

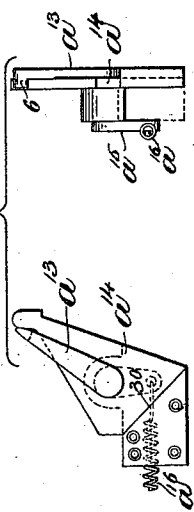
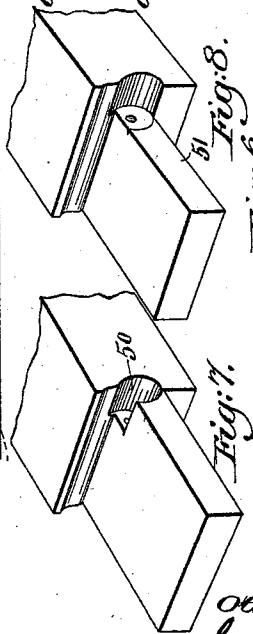
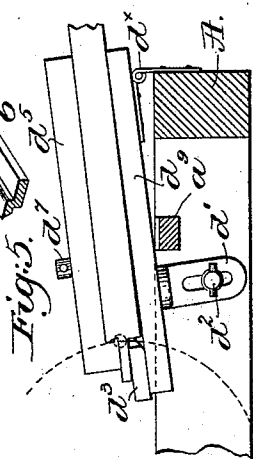
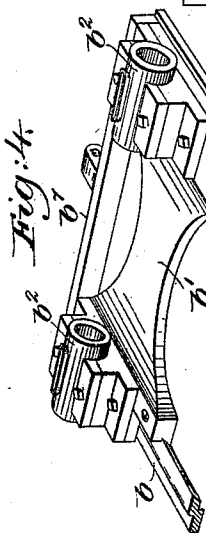
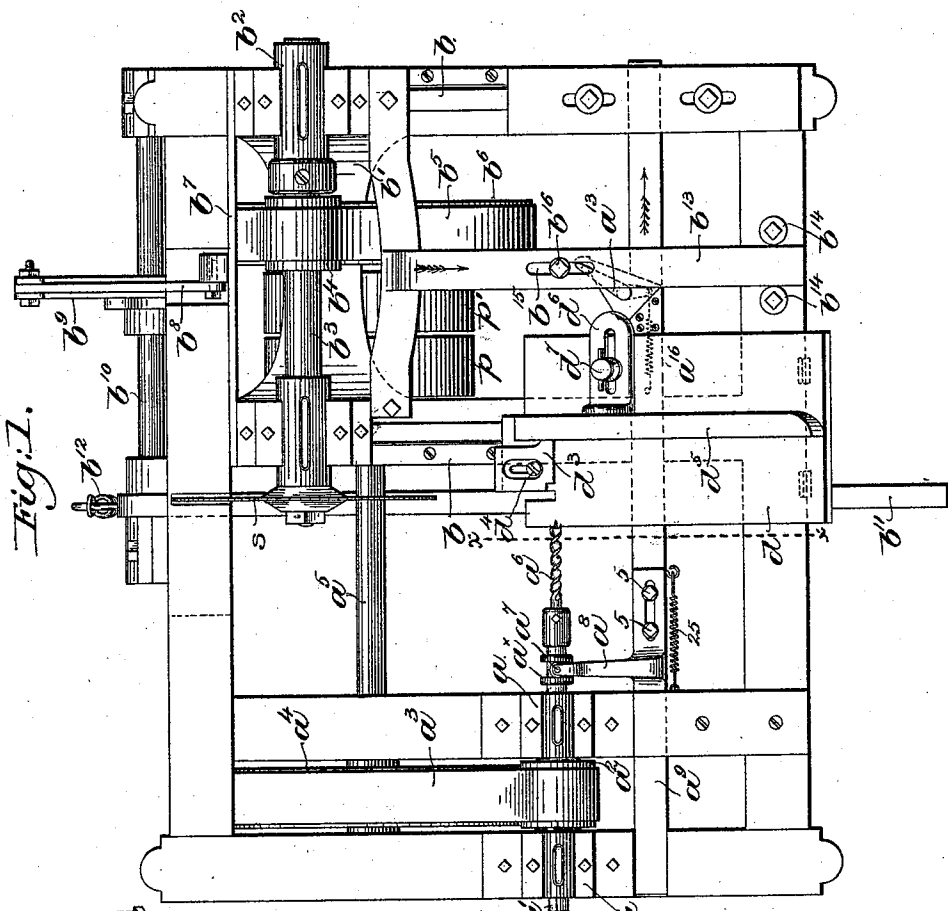
(No Model.)

2 Sheets—Sheet 1.

O. F. AMSDEN.
RELISHING MACHINE.

No. 518,017.

Patented Apr. 10, 1894.



Witnesses.
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UNITED STATES PATENT OFFICE.

OTHO F. AMSDEN, OF ATHOL, MASSACHUSETTS.

RELISHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 518,017, dated April 10, 1894.

Application filed May 17, 1890. Serial No. 352,190. (No model.)

To all whom it may concern:

Be it known that I, OTHO F. AMSDEN, of Athol, county of Worcester, State of Massachusetts, have invented an Improvement in Relishing-Machines, of which the following description, in connection with the accompanying drawings, is a specification, like letters and figures on the drawings representing like parts.

This invention relates to that class of machines used for relishing window sashes, and has for its object to simplify and improve the construction and operation of the same.

In accordance with this invention the sash rail having a tenon from which a relish is to be taken, is placed with its tenon upon a suitable rest, and the usual bit and saw are moved toward it at the same time, the bit first reaching the tenon, performing its work, and being withdrawn, while the saw continuing to advance, removes the relish, the whole being accomplished by one movement of the treadle and without moving the rail from its rest.

One part of my invention therefore consists in the combination with a shaft carrying a saw, and a movable support therefor, of a longitudinally movable shaft carrying a bit, and means for advancing said saw and bit toward the work, the bit being withdrawn before the saw finishes its advancement, all substantially as will be described.

Other features of my invention will be pointed out in the claims at the end of this specification.

Figure 1 shows in plan view a relishing machine embodying this invention; Figs. 2 and 3 left and right hand end elevations respectively of the machine shown in Fig. 1, and Fig. 4 a perspective detail of the movable carriage which carries the saw; Fig. 5, a sectional detail taken on line *x x* Fig. 1, looking to the right; Fig. 6, top and side views respectively of the tongue which controls the movements of the bit. Fig. 7 shows in perspective a rail after being bored by the bit, and Fig. 8, a similar view of the rail, the relish having been removed by the saw.

Referring to the drawings, the frame A is of suitable shape to support the bearings *a* in which is journaled the longitudinally movable shaft *a'*, adapted at one end to re-

ceive and hold a bit *a⁶*, and having splined to it the pulley *a²*, driven by a belt *a³*, from the pulley *a⁴* fast on the drive shaft *a⁵*, 55 mounted in suitable bearings in the frame and having thereon the fast and loose drive pulleys *p, p'*. The shaft *a'* has a collar provided with an annular groove *a^x* which receives a roller or other stud *a⁷* on the arm 60 *a⁸*, adjustably secured by one or more bolts 5 to the frame or bar *a⁹* fitted to slide longitudinally in suitable guide ways in the frame A, and normally held in the position shown, by the action of a spring 25, secured 65 thereto and to the frame. The frame A is also shaped to receive and support the two rails or guides *b* on which slide the frame or carriage *b'*, shown best in Fig. 4, it supporting at either end as shown, suitable boxes *b²* 70 in which is journaled the shaft *b³*, provided at one end with the circular saw *s*, and having fast thereon a pulley *b⁴* driven by a belt *b⁵* from a pulley *b⁶* fast on the shaft *a⁵* referred to. The frame *b'* has a cross bar or 75 arm *b⁷* to which is jointed a link *b⁸*, to the opposite end of which is jointed the upper end of the arm *b⁹* of the shaft *b¹⁰* mounted in suitable bearings at the rear side of the frame, the said shaft *b¹⁰* also having an arm 80 *b¹¹* extending through to the front of the machine as shown, to serve as a treadle, the whole being under the control of a spring *b¹²* secured to the arm *b¹¹* and to the frame, see Fig. 2. The frame *b'* has an arm *b¹³* extend- 85 ing toward the front of the machine over the slide bar *a⁹*, and between the guide rolls *b¹⁴*, the said arm *b¹³* having a slot *b¹⁵* which receives the roller or other stud *b¹⁶*, adapted to engage the cam or tongue *a¹³*, see Fig. 6, pivoted to the 90 casting or base *a¹⁴* secured to the slide bar *a⁹*, the pivotal shank of said tongue extending through the said base *a¹⁴* to the under side thereof, see Fig. 6, where it is provided with an arm *a¹⁵*, to which is attached a spring *a¹⁶* 95 also secured to the slide bar *a⁹*, said spring *a¹⁶* normally keeping the tongue *a¹³* in an inclined position as shown, with its stop or shoulder 6 bearing against the base *a¹³*. A rest or table *d*, supported at its outer end on 100 suitable hinges *d^x* see Fig. 5, is provided at its inner end with a downwardly extended bracket *d'* slotted to receive the clamping screw *d²*, by means of which the height or

inclination of the table may be varied. A rest d^3 , for the work, is slotted longitudinally and secured to the table d by the screw d^4 , as shown in Fig. 1 so as to be capable of adjustment, and a side rest or stop d^5 made adjustable on the said table by the slotted bracket d^6 , and clamping screw d^7 is also provided, against which the rail may be placed.

In practice the tenon of the rail is placed upon the adjustable rest d^3 , as shown in Fig. 5, and against the side rest d^5 , when the treadle or lever b^{11} is pressed down, causing the arm b^9 to move the frame b' forward in the direction of the arrow thereon, and the stud b^{16} engaging the inclined tongue a^{13} on the slide bar or frame a^9 , will move said slide bar or frame to the right in the direction of the arrow, bringing the rotating shaft a' carrying the bit a^5 up to the tenon, boring it as shown at 50, Fig. 7, when the stud b^{16} passing beyond the pivotal end of the tongue a^{13} , permits the spring 25 to withdraw the bit from the tenon to its normal position, while the frame b' continues to advance, the saw s removing a piece or relish of the tenon as shown at 51, Fig. 8, the entire operation being performed by one movement of the treadle and without moving the rail.

The casting or base a^{14} is formed with an inclined wall 30, see Figs. 1 and 6, to be acted upon by the stud b^{16} to force the slide bar a^9 to the left into its normal position, in case the spring 25 should fail to perform its duty, thus making it impossible for the saw to strike the bit while it is in the wood.

In the machine described, the rail is rested upon the tenon as shown in Fig. 5, the rail itself not resting on the table, for the thickness of the tenon is frequently the same for varying thicknesses of rail, and the rest d^3 being adjusted with relation to the bit and saw for one thickness of tenon, it matters not what the thickness of the rail may be, the bit will always be centered with relation to the tenon, thus obviating adjustment of the table d for every variation in the thickness of the rail which is necessary in machines as at present constructed.

I do not herein claim broadly the use of a bit and saw for relishing a sash, but it has hitherto required two or more operations to complete the work, while in my machine the complete operation is performed by one movement of the treadle, the work being held stationary, thus effecting a great saving of time.

I do not desire to limit my invention to the exact construction and arrangement of parts shown, as the same may be varied without departing from the scope of this invention.

I claim—

1. A relishing machine comprising a rest for the work, a shaft and saw thereon, a frame having bearings for the said saw-shaft, means under the control of the operator to cause a gradual approach of the saw to the work, a shaft and bit therein, a movable bit-traversing

frame connected with the saw frame and also connected with the bit-shaft to move it, the connections between the saw frame and bit-traversing frame being rendered operative to advance the bit to complete its work and thereafter retract the said bit before the saw has completed its advance movement into the work, constructed, combined and arranged substantially as described.

2. A relishing machine comprising a rest for the work, a shaft and saw thereon, a frame having bearings for the said saw-shaft, means under the control of the operator to cause a gradual approach of the saw to the work, a shaft and bit therein, a movable bit-traversing frame, and a tripping device interposed between and connecting the saw frame and bit-traversing frame to advance the bit and complete its work and adapted to release the bit-traversing frame to retract the bit before the saw has completed its advance movement into the work, constructed, combined and arranged substantially as described.

3. A relishing machine comprising a rest for the work, a shaft and saw thereon, a frame having bearings in said saw-shaft, means under the control of the operator to cause a gradual approach of the saw to the work, a shaft and bit therein, a movable bit-traversing frame, and a tripping device consisting of a movable tongue on the bit-traversing frame and a stud on the saw frame, whereby movement of the saw-frame to advance the saw to the work causes said stud to act upon said tongue to move the bit-traversing frame to its work and release the bit-traversing frame to retract the bit before the saw has completed its advance movement, constructed, combined and arranged substantially as described.

4. The carriage b' , the shaft b^8 , and stud b^{16} carried thereby, combined with the slide bar a^9 having a pivoted spring controlled tongue a^{13} , and the arm a^8 , and shaft a' , to operate substantially as described.

5. In a relishing machine, the frame a movable shaft carrying a saw, and a longitudinally movable shaft carrying a bit, combined with an adjustable table carried by said frame, and a rest for the tenon on said table, substantially as described.

6. In a relishing machine, the frame, a movable shaft carrying a saw, and a longitudinally movable shaft carrying a bit, combined with the table d hinged to said frame, means to hold said table in adjusted position, and the adjustable rest d^3 on said table, substantially as described.

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

OTHO F. AMSDEN.

Witnesses:

GEO. W. GREGORY,
FREDERICK L. EMERY.