No. 616,603. Patented Dec. 27, 1898.

J. S. CARTER.

MACHINE FOR MAKING AND DRIVING GLAZIERS' POINTS.

(Application filed Feb. 10, 1898.)

(No Model.) 2 Sheets—Sheet 1.

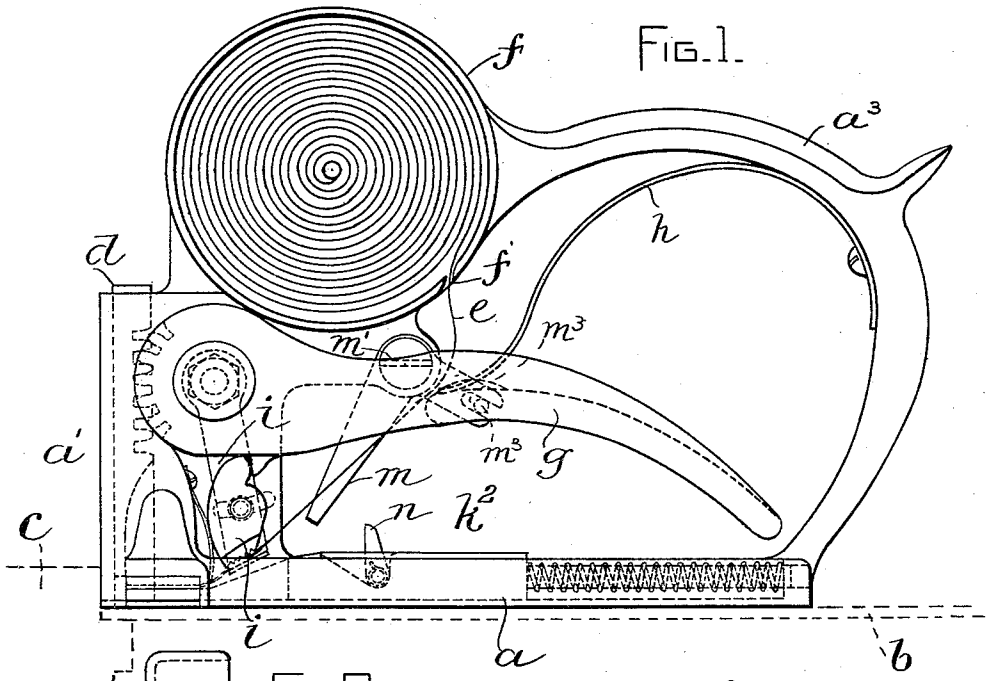


FIG. 1.

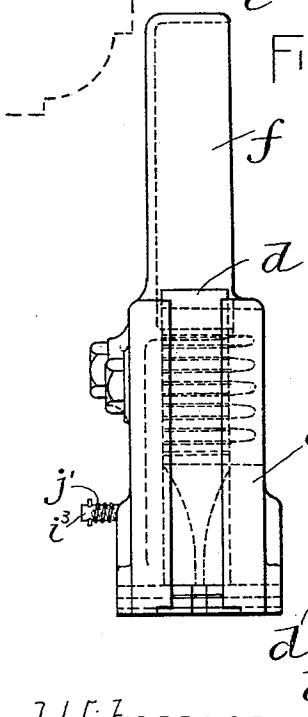


FIG. 2.

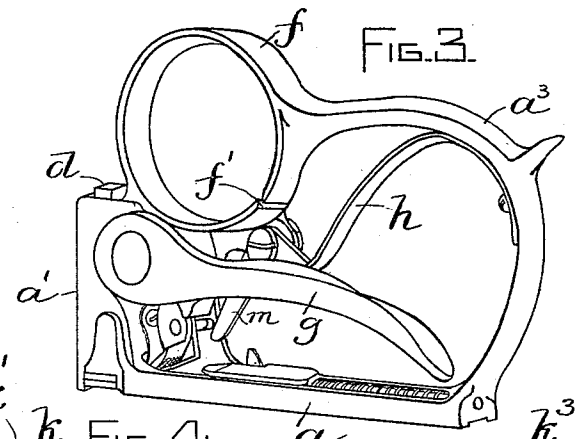


FIG. 3.

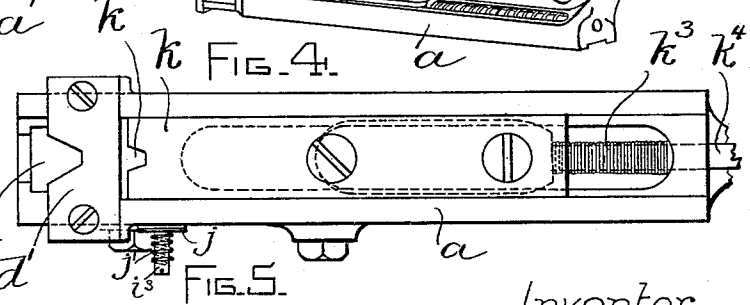


FIG. 4.

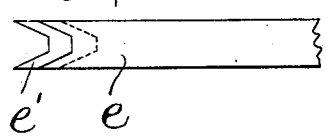


FIG. 5.

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FIG. 6.

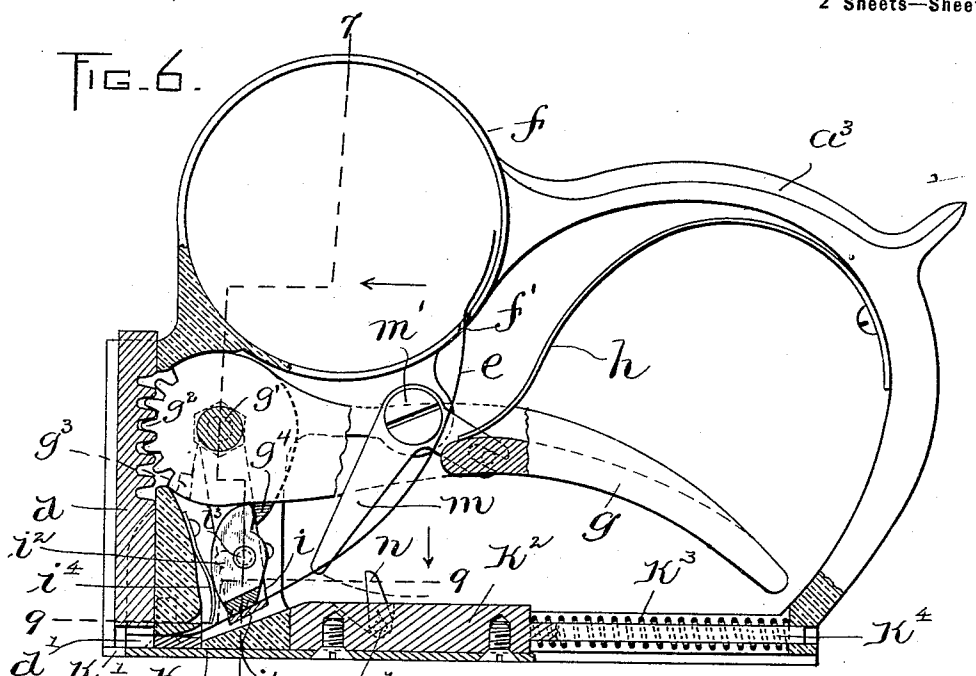


FIG. 8.

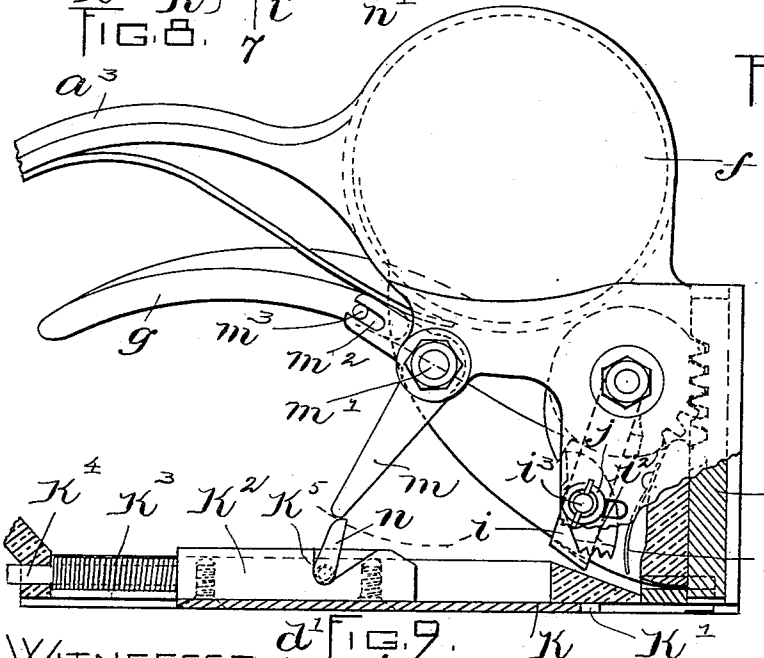


FIG. 7.

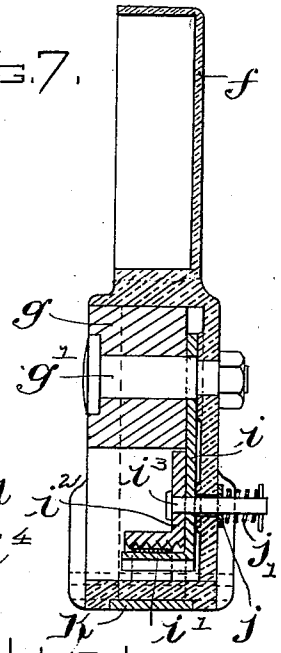
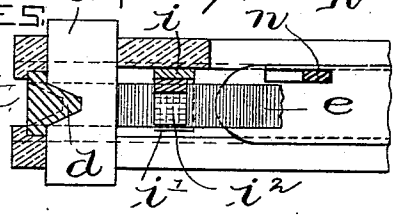


FIG. 9.



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UNITED STATES PATENT OFFICE.

JOSIAH S. CARTER, OF LYNN, MASSACHUSETTS.

MACHINE FOR MAKING AND DRIVING GLAZIERS' POINTS.

SPECIFICATION forming part of Letters Patent No. 616,603, dated December 27, 1898.

Application filed February 10, 1898. Serial No. 669,738. (No model.)

To all whom it may concern:

Be it known that I, JOSIAH S. CARTER, of Lynn, in the county of Essex and State of Massachusetts, have invented certain new and useful Improvements in Machines for Making and Driving Glaziers' Points, of which the following is a specification.

This invention has for its object to provide an efficient and convenient hand-operated machine for making glaziers' points and for driving the same as fast as they are made into a window-sash in position to hold a pane of glass.

The invention consists in the improvements which I will now proceed to describe and claim.

Of the accompanying drawings, forming a part of this specification, Figure 1 represents a side elevation of a machine embodying my invention. Fig. 2 represents an end elevation of the same. Fig. 3 represents a perspective view. Fig. 4 represents a bottom plan view showing the driver retracted. Fig. 5 represents a view of a portion of the strip from which the points or fasteners are formed. Fig. 6 represents a view similar to Fig. 1, showing portions in section. Fig. 7 represents a section on line 7 7 of Fig. 6. Fig. 8 represents a partial side elevation and partial section of the machine, taken from the side opposite that shown in Figs. 1 and 6. Fig. 9 represents a section on the line 9 9, Fig. 6.

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

The frame of my improved machine comprises a flat base portion a, adapted to rest on a pane b of glass, and a vertical portion a', the outer face of which forms a right angle with the bottom face of the base a and is adapted to bear against the sash c. In the vertical portion a' are formed guides for a movable cutting-die d, which is reciprocated in said guides by the means hereinafter described and coöperates with a fixed cutting-die d' in severing from a metal strip e two pronged metallic fastenings e' of substantially the form represented in Fig. 5, the form of the cutting edges of the dies d d' being clearly shown in Fig. 4.

The strip e is coiled, and the coil is placed in a holder f, formed on and affixed to the supporting-frame, the margin of the holder having a slot f', through which the strip is drawn from the coil and from which the strip passes to the cutting-dies.

g represents an operating-lever which is pivoted at g' to the supporting-frame and imparts motion to the movable cutting-die d and to the strip-feeding and point-driving devices hereinafter described. The lever g is provided with a gear-segment g^2, which meshes with rack-teeth formed on the movable die d, as shown in Fig. 6. The lever g is normally held in the depressed position shown in Fig. 6 by means of a spring h, the gear-teeth of the lever g being thus caused to hold the movable die d in its raised position out of contact with the fixed die d. When the lever g is raised from the position shown in Fig. 6, it depresses the movable die d and causes it to coöperate with the fixed die d' in severing a fastener e' from the strip e.

The strip-feeding device comprises an arm i, mounted loosely on the stud g', which serves as the pivot of the lever g, and having an ear i', which projects under the strip, and a dog i^2, pivoted at i^3 to the arm i and having its lower end serrated and formed to bear upon the upper surface of the portion of the strip that rests upon the ear i'. The arm i is adapted to oscillate independently on the stud g' between two stops or projections g^3 g^4, formed on the lever g. When the lever g is raised, the stop g^3 comes in contact with one side of the arm i and moves said arm and the dog i^2 backwardly. When the lever g is depressed, the stop g^4 comes in contact with the opposite edge of the arm i and moves said arm and the dog i^2 forward, or in the direction required to feed the strip e to the cutting-dies. There is sufficient space between the stops g^3 and g^4 to permit a considerable motion of the lever g without moving the arm and dog, it being desirable to give said parts a limited movement as compared with that of the cutting-die d and the driver hereinafter described. When the dog i^2 is moved forward, it bears on a spring i^4, which presses the serrated end of the dog against the strip e and causes the strip to be firmly grasped between the dog and the ear i'. Lost motion of the arm i and the dog between the stops g^3 and g^4 is prevented by means of a friction device, here shown as a

washer j, surrounding the stud i^3, which constitutes the pivot for the dog i^2, and pressed by a spring j' against the supporting-frame. The washer j therefore acts as a brake, preventing loose swinging movement of the arm i, so that the arm is held by friction at each end of the movement imparted to it by the stops g^3 g^4.

k represents a driver which is a flat plate or bar attached to a slide k^2, which is fitted to move in guides in the base portion a of the supporting-frame. The front end of the driver moves under the fixed cutting-die d' and has a recess k', formed to fit the back of a fastening device e'. The slide k^2 and the driver are normally forced forward to the position shown in Fig. 6 by means of a spring k^3, surrounding a rod k^4, affixed to the slide and movable in a guide on the supporting-frame. The driver is retracted by means of a bell-crank lever m, which is pivoted at m' to the supporting-frame. One arm of said lever has a slot m^2, which receives a pin m^3 on the lever g, so that the movements of said lever g are imparted to the lever m. The other arm of the lever m is arranged to act on a dog n, which is pivoted at n' to the slide k^2 and is arranged so that when the lever g is raised and the bell-crank lever m is swinging backwardly the said dog will bear against a supporting-shoulder k^5 on the slide k^2 and will be rigidly supported by said shoulder, thus enabling the lever m to move the slide k^2 and the driver backwardly against the force of the spring k^3. When the backward movement of the lever m carries it over the point of the dog n, as shown in Fig. 8, the latter is released, and the slide k^2 and the driver are projected by the spring k^3.

The operation is as follows: The base a being placed upon a pane of glass b and the lower end of the vertical portion a' resting against the sash, as shown in Fig. 1, the operator raises the lever g. This operation causes the retraction of the slide k^2 and the driver and the downward movement of the movable cutting-die d. The movements of the said parts are timed so that the cutting-dies d d' coöperate in severing a fastener e' from the strip while the driver is retracted, the severed fastener dropping onto the surface of the pane b in position to be encountered by the driver. The slide k^2 and the driver are released immediately after the severing of the fastener e' and are projected, the driver moving forward under the cutting-dies and forcing the fastener into the portion of the sash against which the supporting-frame bears. When the lever g is released, it is depressed by the spring h, and during this movement the stop g^4 strikes the arm i and moves the latter, with the dog i^2, forward, thus feeding the strip e a sufficient distance to supply material for the next fastener, the arm i and dog i^2 having been retracted by the preceding upward movement of the lever g. It will be seen that each upward movement of the lever g causes the formation and insertion of a fastening device, so that the fastenings can be very rapidly and conveniently applied to a window-sash.

The supporting-frame is preferably provided with a handle portion a^3, which is so arranged relatively to the lever g that the back of the hand may rest upon the back of the handle a^3, while the fingers rest upon the under surface of the lever g.

It will be seen that the portion of the supporting-frame that bears against the sash c, as indicated in Fig. 1, constitutes an end face or throat through which the points or fasteners are driven by the driver, said end face or throat being substantially at right angles with the bottom face of the frame, which bears upon the window-pane b.

Having thus explained the nature of my invention and described a way of constructing and using the same, although without having attempted to set forth all the forms in which it may be embodied or all the modes of its use, I declare that what I claim is—

1. A machine of the character specified, comprising a supporting-frame, a cutting-die affixed thereto, a movable cutting-die adapted to coöperate with the fixed die, a strip-feeding device, a driver, an operating-lever, and connections between it and the movable die, the feeding device, and the driver.

2. A machine of the character specified, comprising a supporting-frame having a bottom face formed to bear on a window-pane, and an end face or throat formed to bear on a sash, a fixed cutting-die and a movable cutting-die arranged to sever a fastener from a strip and deposit it on the pane, a driver movable in a path parallel with the pane and arranged to drive the fastener through said throat into the sash, a strip-feeding device, and means for operating said movable die, driver, and feeding device.

3. A machine of the character specified, comprising a supporting-frame, a bottom face formed to bear on a window-pane, and an end face or throat formed to bear on a sash, a cutting-die affixed to the frame, a cutting-die movable toward and from the fixed die and provided with rack-teeth, an operating-lever having a gear-segment meshing with said rack, a strip-feeding device, a driver, and connections between the operating-lever and said feeding device and driver.

4. A machine of the character specified, comprising a supporting-frame having a bottom face formed to bear on a window-pane, and an end face or throat formed to bear on a sash, a fixed cutting-die, a movable cutting-die, a driver, an operating-lever having two projections, connections between said lever and the movable die and driver, and a strip-feeding device consisting of an arm mounted to swing between said projections and provided with a friction device and a strip-grasping dog.

5. A machine of the character specified, comprising a supporting-frame having a bot-

tom face formed to bear on a window-pane, and an end face or throat formed to bear on a sash, a fixed cutting-die, a movable cutting-die, a strip-feeding device, an operating-lever connected with the said movable die and feeding device, a spring-projected driver having a dog, and a bell-crank lever pivoted to the frame and having one arm engaged with the operating-lever and the other arm arranged to encounter the said dog and first retract and then release the driver.

6. A machine of the character specified, comprising a supporting-frame having a strip-holder, a handle adjacent thereto, a base portion having a bottom face adapted to bear on a window-pane, and an end face or throat formed to bear against a sash, strip-cutters carried by said frame, a strip-feeding device, a driver arranged to eject a fastener through said throat, an operating-lever between the said base and handle, and connections between the operating-lever, the movable cutter, the feeding device, and the driver.

In testimony whereof I have affixed my signature in presence of two witnesses.

JOSIAH S. CARTER.

Witnesses:
C. F. BROWN,
A. D. HARRISON.