

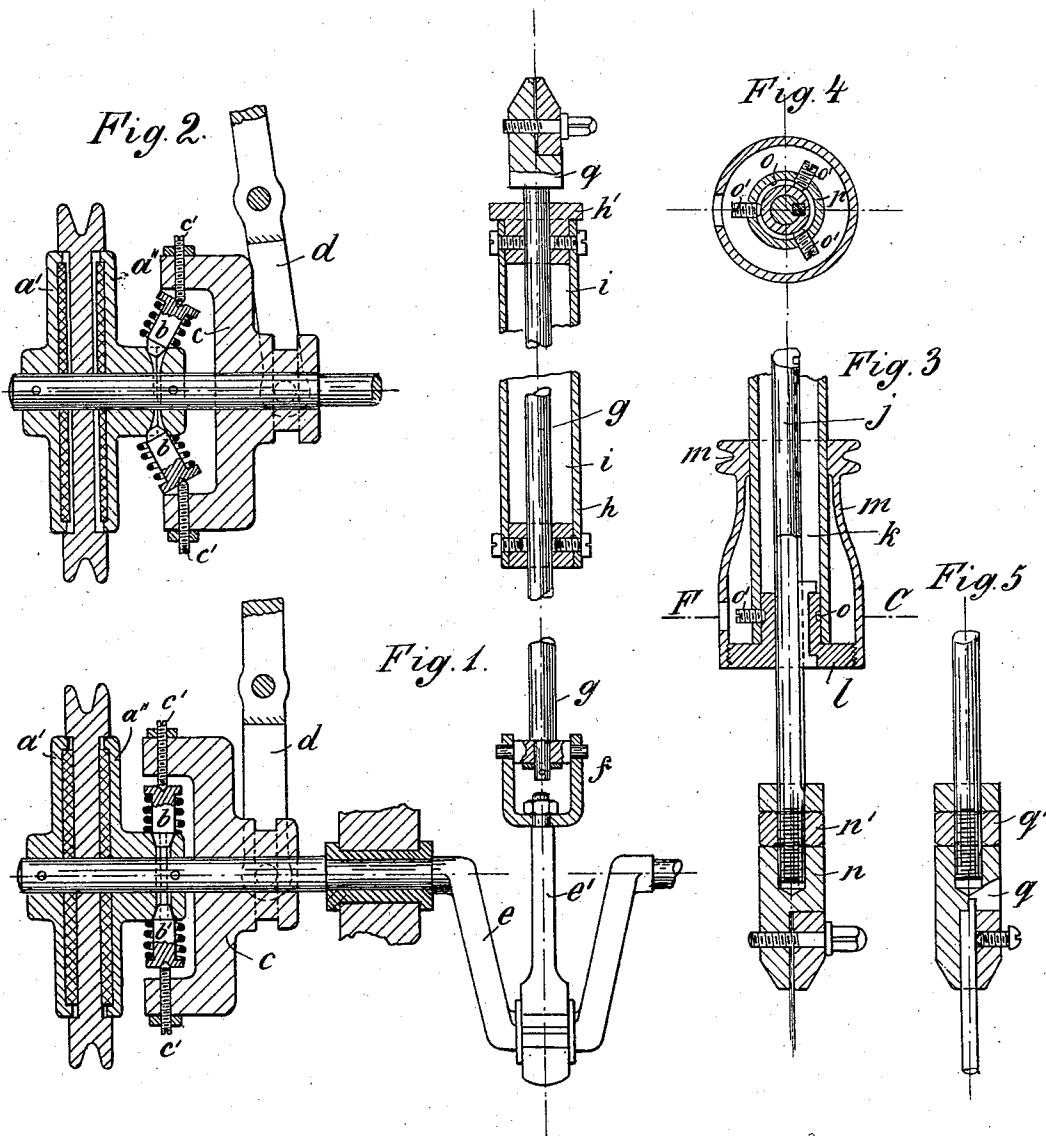
(No Model.)

3 Sheets—Sheet 1.

A. WAECHTER.
SWEEP OR SHAPING SAW MACHINE.

No. 588,201.

Patented Aug. 17, 1897.



Witnesses:

E. H. Kolton
O. H. Mumford

Inventor:

Alain Waechter

By

Charles A. Peters
his Attorneys.

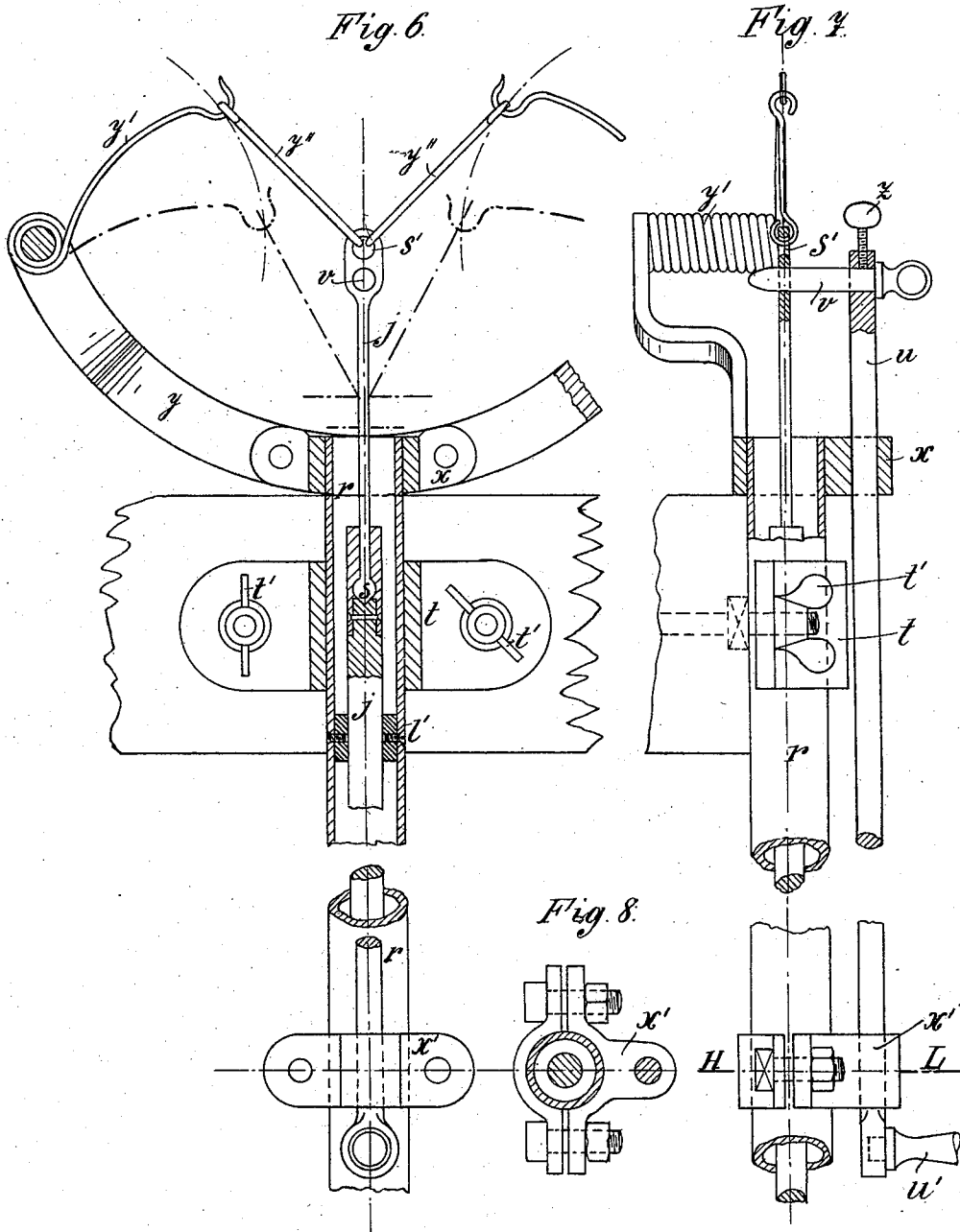
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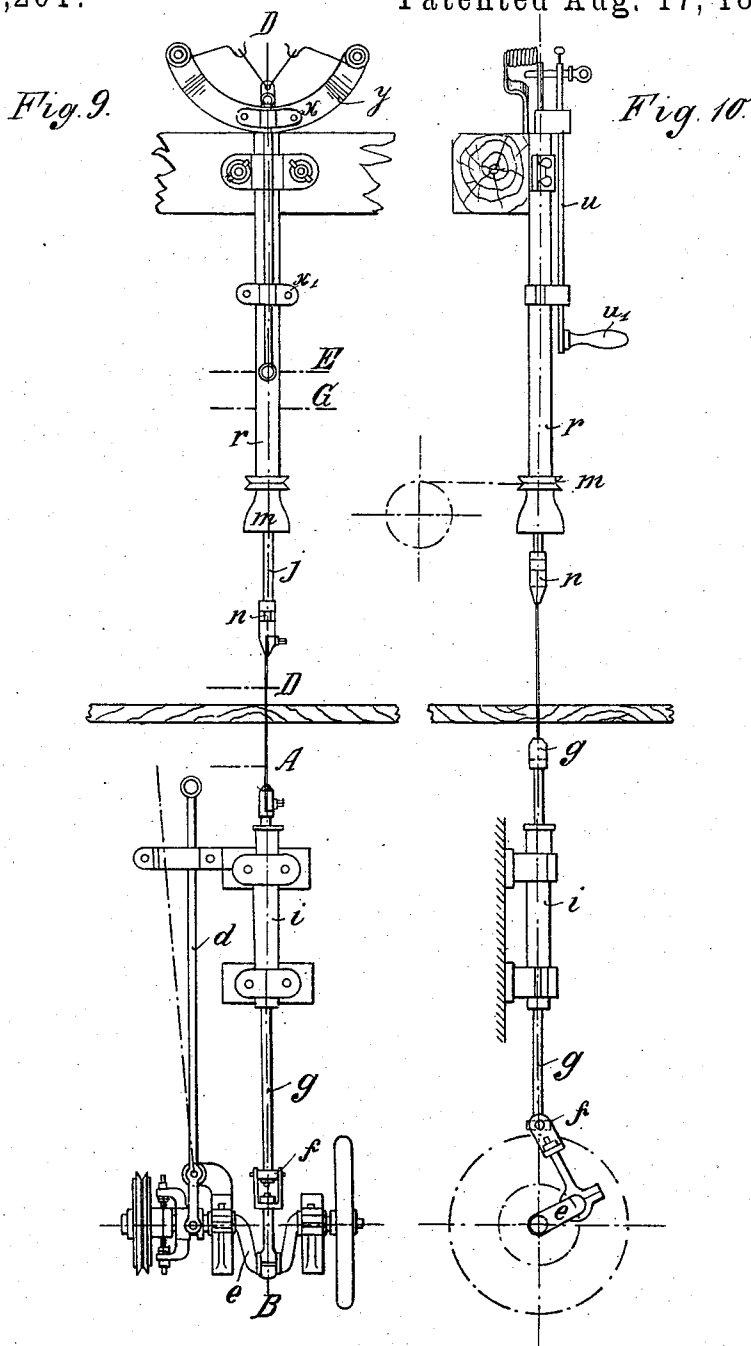
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SWEEP OR SHAPING SAW MACHINE.

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UNITED STATES PATENT OFFICE.

ALOISE WAECHTER, OF STRASBURG, GERMANY, ASSIGNOR TO CHARLES VOLTZ, OF SAME PLACE.

SWEEP OR SHAPING SAW-MACHINE.

SPECIFICATION forming part of Letters Patent No. 588,201, dated August 17, 1897.

Application filed March 25, 1897. Serial No. 629,243. (No model.)

To all whom it may concern:

Be it known that I, ALOISE WAECHTER, a subject of the Emperor of Germany, residing at Strasburg, Alsatia, in the Empire of Germany, have invented new and useful Improvements in Sweep or Shaping Saw-Machines, of which the following is a specification.

This invention relates to an improved construction of sweep or shaping saw-machine with rotatable saw-blade, which I will describe with reference to the accompanying drawings.

Figure 1 is a detail view of the pulley and clutch mechanism for driving the lower crank-shaft. Fig. 2 is a similar view showing the connection with the lower spindle. Fig. 3 is a detail view of the upper spindle. Fig. 4 is a section on line F C of Fig. 3. Fig. 5 is a detail of the drill-spindle. Fig. 6 is a front elevation, partly in section, of the upper spindle and the means for raising it. Fig. 7 is a side view of the same. Fig. 8 is a detail of the drill-rod connection. Figs. 9 and 10 are respectively front and side elevations of the complete device.

To an arc-shaped yoke *y*, Figs. 6, 7, and 9, are attached two spiral springs *y'*, tending to draw the saw upward, the hook-shaped ends of which springs are connected by links *y''* to the head *s'* of the spindle *j*. The tube *r*, held in a clamping-bearing *t*, is attached to the yoke *y* by a bracket *x* and embraces the spindle *j*, and can be vertically adjusted in position to suit the thickness of the wood to be worked by loosening the wing-nuts *t'* of the clamping-bearing *t*. The spindle *j* is guided in the tube *r* at top in the bush *l'* and at bottom in the bearing *l*, Fig. 3, and it is connected by a screw-thread and nut *n* with a clamp *n* for holding the saw-blade.

A caoutchouc ring fitted over *n'* serves to lessen the force of any impact of the lower end of the spindle against the bearing *l*.

The key *p* in the bearing *l* corresponds with a vertical groove in the spindle *j*. The bearing *l* has a circular groove *o*, into which take setting-screws *o'* on the tube *r*.

The spindle *j* consists of two separate parts that are connected together by means of a ball-and-socket joint *s*. In consequence of

this the saw-blade can be turned in all directions by means of a socket-like handle *m*, because the bottom pivot of the lower spindle *g*, to which the lower end of the saw-blade is attached and which slides in bearings *h h'* in the tubular guide *i*, is also movable in a universal joint *f*. The spindle *g* is provided with a clamp like the spindle *j* and has a caoutchouc ring for weakening any impact with the guide. The universal joint *f* is attached to the connecting-rod *e'* of the crank-shaft *e*, which is driven by a cord-pulley.

The drilling device employed in combination with the saw is arranged as follows: The clamps *x* and *x'* on the tube *r* serve to hold a drill-rod *u*, with handle *u'* and pin *v* secured by a setting-screw *z*, Figs. 6, 7, 8, and 10. In place of the clamp *n* the drill-head *q*, with nut *q'*, Fig. 5, is screwed onto the spindle *j*, and a rotary motion is imparted to the latter by means of a cord leading from the before-mentioned cord-pulley round a whirl on the handle *m*, and the downward motion of the drill and spindle is controlled by hand-pressure upon the handle *u'* of rod *u*.

For throwing the drilling device out of gear the setting-screw *z* is loosened, pin *v* is drawn out of the hole in spindle *j*, and is then fixed again by the screw *z*.

The above-described machine possesses the essential advantage that long pieces of wood can be sawed in a limited space, as the turning thereof in a corresponding manner to the design to be cut is dispensed with, the wood only requiring to be moved longitudinally or laterally.

Owing to the tube *r* being made vertically shiftable by means of the arrangement of the clamping-bearing and thumb-nuts *t t'*, the saw-blades, if shortened by breaking, can be at once used again by shifting down the tube *r* with its spindle and clamp.

The combination, with the machine, of the drilling device enables the necessary holes to be drilled for cutting through, as also such cutting itself, to be effected in the same machine that serves for the sawing, which enables a great saving of time to be effected in the case of large pieces of wood and small workshops.

Having now particularly described and as-

certained the nature of this invention and in what manner the same is to be performed, I declare that what I claim is—

In combination the tube *r*, the two-part spindle adapted to have vertical and rotary movement therein, the lower portion of said spindle being adapted to carry either a saw or drill, the bracket *x*, the depressing-rod guided in said bracket, the springs connected with the upper portion of the spindle, and the

pin passing through the depressing-rod and engaging the upper portion of the spindle, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ALOISE WAECHTER.

Witnesses:

CHARLES VOLTZ,

EUGENE LONG.