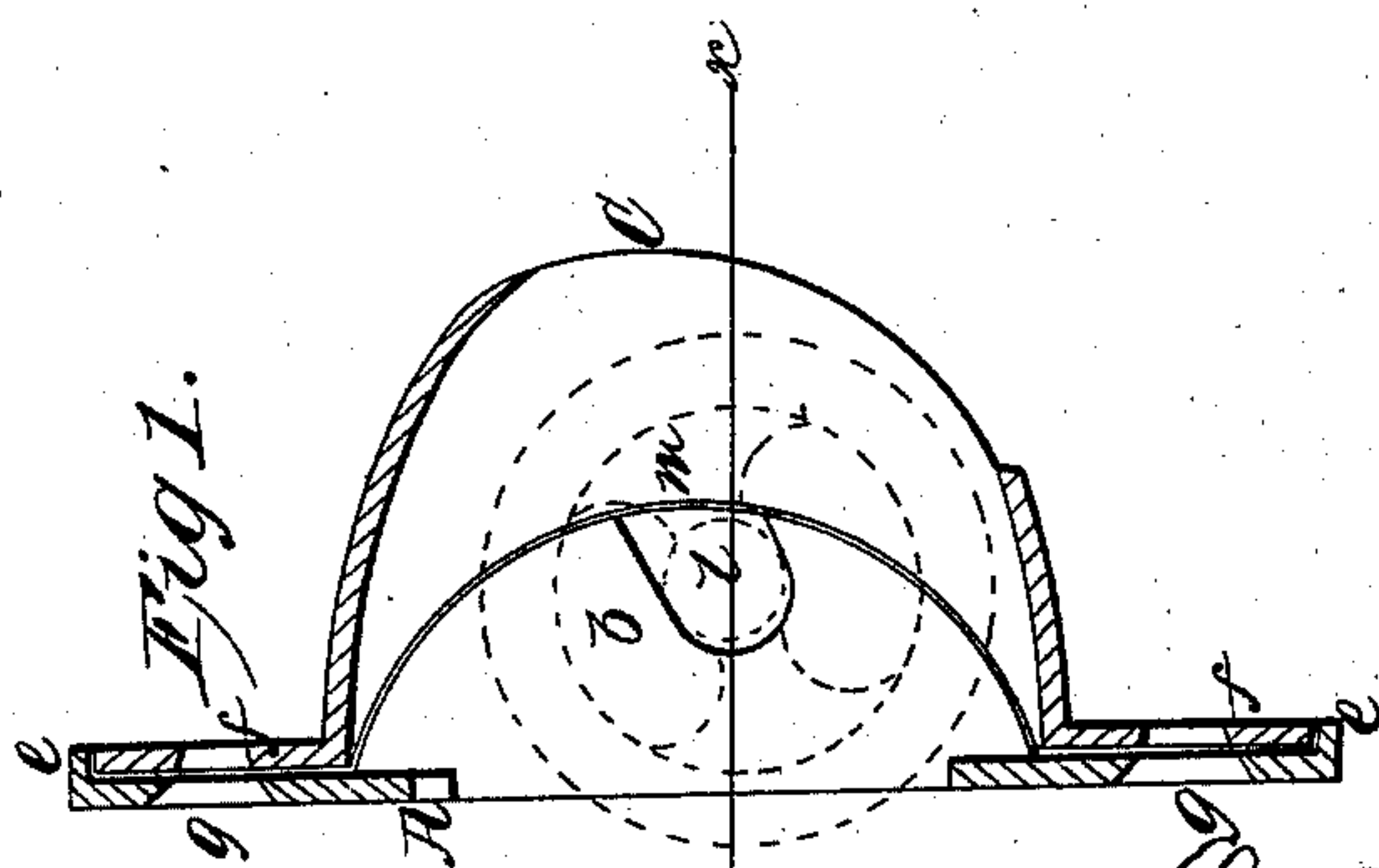
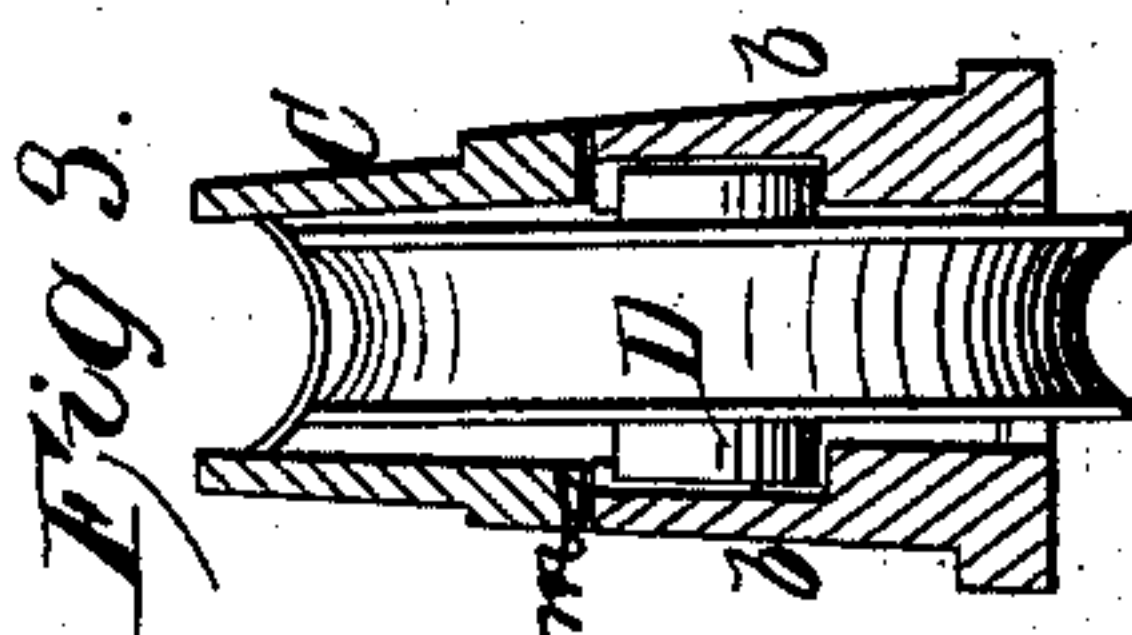
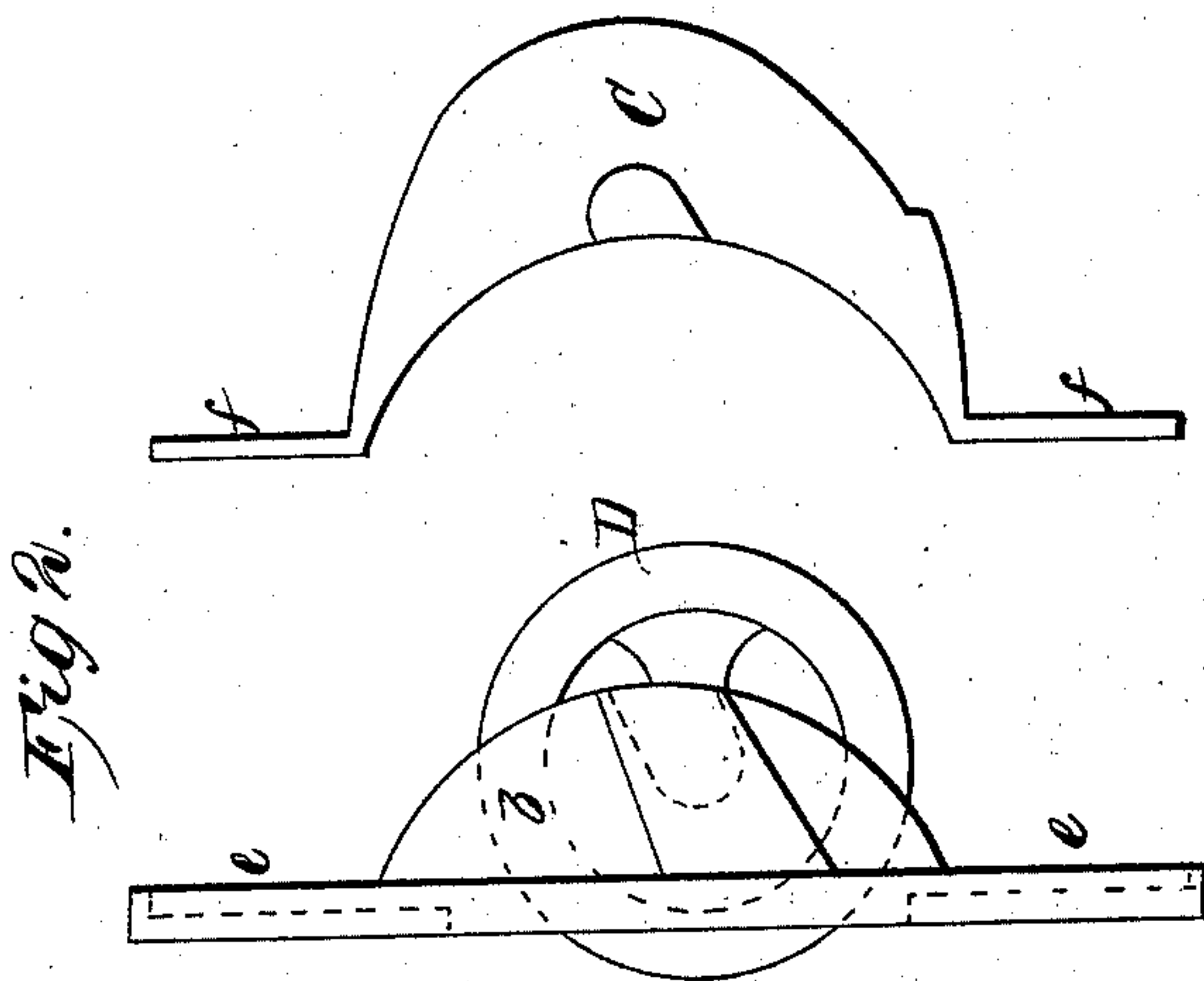


*O. S. Garrettson,
Sash-Cord Guide.*

No 68,868.

Patented Sept. 17, 1867.



*Witnesses.
J. H. Davis.
Thos. T. Parker.*

*Inventor.
O. S. Garrettson
by J. Fraser & Co. attys*

United States Patent Office.

O. S. GARRETSON, OF BUFFALO, NEW YORK.

Letters Patent No. 68,868, dated September 17, 1867.

IMPROVEMENT IN WINDOW-PULLEYS.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, O. S. GARRETSON, of the city of Buffalo, in the county of Erie, and State of New York, have invented a certain new and useful Improvement in Axle-Pulleys for Windows and other purposes; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a vertical section.

Figure 2, a side elevation with the cap portion of the frame represented partially removed.

Figure 3 is a cross-section, in the plane of line *x x*, fig. 1.

Like letters designate corresponding parts in all the figures.

My improvement relates to the construction of the frame or case of axle-pulleys, such as are employed in sustaining and balancing the sash of windows. Hitherto these cases have been formed in various ways, the most simple and compact ones being cast in two parts or pieces, one forming the face-plate, by which it is fastened to the wood-work, and the other a case or cap for the pulley, in which are formed the boxes or bearings of the latter. The moulding and casting of this cap has been found to be a matter of considerable difficulty, owing to the thin and high core which is required to be formed in the mould. One object of my improvement is to obviate this difficulty, and the invention consists in constructing the face-plate so that a portion of the sides of the cap will be cast with and form a part thereof, whereby a core of only about one-half the usual height is required in moulding the cap. The invention further consists in the peculiar manner of forming the bearings or sockets for the axis of the pulley, which are made in the part comprising the face-plate instead of in the cap or case, as hereafter fully set forth.

In the drawings, *A* represents the face-plate, and *b* the side portions cast therewith, and *C* is the cap or case forming a cover and shield for the pulley *D*. The cap and face-plate are cast of substantially the form shown, and when secured together present the same appearance as though the cap were cast entire, as it is commonly done. The face-plate is formed with a ledge, *e*, fig. 1, around its edge, within which fit the flanges *f f* of the cap *C*, which is retained thereby from lateral displacement, while the two parts are secured together by the screws which fasten the frame to the wood-work, the holes therefor being represented in fig. 1. In the side portions *b* of the face-plate, which form the bearings of the pulley, is cast a recess, *i*, inclined as shown in fig. 1, (the device being represented in the position in which it is attached to the wood-work,) which forms the boxes or sockets in which rest the ends of the pulley-axis. The pulley is first inserted in its bearings *b b*, and the cap *C* then adjusted in place, when the edge *m*, contiguous to the socket *i*, not being recessed, secures the axis of the pulley in the latter, as most clearly shown in fig. 3. By this mode of constructing the recess *i* the box or bearing surface may be made concave so as to conform with the convexity of the axis, by which the wear from friction is evenly distributed, while in the ordinary construction, when the recess is formed horizontally, almost the entire wear and friction come on one point, as the bearing surface in such case must necessarily be cast straight. The rapid and irregular enlargement of the box in the latter case soon causes an irregularity in the action and a rattling of the pulley. If desired, a portion of the box *i* may be formed in the cap, but it is preferably constructed as described.

By the employment of my improved construction of the bearing these objections are fully obviated, as the socket *i* retains the axis in its proper and horizontal position at all times, which is so essential to the uniform action of the pulley, and to avoid the disagreeable noise which would otherwise attend its operation. Casting the side portions *b* with the face-plate enables the cap *C* to be cast with great ease, and at a much less expense than it can be when the portions *b* form a part of the latter. It also enables the socket or recess *i* to be formed in the inclined manner shown, which could not be done with the other mode of construction, and allows the insertion of the pulley therein, which, in such a case, would have to be inserted from the opposite direction.

My improvement not only forms a tight box for the axis of the pulley, so as to prevent any play or vibratory motion therein, but also renders the device the most simple, compact, and effective one for the purpose with which I am acquainted.

What I claim as my invention, and desire to secure by Letters Patent, is—

Dividing the box or cap *C* into equal or nearly equal parts by the segmental line *m*, when the convex portions *b* form a part of the outer plate *g* and enclose the axle-bearings *i*, substantially as and for the purposes set forth.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

Witnesses:

J. A. DAVIS,

ALBERT HAIGHT.

O. S. GARRETSON.