No. 649,571. Patented May 15, 1900.

C. H. BARTLETT.

ARBOR ATTACHMENT FOR HOLDING WORK.

(Application filed Dec. 1, 1896. Renewed Oct. 5, 1899.)

(No Model.)

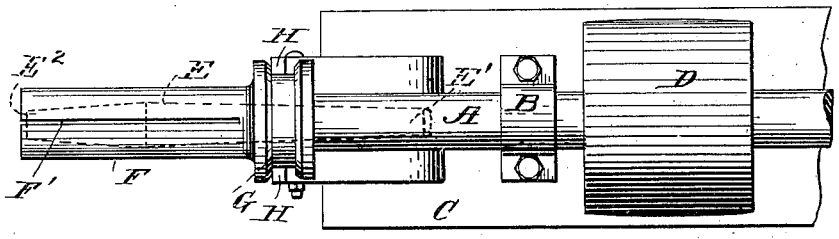

Fig. 1.

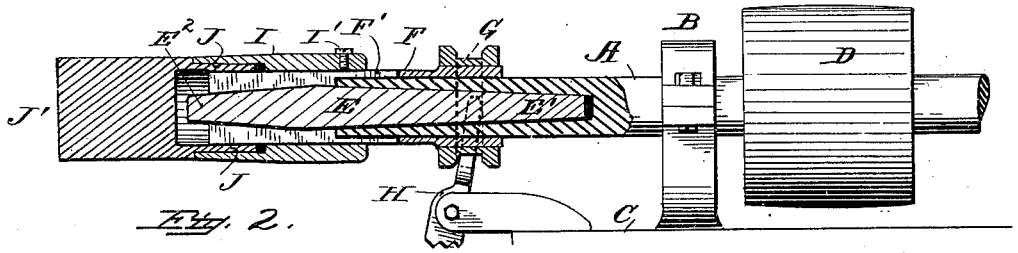

Fig. 2.

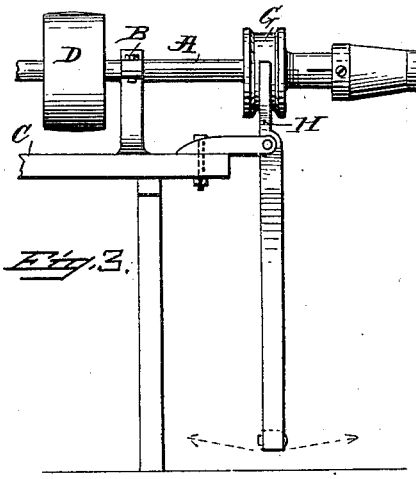

Fig. 3.

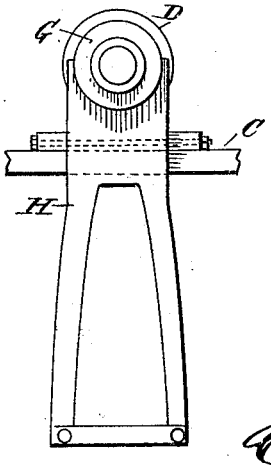

Fig. 4.

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UNITED STATES PATENT OFFICE.

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ARBOR ATTACHMENT FOR HOLDING WORK.

SPECIFICATION forming part of Letters Patent No. 649,571, dated May 15, 1900.

Application filed December 1, 1896. Renewed October 5, 1899. Serial No. 732,856. (No model.)

To all whom it may concern:

Be it known that I, CHARLES H. BARTLETT, of New Portland, in the county of Somerset and State of Maine, have invented a new and useful Improvement in Arbor Attachments for Holding Articles to be Polished and Finished, which will, in connection with the accompanying drawings, be hereinafter fully described, and specifically defined in the appended claims.

In the drawings, Figure 1 represents a top view of an arbor and its driving-pulley mounted in suitable bearings upon a work-bench and with one of my attachments detachably secured to the overhanging end of the arbor. Fig. 2 is a sectional side elevation of the same with the addition, shown in section, of a tenon-shield attached to the expansible sleeve and a box held thereon as when in practical use. Fig. 3 is a reduced side elevation showing the arbor with one of the attachments holding an article to be finished and the stand upon which the same is mounted and the treadle mechanism, and Fig. 4 is a front elevation of the same.

Referring to Figs. 1 and 2, the arbor A is mounted in bearings B, (only one of which is shown,) secured to the top of the bench C. A pulley D is fixed upon the arbor for driving the same in the usual manner. A detachable spindle E, tapered in the part E′ to fit a suitable bore in the arbor and in the part E^2 tapered in the opposite direction, projects beyond the end of the arbor and serves the purpose of expanding a sleeve, as will be explained. The expansible sleeve F is formed with a divided elastic body F′, which is bored for about half its length to about the diameter of the outer end of the part E^2 of the spindle, while the remainder of its length is bored large enough to slide onto arbor A. A grooved hub G is also formed upon or attached to the sleeve in which the fork of treadle H operates to slide the sleeve back and forth on the arbor and into contact with the end E^2 of the spindle, which when the sleeve is thus moved toward the arbor will, by reason of the taper E^2, expand the sleeve, and when the sleeve is moved by the treadle in the opposite direction the pressure of the end E^2 upon the interior of the expansible sleeve will be relieved and the sleeve will return to its normal diameter. When the detachable spindle and expansible sleeve are practically employed, as illustrated in Fig. 2, I attach an adjustable shield I, which may be secured to the sleeve by a small set-screw I′. This shield for about half its length is bored to fit easily the outside diameter of the sleeve when not expanded, and for the rest of its length it is of larger interior diameter, as shown in Fig. 2. This is for the purpose of admitting the tenon J of the box J′ between the shield and sleeve, thus protecting or shielding the tenon from becoming defaced or stained while the finishing operations are being performed upon the body of the box.

The form of holder illustrated in the figures just described is for hollow articles, which are held by expansion of the sleeve against their interior surfaces, and the practical operation in detail is as follows: The part E′ of spindle E is forced into the arbor, so as to produce sufficient friction between the spindle and arbor to hold the former in place with part E^2 projecting beyond the arbor. The sleeve F, with the shield I, when needed, as in the case illustrated, properly attached thereto, is slipped over the end E^2 of the spindle and onto the arbor A, and the fork of treadle H is connected with hub G with the treadle in its idle position. (Shown in Fig. 3.) Then the open box J′ is pressed upon the sleeve with its tenon J between the shield and sleeve, as shown, when treadle H being moved outward toward the operator its fork will be thrown backward, carrying with it sleeve F and forcing the sleeve upon the taper E^2 of the spindle, and thus expanding the sleeve, so as to firmly press against the interior of the box while the latter is being operated upon, and when the operation on the box is finished a movement of the treadle in the opposite direction will release the box from the interior pressure of the sleeve, and thus complete the action of the holder on that kind of work.

I claim—

1. An arbor attachment consisting of the combination of an arbor A, suitably mounted and arranged to be rotated in bearings B,

and having a tapered bore therein; a detachable spindle tapered at E′ to fit said arbor-bore, and at its outer and projecting end E^2, tapered in an opposite direction; an expansible sleeve F, attached to a hub G fitted upon the arbor and provided with a groove in which a treadle-fork H, operates to move the sleeve back and forth on the arbor; and a treadle mechanism, operating as described, to force the expansible end of the sleeve upon and off the tapered spindle at E^2; all constructed and arranged to operate together and relatively to each other substantially as shown and described and for the purposes specified.

2. The combination with the arbor, tapered spindle, expansible sleeve and means for sliding the sleeve, of a shield attached to the sleeve and constructed and arranged to operate therewith as and for the purposes specified.

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Witnesses:
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