

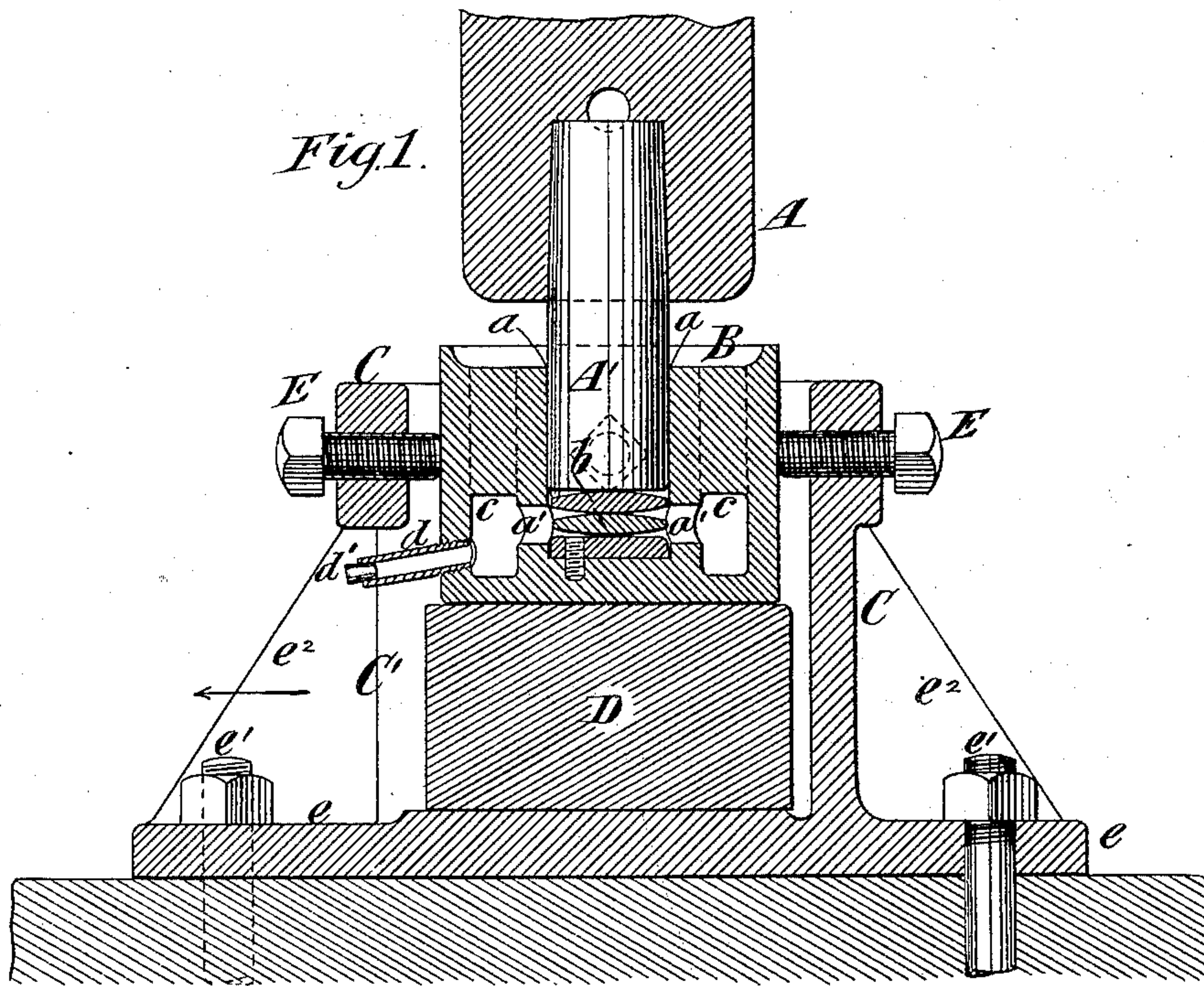
(No Model.)

H. G. HUBERT.

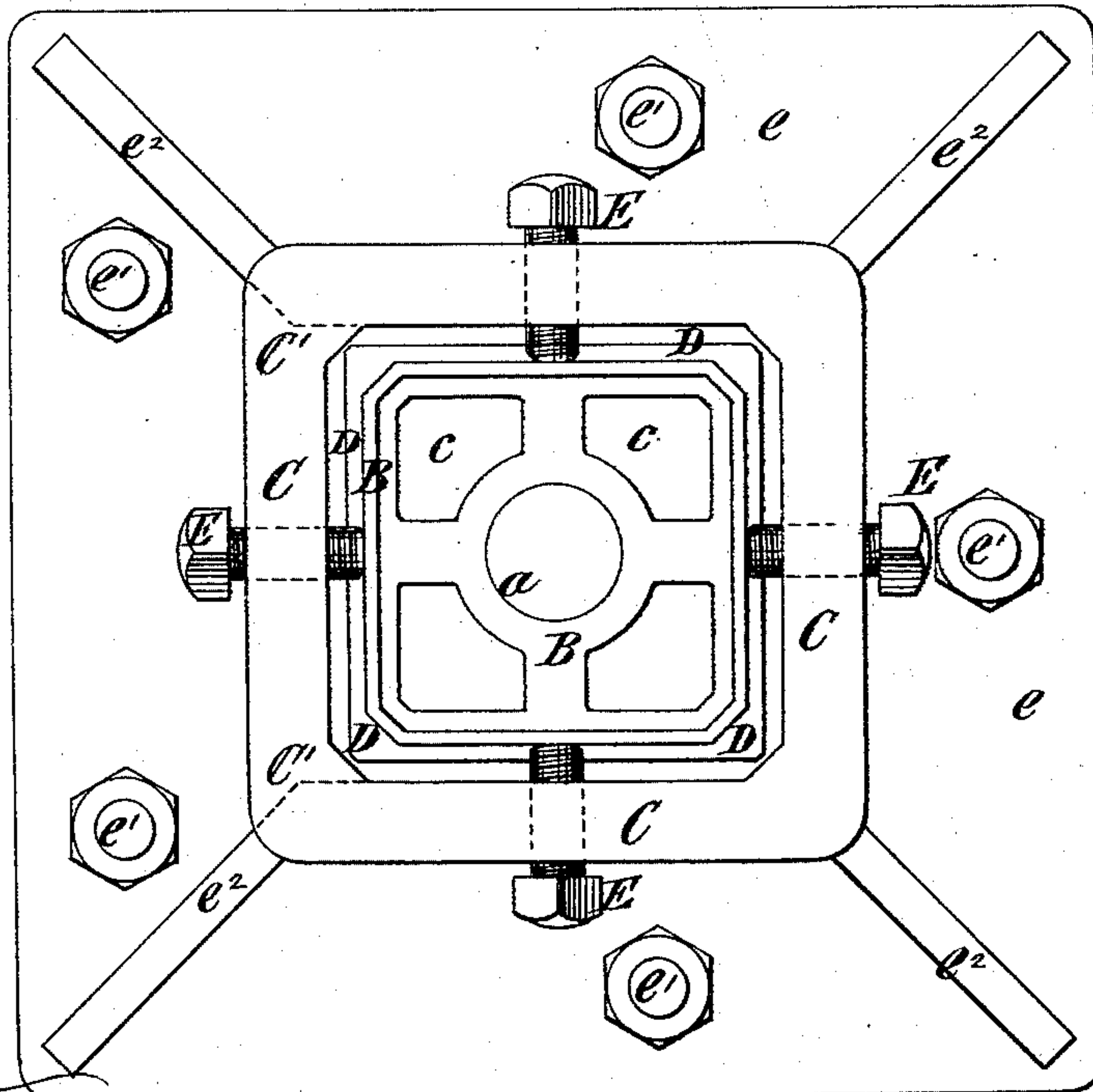
STEP BEARING FOR MACHINERY.

No. 314,676.

Patented Mar. 31, 1885.



*Fig 2.*



Witnesses:

*Geo. Hayner*  
*C. Hall*

Inventor:

*Henry Gergemba Hubert*  
*by his Attorneys*  
*Brown & Hall*



# UNITED STATES PATENT OFFICE.

HENRY GENGEMBRE HUBERT, OF NEW YORK, N. Y.

## STEP-BEARING FOR MACHINERY.

SPECIFICATION forming part of Letters Patent No. 314,676, dated March 31, 1885.

Application filed September 4, 1884. (No model.)

*To all whom it may concern:*

Be it known that I, HENRY GENGEMBRE HUBERT, of the city and county of New York, in the State of New York, have invented a new and useful Improvement in Step-Bearings for Machinery, of which the following is a specification.

Although my invention is applicable to step-bearings for upright shafts or spindles in heavy machinery of various kinds, it is especially intended for the step-bearings of revolving beds or tables for scouring and polishing stone, and which are commonly known as "rubbing-beds." The upright shaft or spindle and bed or table of a rubbing-bed for scouring and polishing stone are very heavy, often weighing several tons, and are usually driven by gearing from a horizontal shaft. Owing to the great weight, the wear on the step is very rapid, and it must occasionally be taken out for repair. In order to do this, it has been heretofore necessary to disconnect the gearing through which the upright shaft or spindle receives its motion and to raise the whole bed and shaft or spindle a considerable distance (from six to ten inches) to free the lower end of the shaft or spindle entirely from the step; and the object of my invention is to permit the step to be removed and replaced quickly, without disconnecting said gearing, and with very little labor.

The invention consists, essentially, in the combination, with an upright shaft or spindle, and a step receiving within it and supporting the lower end thereof, of a step box or frame wherein the step may be raised and lowered, and which has an opening in its side through which the step may be withdrawn laterally, and a base-block interposed between the bottom of said step and its box or frame, and also capable of being withdrawn laterally through the opening in said box or frame. When the step is to be removed, it is only necessary to raise the shaft sufficiently to take its weight off the step, and when the base-block is withdrawn the step descends, and may itself be withdrawn through the aforesaid opening.

In the accompanying drawings, Figure 1 is a vertical section of the lower end portion of a shaft or spindle and a step-bearing there-

for embodying my invention, and Fig. 2 is a plan of the step-bearing.

Similar letters of reference designate corresponding parts in both figures.

A designates the lower end portion of the shaft or spindle of a rubbing-bed, and B designates the step proper therefor. As here shown, the shaft or spindle A has a pin, A', driven into it, and this pin forms the end of the shaft which fits the step B. The step B is constructed with a central hole or socket, *a*, which receives the pin A', and in which may be placed anti-friction buttons, *b*, and said step also has internal spaces or cavities, *c*, which are in free communication with the hole or socket *a* through apertures *a'*. From the space *c* there extends a tube, *d*, which may be provided with a stopper, *d'*, or a cock, by which the spent lubricating material may be withdrawn from the step, and by which provision is afforded for washing out the step.

C designates a step box or frame, which is constructed with a flange, *e*, through which pass its securing-bolts *e'*, and with ribs, *e''*, for giving it additional strength. The step box or frame C is of greater depth than the step B, and the step does not rest upon the bottom of the box or frame, but is supported in an elevated position therein by a base-block, D, which rests on the bottom of the box or frame.

In one side of the step-box C is an opening, C', which is of such size that the base-block D and the step B can be removed laterally from the step box or frame C in the direction of the arrow, Fig. 1. The opening C' does not extend to the upper edge of the box C, and at the top the box is continuous or unbroken on its four sides, as shown in Fig. 2.

E designates set-screws, which are inserted through the sides of the box or frame C, and which serve to properly center the step B in said box or frame.

From the above description it will be understood that the step B is not in any way connected with the base-block D, but is simply supported or held up by said block.

When it is desired to remove the step B, it is only necessary to raise the rubbing-bed and shaft or spindle a small fraction of an inch, or just enough to take the weight off the bottom



of the step B. The set-screws E are then slightly loosened and the base-block D is drawn out laterally through the opening C', which may be very quickly done. After the  
 5 said block is removed the step B falls or descends to the bottom of the box C, and is then removed laterally through the opening C'. The necessary repairs or inspection having been made, the step B is slid into the box C  
 10 through the opening C', and then raised into its place in the upper part of the box, after which the base-block D is slid in through the opening C' into its place under the step B. The screws E are then set up and the lower  
 15 end of the shaft or spindle is allowed to come to a bearing on the bottom of the step, or on the anti-friction buttons b. In order to thus remove the step, it is not necessary to disconnect the gearing for driving the upright shaft  
 20 or spindle, and the step may be removed, examined, and replaced in a small fraction of the time heretofore necessary.

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

25 1. The combination, with an upright shaft or spindle and step receiving within it and supporting the lower end thereof, of a step box or frame wherein the step may be raised and lowered, and which has an opening in its  
 30 side through which the step may be with-

drawn laterally, and a base-block interposed between the bottom of the step and its box or frame, and also capable of being withdrawn laterally through said opening, whereby provision is afforded for removing the step from  
 35 the box or frame by first removing the base-block through said opening, and thereby allowing the step to descend, and by then withdrawing the step through said opening, substantially as and for the purpose herein de-  
 40 scribed.

2. The combination, with the lower end of a shaft or spindle, of the step B, the step box or frame C, which at the top is continuous or  
 45 unbroken on all sides, and which is provided with the opening C', the set-screws E, and the base-block D, supporting said step, both said block and step being removable laterally through said opening C', whereby provision  
 50 is afforded for removing said step by first withdrawing the base-block through said opening, and thus allowing the step to descend, and by then withdrawing the step through said opening, substantially as and for the purpose herein described.

HENRY GENGEMBRE HUBERT.

Witnesses:

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 ED. L. MORAN.