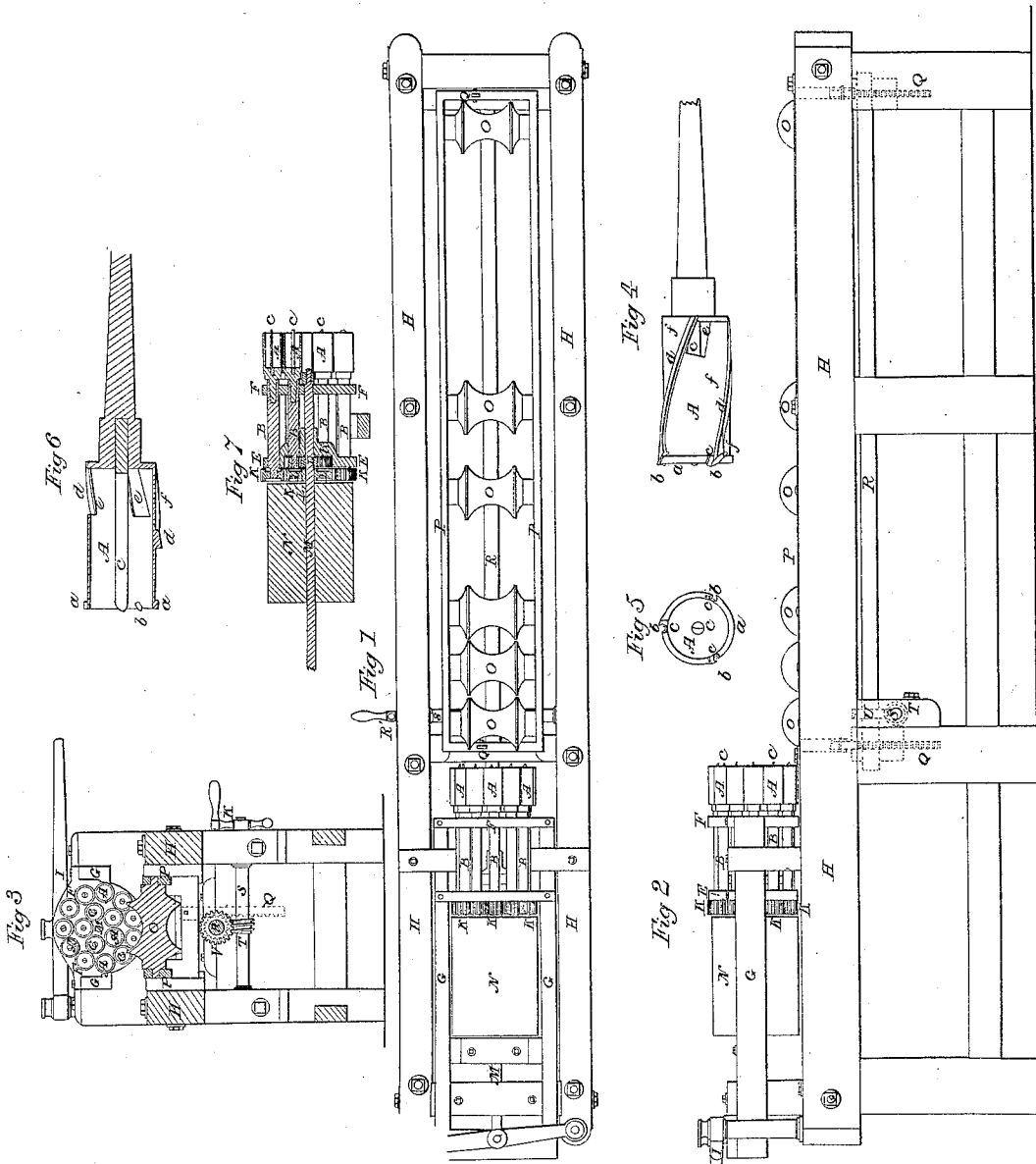


L. Brown,

Hollow Auger,

No. 6,391,

Patented Apr. 24, 1849.



UNITED STATES PATENT OFFICE.

LEWIS BROWN, OF EPSOM, NEW HAMPSHIRE.

CUTTING OUT CYLINDERS FOR BOBBINS, &c.

Specification of Letters Patent No. 6,391, dated April 24, 1849.

To all whom it may concern:

Be it known that I, LEWIS BROWN, of Epsom, in the county of Merrimack and State of New Hampshire, have invented a new and useful machine for the purpose of manufacturing cylinders from the end of a stick or log of timber, which cylinders may be afterward converted into bobbins, spools, or various other contrivances; and I do hereby declare that the said invention is fully described and represented in the following specification and accompanying drawings, letters, figures, and references thereof.

Of said drawings Figure 1 exhibits a top view of my said machine; Fig. 2, a front elevation of it; Fig. 3, a transverse and vertical section of it taken in the middle of the frame and so as to represent an end view of the cutters, etc. Fig. 4, is a side view of one of the cutter cylinders on an enlarged scale. Fig. 5, is a front end view of it, and Fig. 6, is a central and longitudinal section of it.

A A A, &c., are a series of sixteen hollow cutting cylinders or tubes, arranged with respect to one another as seen in the drawings, each of said cylinders being supported by a horizontal shaft B, on one end of which it is fixed and from which it projects. In the middle of each of said hollow cylinders a center bit C is arranged and so as to project from the cylinder, as seen in Figs. 5 and 6. Said cylinders are disposed in two circular rows, there being five of them in the inner and eleven of them in the outer of said rows. Their shafts B are respectively supported so as to be capable of being revolved in suitable bearings made in two cross plates or heads E F extending between and connected to the side rails of a horizontal sliding frame G, which is arranged and supported on the main frame H in such manner as to be capable of being moved forward or backward in a longitudinal direction by the hand of the attendant applied to a lever I.

Each of the shafts B has a small gear or toothed pinion K fixed on its rear end, the said gear being made to engage with one of two toothed wheels L or L' fixed on a center shaft M (see Fig. 7) which denotes a central, vertical and longitudinal section of the shaft M and cutter cylinders, &c., applied to it. N is a drum pulley placed on the shaft

M for the purpose of rotating it by a band proceeding from some suitable driving power. When said shaft revolves it puts each of the cutter cylinders in revolution. O O O, &c., are a series of rollers arranged with respect to one another and applied to a frame P, as seen in Figs. 1 and 2. Each end of said frame is sustained on the top of a vertical rack bar Q, as seen in Fig. 3. A horizontal shaft R, suitably supported in bearings applied to the main frame has a geared pinion affixed on each end, one of said geared pinions being represented by red lines in Fig. 3. Each of said pinions engages with one of the racks, so that when the shaft is rotated the frame of rollers may be made to rise or fall, according to the direction in which said shaft is moved. The shaft is revolved by the hand applied to a crank R' upon a shaft S, said shaft having a worm gear T on it which works in a toothed wheel U fixed on the shaft R.

Each cutter cylinder A is provided with a cylindrical and projecting flanch *a* which is suitably cut out and formed to receive and sustain three or any other suitable number of cutters *b b b*, which project beyond it or the face of it. Each of the said cutters has an opening *c* made in front of it and through the flanch *a*. It also has a helical rib *d* extending from it and projecting the same height above the surface of the cylinder A as the flanch does. At the opposite end of the cylinder a hole or passage *e* is cut or made through the cylinder just in rear of each rib, as seen in the drawings. The ribs, flanches, discharge holes and cutters are not represented in Figs. 1, 2 and 3, but each cylinder A, therein denoted, must be supposed to be provided with them. The object of the holes *e e e* is to allow the borings or chips which are made by the center bit of each cylinder, to escape from the interior of the cylinder and pass into either of the spaces *f f f* between the ribs, the said spaces *f f f* being to allow the shavings made by the cutters to escape as fast as made and thereby prevent them from clogging the action of the tool.

When cylinders are to be taken from a log of wood it is laid on the rollers O O, &c., and the frame P raised so as to bring the log up to the right elevation for the series of boring cylinders to operate on the log. The end of the log is presented against the

cutting ends of the cylinders A A, &c., and the latter are put in revolution and forced up against the log. They will each bore into the log in such manner as to form a cylindrical piece of wood which will be within its cylinder, and will be bored through its center or axis by the center bit of said cylinder. On withdrawing the series of boring cylinders from the log and applying a saw to it so as to separate it transversely, and at a distance from its end corresponding to the depth of the bore into it the several cylinders of wood may be removed from the log.

What I claim is—

The combination of one or more passages *c* with the inner part of the cylinder A and discharging space or spaces between the ribs, in order to admit of the discharge of the chips or borings of the center bitt as specified.

In testimony whereof I have hereto set my signature this 12th day of July, A. D. 1848.

LEWIS BROWN.

Witnesses:

GEO. W. GILMAN,

SAML. D. BELL.