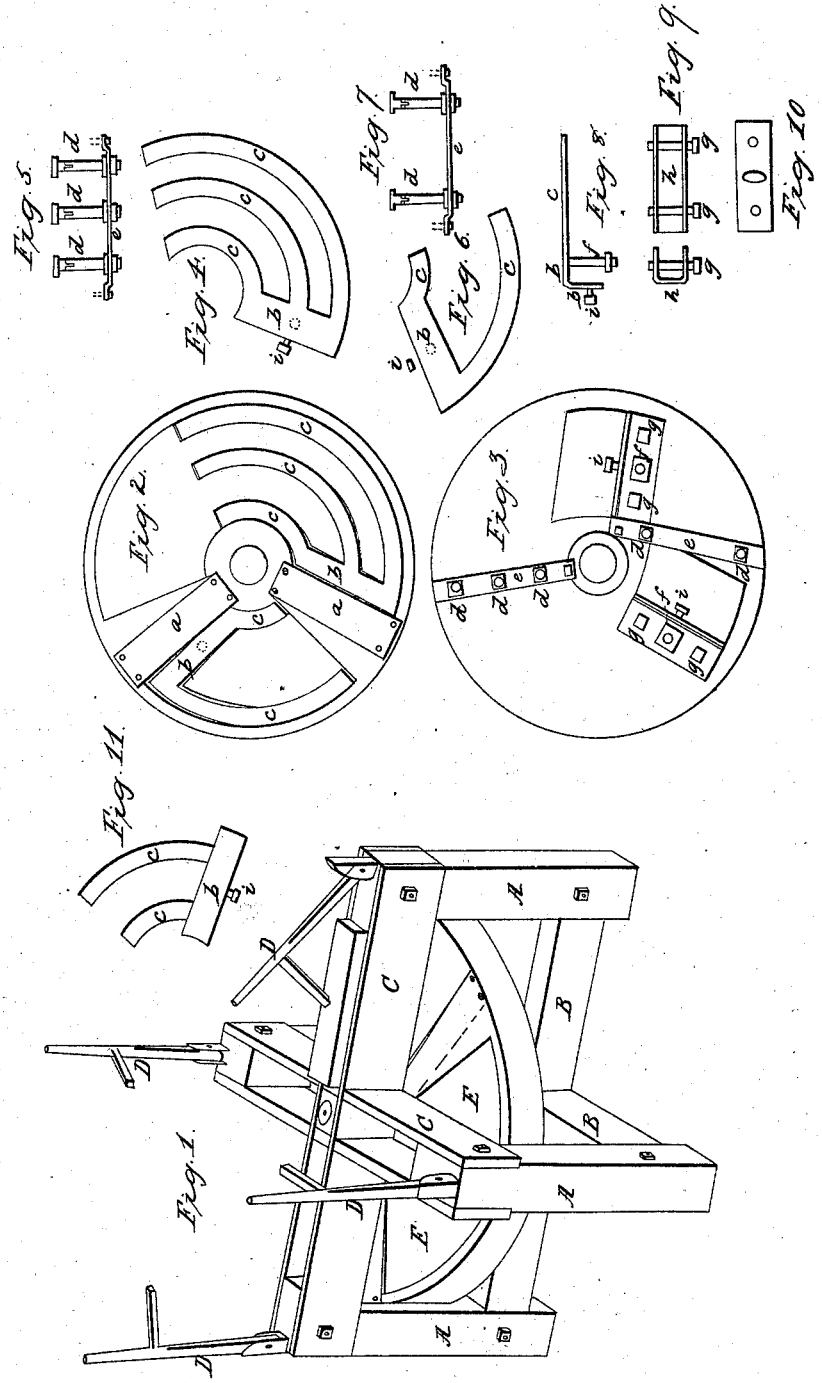
R. A. Quatermass,

Cutting Shingles.

No. 3,222. Patented Aug. 17, 1843.



UNITED STATES PATENT OFFICE.

ROBERT A. QUATERMASS, OF AUBURN, MICHIGAN.

MACHINE FOR CUTTING SHINGLES, VENEERS, &c.

Specification of Letters Patent No. 3,222, dated August 17, 1843.

To all whom it may concern:

Be it known that I, ROBERT A. QUATERMASS, of Auburn, in the county of Oakland and State of Michigan, have invented a new and useful Improvement in Machines for Cutting Shingles, Staves, Veneers, and other Articles of Similar Form; and I do hereby declare that the following is a full and exact description of the construction and operation of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1, is a perspective representation of a shingle machine; Fig. 2, a view of the upper surface of the revolving table of the same with the improvements; Fig. 3, a view of the lower surface of the table, and the other figures views of the parts, constituting the improvements, which consists in the use of an apparatus in the table before each knife for regulating the throat of the knife and the thickness of the article to be cut.

In the drawings like parts are represented by the same letters.

In Fig. 1 A, A, are the posts of the frame; B, B, cross ties, connecting the foot of the posts; C, C, frame-work, connecting the tops of the posts and forming the hoppers for the reception of the blocks to be cut; D, D, weighted levers, to sustain an equable pressure of the blocks, and, E E a horizontally revolving table, in the surface of which are two knives or cutters *a a*. These are let into the table until their edge is even with its surface and are so placed in relation to each other, that only one of them is in the act of cutting at the same time. They enter the blocks at the end nearest the axis of the table and cut them obliquely to the course of the grain. On the under side they are beveled 3/16 of an inch to the inch, the surface being slightly concave; and, on the upper side, 1/16 of an inch for one inch, the remaining part being even with the surface of the table. The surface of the table is lowered from near the back of one knife around to the surface of the other, forming an inclined surface, sufficient in width for the length of the article to be cut, and, in depth, for the thickness of it, together with the apparatus for regulating the throat of the knife.

The apparatus is to be made of iron, wrought or cast and be held in place and raised or lowered or moved forward by set screws. Fig. 2, shows it as it appears in place in the table. Figs. 4 and 6 are horizontal views of it, as it appears out of the table, showing it to consist of a plate *b* and circular limbs *c c*. Fig. 8 is a vertical section of it, showing that plate *b* is bent at right angles under the edge of the knife, the vertical part being the same in width as the horizontal.

Figs. 5 and 7 show the manner in which the outer end of the limbs is held and regulated. *d d* are bolts extending down through the table and plate *e*, having a screw cut on the lower ends by which they are fastened to the plate by means of two nuts, one above and the other below it. What appear to be the heads of the bolts are vertical sections of the limbs *c c*. A little below the limb, each bolt has a folding joint, which admits of a free action of the limb in raising or lowering it or moving it forward. The end of the limbs is raised and lowered and held in place by the action of the nuts upon the bolts on plate *e* which is bolted firmly to the table. Driving the nuts down, raises the limbs; driving them up, lowers them.

Figs. 8 and 9 show the manner in which the end of the apparatus next to the knives as held and regulated. Fig. 9 is an end and back view of a plate *h* which lies beneath plate *b*. It bends twice at right angles—the upper and lower parts facing the upper and lower surfaces of the table and the vertical parts, facing the opening through it under the edge of the knife. A view of the upper and lower part is given in Fig. 10, the bolt *f*, attached to the center of plate *b* Fig. 8 passing down through the center opening and bolts *g*, *g*, Fig. 9 passing up through the outer ones. A screw is cut on the lower end of the former bolt; and on the upper end of the latter. Turning down the nut on bolt *f* and up bolts *g g*, raises this end of the apparatus; turning the nut up and the bolts down, lowers it. The action of the screws on bolts *g g* being opposed to that on bolt *f*, the one sets the other; and in like manner the action of the nuts on each other on bolts *d d*.

The apparatus may be set with the surface of plate *b* parallel to the edge of the knife, so as to cut an article of uniform thickness as veneers, or with one side higher than the

other, as shown in Fig. 2, so as to cut an article thicker at one end than the other as shingles.

l is a screw situated centrally of the vertical part of plate *b* and when driven in presses against the vertical part of plate *h*, the effect of which is to draw the apparatus forward under the edge of the knife. The knife is constantly wearing and the edge of it retiring from the edge of the apparatus. By the use of this screw in this manner and the adjustment of the apparatus so as to be moved forward by it, the edge of the knife and corner of plate *b* may be kept in the same relative position so long as the knives are fit for use. The center opening in Fig. 10, through which bolt *f* passes, is made oblong to allow the apparatus to move forward; and in like manner are made the openings in the table through which pass bolts *d d*.

The apparatus may be constructed with the circular limbs as in Fig. 4 or with two as in Fig. 6. In a table of large diameter three limbs are preferable; in one of small, two will answer; in the latter the limbs should spring from the plate a little toward the center from the end as shown in Fig. 11, so as to present proper sections of support to the blocks.

The advantages of the apparatus are, it affords ready means to regulate the throat of the knives so as to cut an article uniform in thickness or an article varying in thickness; it is moved forward as the knife wears and preserves the form of the throat in that respect; and the limbs form ways upon which the timber moves with less friction than on the surface of the table.

Having thus fully described the nature of my improvements in the manner of combining, regulating and adjusting the knives and revolving table in machines for cutting shingles; what I claim therein as new and desire to secure by Letters Patent is—

The manner in which I regulate the throat of the knives or cutters and the thickness of the article to be cut, by means of an apparatus, consisting of an angular plate *b* and circular limbs *c c* which are let into grooves in the table; the apparatus being held in place and adjusted by set screws connected with the plate and limbs, the latter serving as ways for sustaining the blocks; the whole being formed and operating substantially as herein set forth.

ROBERT A. QUATERMASS.

Witnesses:

JOHN R. GROUT,

JAS. GOW.