheel properly centered so that it will revolve around the ball-bearings, which in turn will revolve around the runway formed by the bosses, thereby forming a perfect bearing-wheel for the use intended.

As shown in Fig. 1, each of the sections of the sheave-casing is provided with an outwardly-extending tapered lug F, which lugs are adapted to fit within corresponding recesses f in the edge of the companion section, so that when the parts are assembled the sheave will have two oppositely-disposed lugs outwardly extending from the edge of the casing, and when it is desired to insert the sheave into place in the section of door-casing G the body of the sheave will be inserted into a

recess *g* and the lugs upwardly driven into the portion of the door adjacent to the recess, thereby holding the sheave in place and permitting the door-casing to travel along the track when in use.

In the tandem sheave (shown in Figs. 2 and 3) the parts are all constructed as hitherto described, except that the sections of the casing are elongated to provide for two bosses and two bearing rings or wheels; but the mounting for the wheels and the method of assembling the parts is similar to that hitherto described, except that in place of the tapered lugs F, adapted for a driving fit, companion sections of the tandem sheave are each provided with a lug or ear H, adapted for the passage of a screw *h* therethrough, so that instead of driving the sheave into place within the recess in the door-casing the sheave is held therein by means of screws, although it is obvious that under some circumstances the tapered lugs (shown in Fig. 1) could be employed as well with the tamdem sheave as with the single sheave.

The arrangement hitherto described enables the sections of the sheave-casing to be stamped or pressed from a plate of metal to have the inwardly-extending bosses and the circumferential flanges, and when so formed the sections are adapted to be assembled and held together by means of a single rivet in the case of the single sheave and by two rivets in the case of the tandem sheave, and other fastening devices are unnecessary. The two bosses when in facial contact with one another form a race for ball-bearings, which are held in place and in contact with the race or runway by the same member for which they provide a mounting.

It will thus be seen that the device is extremely simple in construction and that the parts can be readily assembled and held together and when so assembled will form a noiseless dust-proof bearing which will be held in perfect axial alinement at all times.

What I regard as new, and desire to secure by Letters Patent, is—

1. In a sheave, the combination of a casing having outer inclosing walls and consisting of two companion sections of the same construction adapted to coincide with one another, each of the sections having an inwardly-extending circular boss adapted to lie in facial contact with the boss in the companion section, a connecting bolt or rivet passing through the two bosses for securing the two sections of the casing together, a circular bearing ring or wheel surrounding the bosses, and a series of balls within the space between the bosses and the circular ring forming a bearing for the circular ring and being held in position thereby when the parts are assembled, and each of the sections being provided with an outwardly-extending lug for the attachment of the sheave, substantially as described.

2. In a sheave, the combination of an elongated inclosing casing consisting of two sections having inwardly-flanged edges adapted to fit together, each of the sections being provided with two inwardly-extending circular bosses, the bosses on the companion sections being adapted to contact with one another, and the sections being formed to leave an opening in their acting edge for the entrance of a track, two circular bearing rings or wheels surrounding the bosses, a series of balls within the space between the bosses and the wheels for revolubly mounting the wheels, said balls being held in position by the wheels when the parts are assembled, and means for uniting the sections, substantially as described.

EDWARD E. BRIGHT.

Witnesses:
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