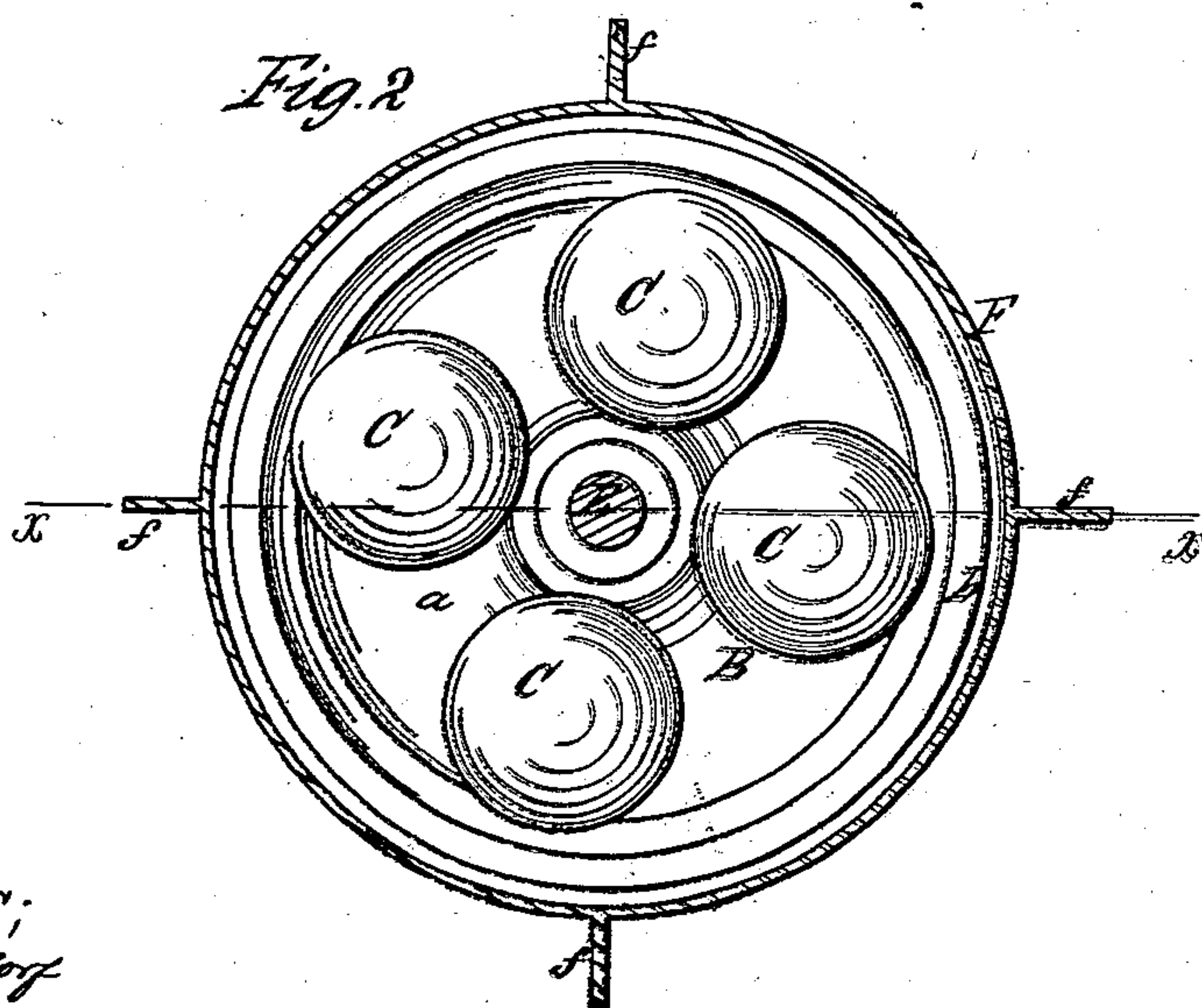
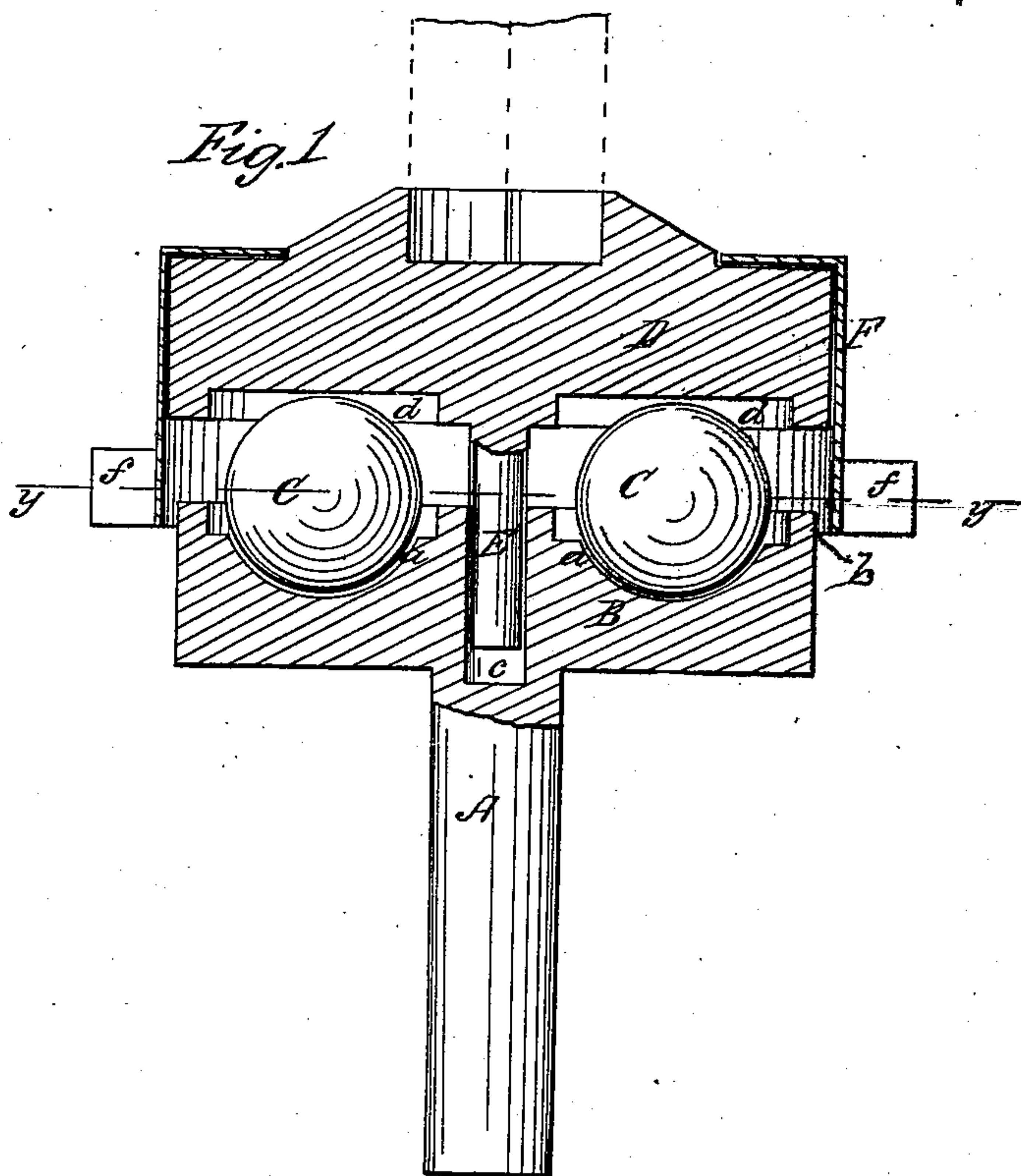


*J. McIlvain,*

*Anti-Friction Box.*

*N<sup>o</sup> 85,393.*

*Patented Dec. 29, 1868.*



*Witnesses;*  
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# United States Patent Office.

JEREMIAH McILVAIN, OF CHURCHVILLE, MARYLAND.

Letters Patent No. 85,393, dated December 29, 1868:

## ANTI-FRICTION BOX FOR SHAFTING.

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, JEREMIAH McILVAIN, of Churchville, in the county of Harford, and State of Maryland, have invented a new and improved Anti-Friction Box; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification.

This invention relates to a new and improved box for the shafting of machinery, and it has for its object the reduction of friction.

In the accompanying sheet of drawings,

Figure 1 is a vertical section of my invention, taken in the line *x x*, fig. 2.

Figure 2 is a horizontal section of the same, taken in the line *y y*, fig. 1.

Similar letters of reference indicate like parts.

A represents a shaft, having on its upper end the lower portion, B, of a box, said portion being of circular form, and having an annular groove, *a*, forming a part of a circle in its transverse section, made in its upper surface to receive a series of balls, C, (four, more or less.)

The upper edge of B has an upright ledge, *b*, all around it, and it also is provided with a central hole, *c*, as shown in fig. 1, the use of which will be presently shown.

D is the upper part of the box, which is also of circular form, and has an annular recess, *d*, made in its under side, the inner surface of said recess being flat, or a plane which rests or bears upon the balls C, as shown clearly in fig. 1.

On the upper surface of the part D of the box, there is a step, *e*, to receive a mill-spindle or other shafting of machinery, and from the centre of the face or under side of D, a shaft or arbor, E, depends, which extends down into the hole *c*, but does not reach its bottom.

The upper part D of the box is also provided with a cover, F, of sheet-metal, or other suitable material, which extends down a trifle below the upper edge of B, as shown in fig. 1, and has wings, *f*, attached radially to its exterior surface, to serve as dusters, and prevent the admission of dust between the two parts B D of the box.

The balls C, it will be seen, greatly diminish friction, and the shaft or arbor E keeps the upper part D of the box in proper position, preventing any lateral movement of the same, while the hole *c* will contain oil to keep the shaft or arbor E in a properly-lubricated state, and the fans *f*, by preventing the admission of dust, insure the full benefit of the oil or other lubricating-material, the latter being kept clean thereby.

The lower shaft A, and consequently the whole box, and shafting connected therewith, may be raised and lowered by a lever, or any suitable mechanism connected therewith.

Having thus described my invention,

I claim as new, and desire to secure by Letters Patent—

1. The anti-friction box, composed of two parts, B D, provided respectively with grooves, *a d*, of the form shown, with balls C placed between them, the pendent shaft or arbor E, attached to D, fitting in the hole *c* in B, and the step *e* on D, for connecting a shaft to D, all constructed and arranged substantially as and for the purpose set forth.

2. The cover F, provided with the wings *f*, and applied to the upper box D, all constructed and arranged substantially as and for the purpose specified.

JEREMIAH McILVAIN.

Witnesses:

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