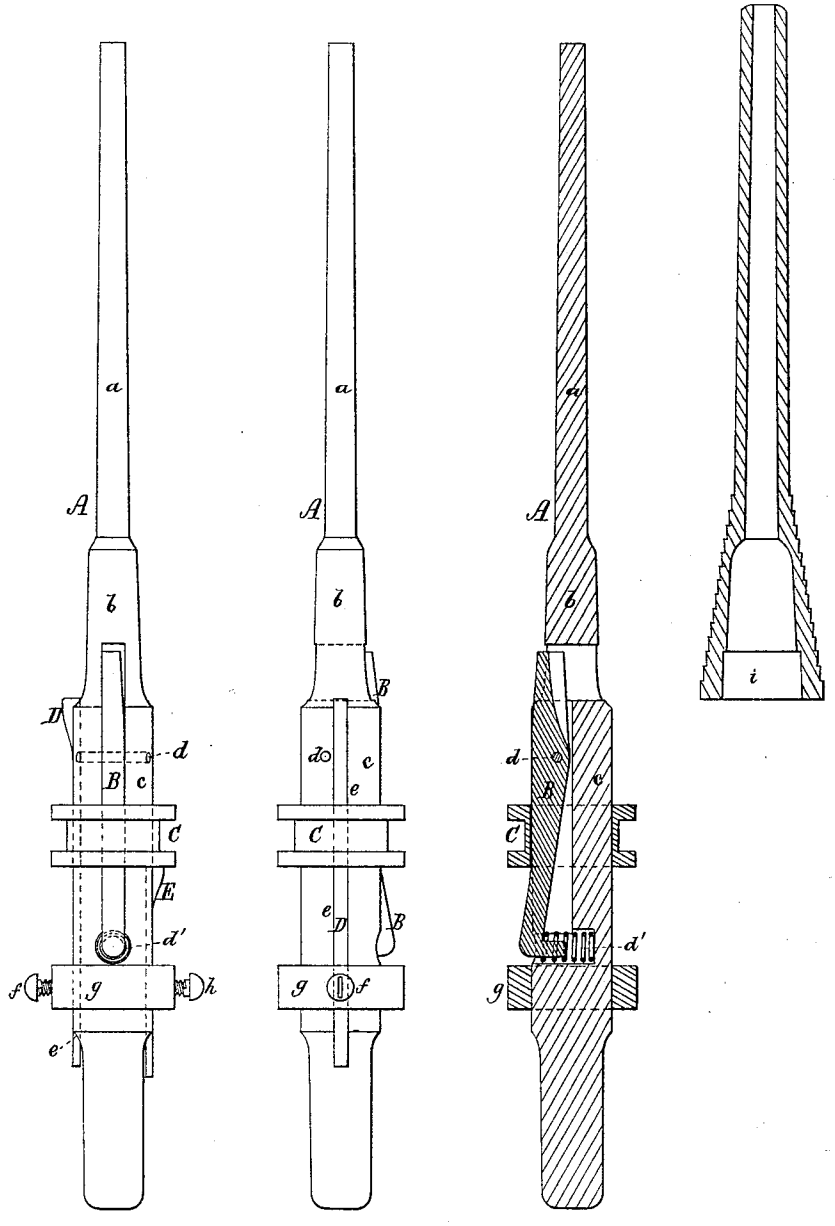
(No Model.)

E. H. PERRIGO.

BOBBIN REAMER.

No. 348,412. Patented Aug. 31, 1886.

Fig. 1. *Fig. 2.* *Fig. 3.* *Fig. 4.*



Witnesses.
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UNITED STATES PATENT OFFICE.

EPHRAIM HOWARD PERRIGO, OF MANCHESTER, NEW HAMPSHIRE, ASSIGNOR, BY MESNE ASSIGNMENTS, TO SAID E. H. PERRIGO AND JOHN COMFORT, OF SAME PLACE.

BOBBIN-REAMER.

SPECIFICATION forming part of Letters Patent No. 348,412, dated August 31, 1886.

Application filed April 26, 1886. Serial No. 200,154. (No model.)

To all whom it may concern:

Be it known that I, EPHRAIM HOWARD PERRIGO, of Manchester, in the county of Hillsborough, of the State of New Hampshire, have invented a new and useful Improvement in Bobbin-Reamers; and I do hereby declare the same to be described in the following specification and represented in the accompanying drawings, of which—

Figures 1 and 2 are side elevations, and Fig. 3 a longitudinal section, of a reamer of my invention, the nature of which is defined in the claim hereinafter presented. Fig. 4 is a longitudinal section of a bobbin, for the reaming of which the said tool or reamer is designed.

In such drawings, A denotes a spindle, whose blade, *a b*, is designed to fit the bore of the bobbin, the body portion *c* of such spindle being cylindrical. It is recessed or grooved lengthwise to receive a reaming tool or cutter, B, which is a lever formed in longitudinal section, as represented in Fig. 3, and is fulcrumed to the body, the pivot or fulcrum being shown at *d*. The tail of the lever rests upon a spiral spring, *d'*, arranged as shown in the body *c*. A grooved annulus or collar, C, encompasses and slides lengthwise upon the body *c*, and serves when retracted to depress the rear arm of the cutter, and thereby force the front arm of such cutter outwardly. An adjustable or sliding gage, D, is arranged in a groove, *e*, within the body *c*, and is held in place by a set-screw, *f*, that goes through a ring, *g*, which encompasses and is fastened to the body, and is arranged as represented. This gage projects somewhat beyond the front end of the body. Another such gage, E, is also similarly arranged in and applied to the body *c*, and is held in position therein by a set-screw, *h*, that screws into the ring *g*. This latter gage is to determine the distance to which the collar C is to be moved rearwardly, the gage D being for determining the distance to which the cutter is to extend into the bobbin.

In using the reamer it is to be inserted and fixed in the arbor of a lathe, endwise thereof, and to be revolved by such arbor, the bobbin to be reamed being held in the hand of an operator. The blade of the reamer having been inserted in the bore of the bobbin, such bobbin is to be crowded toward the body of the reamer until brought up against the forward end of the gage D. This having been done, the grooved collar C is to be moved rearwardly upon the body *c*, so as to gradually force the reaming-cutter outwardly from the blade and cause such cutter, in consequence of its being revolved with the spindle within the bobbin, to cut or enlarge the bobbin at the mouth of its bore, as may be required. The collar C is to be moved endwise by mechanism operated by a pedal or treadle.

In Fig. 4 the chamber or part to be produced by the reamer is represented at *i*, it being the portion of the bore of the bobbin into which the spinning-spindle is first introduced, but which, while the bobbin is in place on the spindle, is not in contact with such spindle.

It is very necessary to have the bore of the bobbin exactly concentric with the periphery or outer surface of the bobbin, otherwise the bobbin, as well as the spindle, is apt to "wabble" or run untrue while the spindle is in rapid revolution.

My improved reamer causes the chamber produced by it to have its axis in that of the bobbin, and, consequently, when the bobbin is subsequently placed on the spindle that holds and revolves it while its external surface is being turned down, the said surface when finished will be exactly concentric with the chamber and bore of the bobbin.

I claim—

The bobbin-reamer, substantially as described, consisting of the spindle having its cylindrical body provided with a blade extending therefrom and to fit the bore of a bobbin to be reamed, the two adjustable gages arranged to slide in grooves made lengthwise in the body, and provided with a ring encompassing the body and fixed thereto and having set-screws screwed into it, the said ring, against the shanks of the gages, and the reaming-lever fulcrumed to the body and arranged in a groove therein and having a spring to force its longer arm outwardly, and a sliding collar encompassing the body and serving to force the said arm inwardly, all being for use and to operate in manner and for the purpose as set forth.

EPHRAIM HOWARD PERRIGO.

Witnesses:
R. H. EDDY,
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