H. W. Oliver,

Carving Wood.

No. 35,775. Patented July 1, 1862.

Fig. 2.

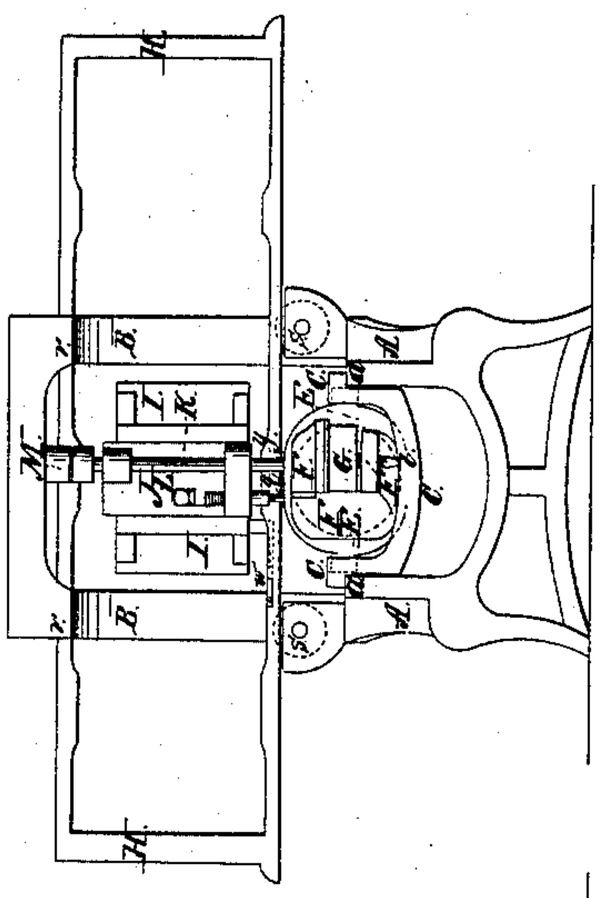


Fig. 6.

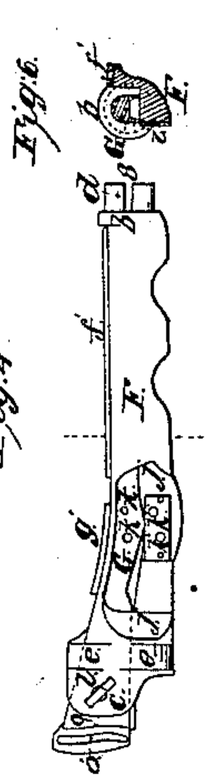


Fig. 4.

Fig. 5.

Fig. 1.

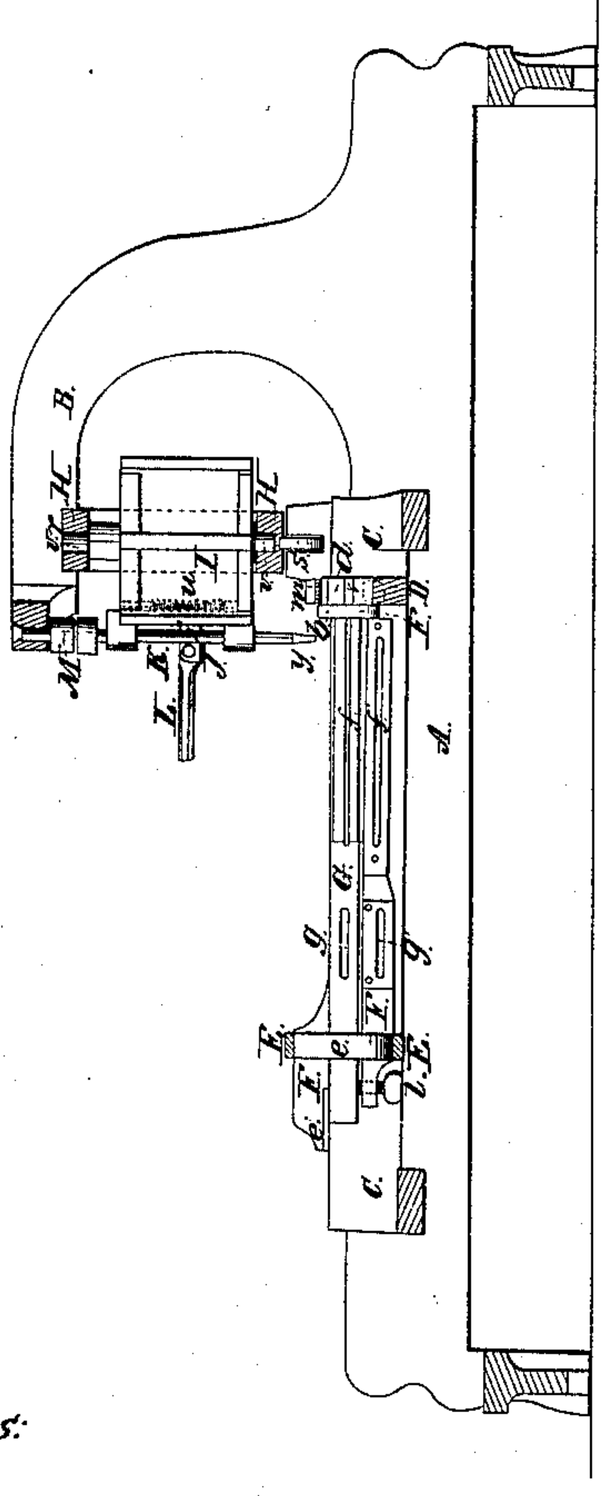
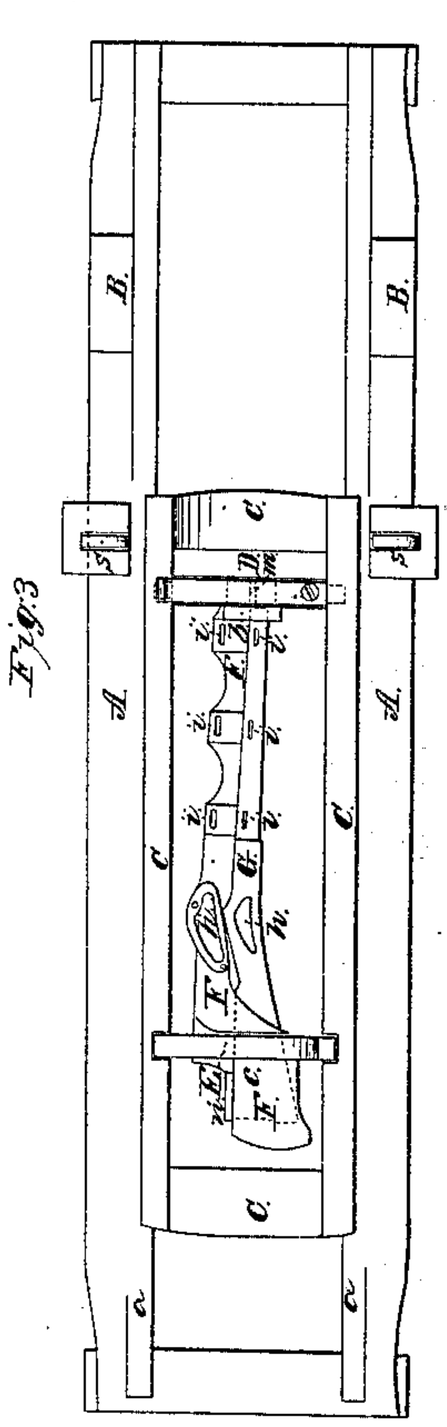


Fig. 3.



Witnesses:
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UNITED STATES PATENT OFFICE.

H. W. OLIVER, OF NEW HAVEN, CONNECTICUT.

IMPROVEMENT IN MACHINES FOR MAKING GUNSTOCKS.

Specification forming part of Letters Patent No. **35,775**, dated July 1, 1862.

To all whom it may concern:

Be it known that I, H. W. OLIVER, of the city of New Haven, in the county of New Haven and State of Connecticut, have invented a new and Improved Machine for Letting in the Metal Work of Gunstocks; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a central longitudinal vertical section of the machine. Fig. 2 is a front elevation of the same. Fig. 3 is a plan of the same, with the upper part of the framing and the cutter-head removed. Figs. 4 and 5 are plans of two different sides of the stock-holder containing a stock. Fig. 6 is a transverse section of the stock-holder and stock.

Similar letters and numbers of reference indicate corresponding parts in the several figures.

This invention consists in a machine composed of a rotating holder for containing the gunstock and having attached to it a series of patterns corresponding with the mortises and other cavities to be cut in the stock for letting in the metal work, combined with a reciprocating carriage for moving the said holder lengthwise, or in the direction of its axis, and with a rotating cutter and a tracer, in such a manner that all of the said mortises or cavities may be cut without removing the stock from the machine, as is necessary in the "letting-in machines" at present in use for gun-work, thereby saving labor and insuring a perfect uniformity in the stocks, so that the parts of one may interchange with those of another, as is required in all government arms of a given pattern.

To enable others to make and use my invention, I will proceed to describe its construction and operation.

A is a horizontal bed, and B B two crane-necked standards combined with said bed to constitute the main framing of the machine.

C is a carriage fitted to slide on horizontal ways *a a*, arranged lengthwise of the bed A and carrying the bearings D and E for the reception of the journals *d* and *e* of the rotating stock-holder F. The said stock-holder is made with a socket, *b*, at one end, into which the front end of the gunstock G fits snugly, and a socket, *c*, at the other end to receive the rear portion of the stock, and on the exterior of these sockets its journals *d* and *e* are formed; but between the said sockets it is open on two sides, as shown in Figs. 1, 3, and 6, to expose nearly the whole length of the under and right-hand sides of the stock for the cutting of the mortises or recesses *f* for the ramrod, *g* for the trigger-guard, *h* for the lock-plate, and *i i i* for the band, and on the side corresponding with the left side of the stock there is an opening, *j*, (shown in Fig. 4,) for the cutting of the holes *k k* for the escutcheons. The fourth side of the said holder is unbroken and formed for the upper side of the stock to fit snugly against it, in the manner shown in Fig. 3.

The stock is inserted into the holder through the socket *c*, and secured therein by a set-screw, *l*, the butt being left protruding through the said socket to permit its being properly cut, as shown at *n* in Fig. 5 and *o* in Fig. 4, for the reception of the butt-plate. In the journal *e* there are cut at equal distances apart in a circumferential direction four notches, 8 8, for the reception of the tooth of a stop, *m*, which is attached to the bearing for the purpose of locking the journal *m* in its bearing, and so securing the stock-holder with either one of the four sides of the stock in an upward position.

The holder F has fastened to it or formed within it the patterns *f'*, *g'*, *h'*, *i'*, *i'*, *i'*, *k'*, *k'*, *n'*, and *o'*, by which the operation of the cutter is properly directed to cut the mortises or recess *f*, *g*, *h*, *i*, *i*, *i*, *k*, *k*, *n*, and *o*. To provide for the easy removal of the stock-holder from the carriage and its replacement therein, the bearing E is made with tenons *p p* to drop into and lift out of mortises in the sides of the carriage C, and the bearing D is arranged to swing on trunnions *q q*.

To take out the stock-holder, the bearing E is lifted out from the carriage C and the holder then drawn out from the bearing D, and to replace the holder the journal *b* is replaced in the bearing *b* and the bearing E dropped into its place. The bearing E remains always attached to the holder. The longitudinal movement of the carriage C on the bed A may be produced by any suitable means.

H is an upright frame arranged to work horizontally across the bed A and carriage C in

guides *r r* and on friction-rollers *s s*. In this frame is arranged the cutter-head I, containing the vertically-moving cutter-slide J, which receives the stock K of the rotary cutter *y*, and has attached to it the tracer *t*. The said slide has applied to it a spring, *u*, which tends to raise it up to a position in which the cutter will not touch the gunstock, nor the tracer touch the patterns on the holder F, and it has also attached to it a lever, L, by which the said slide may be depressed to bring the tracer into proper contact with the patterns and the cutters into operation on the stock, and by the aid of which the cutter-stock and frame H may be moved by hand in a direction transverse to the carriage C to make the tracer follow the pattern as the gunstock moves under the cutter with the carriage and the holder F. The movements of the cutter corresponding with those of the tracer and the movement of the gunstock relatively to the cutter being the same as those of the patterns relatively to the cutter, the mortises and recesses on either side of the gunstock are cut in conformity with the patterns on the corresponding side of the holder. When the recesses or mortises have all been cut on one side of the gunstock, the stop *m* is withdrawn from the notch 8 in the journal *d*, the holder F turned a quarter-revolution, and the stop *m* allowed to drop into a new notch 8 in the journal *d*, and the cutting of the recesses or mortises in another side of the gunstock proceeded with, and so on until all four sides of the stock have been cut out.

In order to provide for the use of cutters of different kinds suitable for the different recesses or mortises to be cut, the cutter-head I is arranged to turn vertically about a central axis, being constructed with pivots *v v*, fitted to suitable bearings in the top and bottom of the frame H, and the said head is fitted on different sides with two or more cutter-slides, J, furnished with cutter-stocks and tracers, either of which may be brought to an operative position by turning the head I, which is locked in the positions to suit the several slides by means of a sliding bolt, *w*, fitted to the frame H.

The bed A may be wide enough to contain and furnished with ways for two or more carriages, C, containing a corresponding number of cutter-heads for the purpose of cutting two or more stocks at a time.

The cutter-stocks K may be driven by belts from a pulley, M, or by any other convenient means.

What I claim as my invention, and desire to secure by Letters Patent, is—

A machine for cutting the recesses or mortises for letting in the metal work of gunstocks, composed of a rotating stock-holder, G, with attached patterns *f*, *g*, *h*, *i'*, *i'*, *k'*, *k'*, *n'*, and *o'*, fitted to bearings in a reciprocating carriage, C, substantially as herein described, and combined with a rotating cutter, *y*, and tracer *t*, to operate substantially as herein specified.

H. W. OLIVER.

Witnesses:

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