

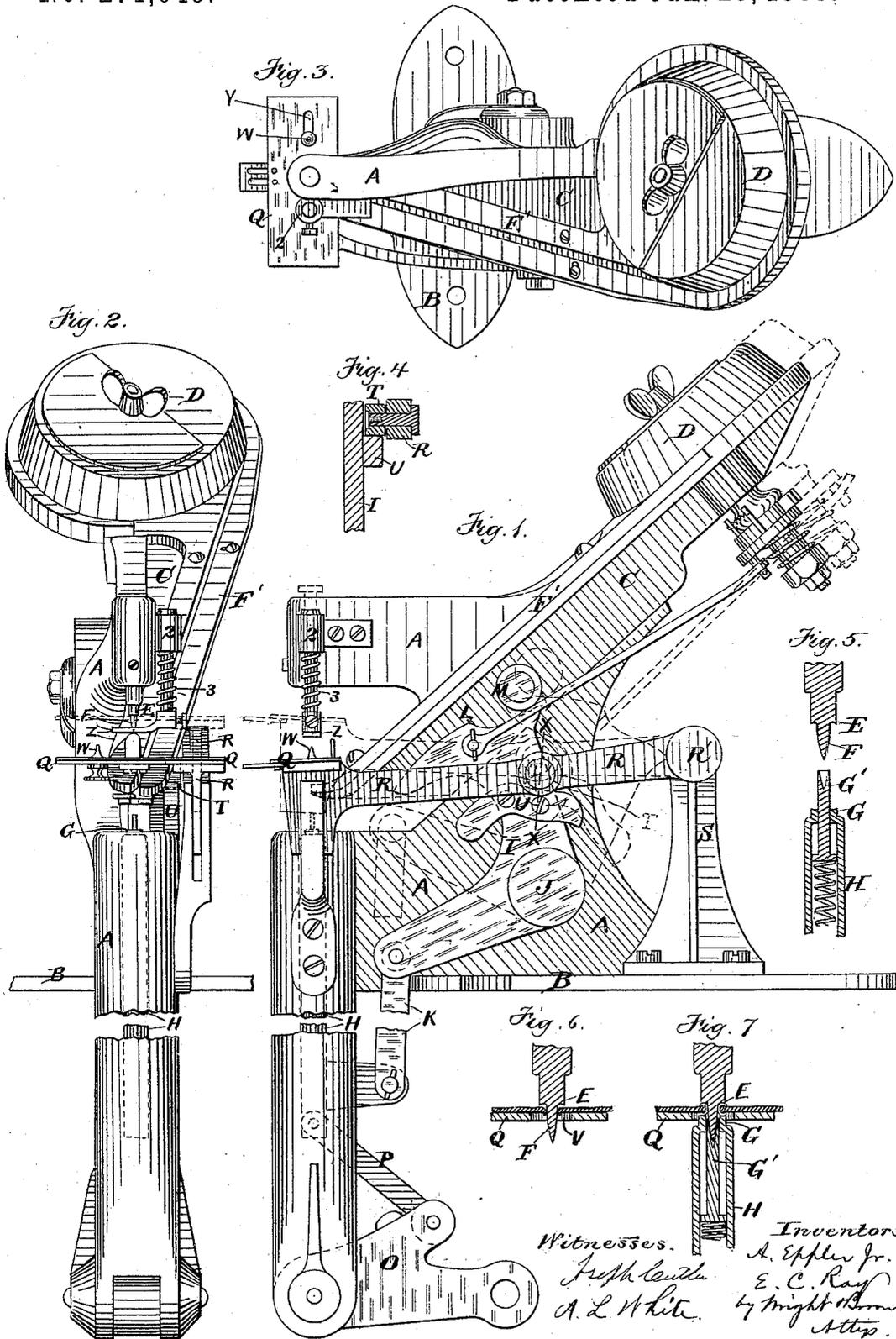
(Model.)

A. EPPLER, Jr., & E. C. RAY.

EYELETING MACHINE.

No. 271,049.

Patented Jan. 23, 1883.



Witnesses.

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UNITED STATES PATENT OFFICE.

ANDREW EPPLER, JR., AND EDWARD C. RAY, OF QUINCY, MASSACHUSETTS,
ASSIGNORS TO D. WHITTEMORE, OF SAME PLACE.

EYELETING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 271,049, dated January 23, 1863.

Application filed December 6, 1861. (Model.)

To all whom it may concern:

Be it known that we, ANDREW EPPLER, Jr., and EDWARD C. RAY, both of Quincy, in the county of Norfolk and State of Massachusetts, have invented certain Improvements in Eyeletting-Machines, of which the following is a specification.

This invention has for its chief object to enable the work or material to which eyelets are applied by an eyeletting-machine to be perforated for the reception of the eyelets by the co-operation of the work-supporting bed or table and a fixed punch, which is the finger of the eyelet-setting anvil.

To this end the invention consists mainly in the provision, in an eyeletting machine, of a fixed work perforator or punch and a vertically-movable work-supporting table adapted to press the work against the punch, and devices for preventing displacement of the work during the upward movement of the bed.

The invention also consists in certain details of construction, all of which we will now proceed to describe and claim.

Of the accompanying drawings, forming a part of this specification, Figure 1 represents a side elevation of an eyeletting-machine embodying our invention. Fig. 2 represents a front view of the same, and Fig. 3 represents a top view of the machine, partially in perspective. Fig. 4 represents a section on line *x x*, Fig. 1. Fig. 5 represents a vertical section of the anvil and plunger of the eyelet-setting mechanism when they are separated. Fig. 6 represents a vertical section of the anvil and its finger and the bed or table, the latter being raised. Fig. 7 represents a vertical section of the anvil and its finger, the plunger, and the table, both the table and plunger being raised.

The same letters of reference indicate the same parts in all the figures.

In the drawings, A represents the main frame, adapted to be secured by its base B to a support, and provided at its upper portion with inclined guides, in which slides the support C for the eyelet-turret D and the inclined roadway F', through which the eyelets pass from the turret to the inserting and setting mechanism. Said mechanism is composed of the fixed anvil E, attached to an arm of the frame A,

and provided with the downwardly-projecting finger F and the vertically-movable plunger G H, which is provided with a yielding finger, G', and is reciprocated in a vertical socket in the frame A. The plunger G H is reciprocated vertically by means of a lever; O, which is pivoted at the lower portion of the frame A, and is connected by a link, P, with the lower end of the plunger.

I represents a bell-crank lever, pivoted at J to the frame A, connected at one of its arms by a link, K, with a lug on the plunger G H, and provided at the end of its other arm with a cam or shoulder, L, which bears against a roller, M, on the support C and pushes said support, with the turret and roadway, backwardly and upwardly when the lever I is turned on its pivot, as shown in dotted lines in Fig. 1, by the upward movement of the plunger G H.

Q represents the work-supporting bed or table, which is supported on one end of an arm, R, the other end of which is pivoted at R' to a standard, S, attached to the frame A, said arm being adapted to oscillate vertically, and thus cause the vertical movement of the table Q. The arm R is provided between its ends with a stud or roller, T, bearing upon a cam, U, affixed to the outer side of the bell-crank lever I, (see Figs. 1, 2, and 4.) said cam U, when the lever I is turned by the upward movement of the plunger G H, raising the arm R and table Q to the position shown in dotted lines in Fig. 1, so that the upper surface of the table comes nearly to the acting surface of the anvil, as shown in Figs. 6 and 7, the table having an opening, V, through which the finger F of the anvil projects when the table rises. Said finger F is sharpened to a point at its lower end, and is thus caused to perforate the work or material supported on the table Q when said work or material is pressed against the finger or punch by the upward movement of the table, as shown in Fig. 6. The plunger G H rises, its yielding finger G' G' takes an eyelet from the lower end of the roadway F', and is arrested by the pointed finger F, and the plunger in its continued upward movement forces the eyelet through the material and against the anvil, as shown in Fig. 7, while the table is raised and the material transfixured by the pointed finger F.

It will be seen, therefore, that by pointing the finger F so that it will act as a punch and adapting the table to move vertically the use of separate punching devices is dispensed with, and the machine is considerably simplified and cheapened. The yielding finger G' of the anvil is made hollow at its upper end, as shown in Figs. 4 and 5, so that it will receive that point of the finger F and prevent said point from being injured when it meets said yielding finger.

W represents a stud clamped to the table Q, and projecting above the same. Said stud is adjustable in a slot, Y, in the table, (see Fig. 3,) and constitutes a gage to fix the distance of the eyelets from each other, the eyelet last inserted being placed on the stud while the next is being inserted. The work is engaged with the stud while the table is depressed, and when the table rises the stud, moving with the table, holds the part of the work to be perforated at the proper distance from the eyelet last inserted during the upward movement of the table.

Z represents a presser-foot, the shank of which is adapted to slide vertically in a socket, 2, attached to the frame A. Said foot bears upon the upper surface of the table Q, and is held down with a yielding pressure by a spring, 3, so that it can rise and fall with the table. The presser-foot prevents displacement of the work while the table is rising, and co-operates with the stud W in holding the work.

We are aware that a pointed anvil, a yielding plunger, a presser-foot, and an adjustable stud are all old in this class of machines, and we do not therefore claim either of such devices separately or all of them together in general combination.

We claim—

1. In an eyeleting-machine, the combination, with the fixed anvil having the fixed pointed finger or punch, and the vertically-movable plunger having the yielding hollow finger, of the intermediate vertically-movable support provided with mechanism, substantially as described, whereby it is raised in advance of the plunger to press the work against the punch,

and with a gage-finger, W, moving with the work-support, whereby the part of the work to be perforated is held at its proper distance from the eyelet last inserted during the movement of said support, as set forth.

2. In an eyeleting-machine, the combination, with the fixed anvil having the fixed pointed finger or punch, and the vertically-movable plunger having the yielding hollow finger, of the intermediate movable work-support, mechanism for reciprocating the work intermittently, and a vertically-movable presser-foot bearing with a yielding pressure upon the work-support, whereby displacement of the work during the upward movement of the work-support is prevented, as set forth.

3. In an eyeleting-machine, the combination, with the fixed anvil having the fixed pointed finger or punch, and the vertically-movable plunger having the yielding hollow finger, of the intermediate vertically-movable work-support having a gage-finger, W, adapted to engage with a previously-inserted eyelet, mechanism for intermittently reciprocating said support, and the vertically-movable presser-foot bearing with a yielding pressure upon the work-support, said gage-finger and presser-foot co-operating to prevent displacement of the work during the upward movement of the work-support, as set forth.

4. The combination of the work-support with the pivoted arm R, provided with a stud or roller, T, the rocking lever I, having the cam U, supporting said stud or roller, and mechanism for oscillating said lever, as set forth.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

ANDREW EPPLER, JR.
EDW. C. RAY.

Witnesses to A. E., Jr.:

C. F. BROWN,
A. L. WHITE.

Witnesses to E. C. R.:

C. P. JUDD,
A. L. WHITE.