

W. C. MINNS.

MACHINE FOR CUTTING GLAZIERS' WINDOW LEAD.

No. 446,878.

Patented Feb. 24, 1891.

FIG. 3.

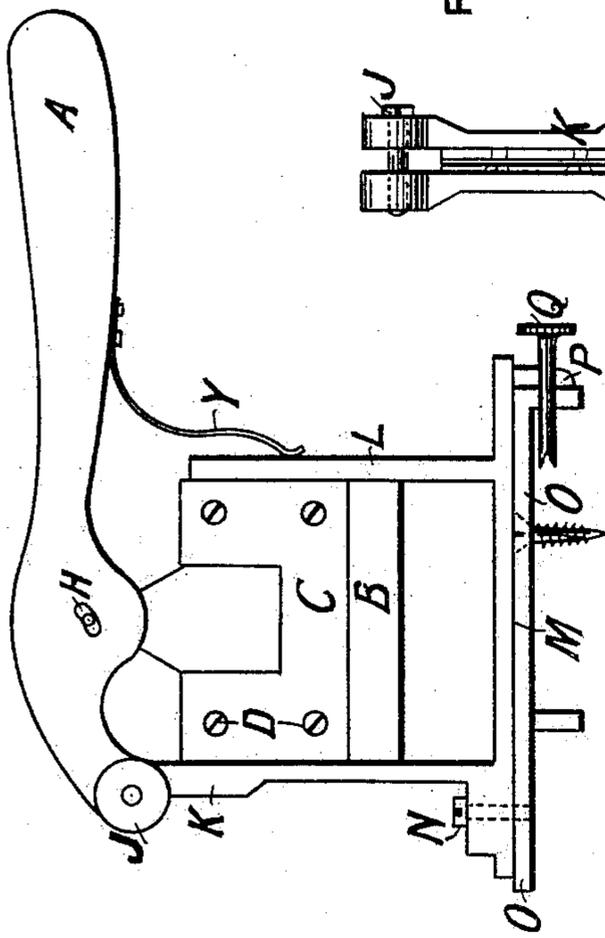
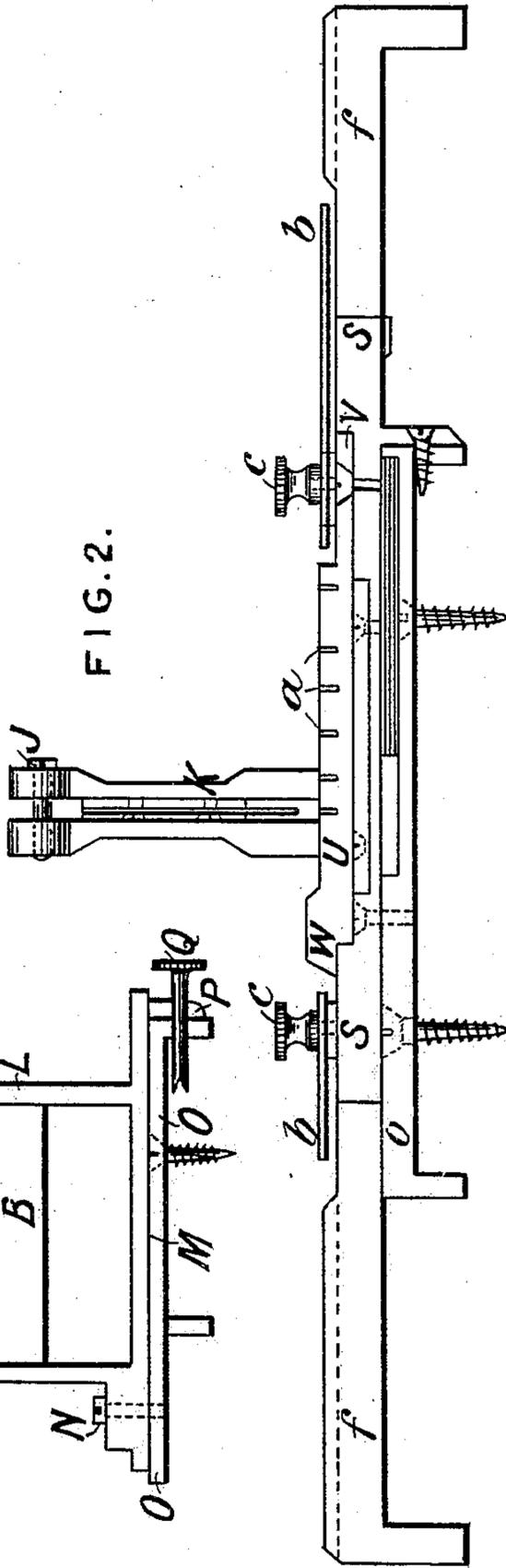


FIG. 2.



Witnesses:

Ewell Erik

William H. Shipley

Inventor:

William C. Minns

*by Marcelus Bailey
his attorney*

W. C. MINNS.

MACHINE FOR CUTTING GLAZIERS' WINDOW LEAD.

No. 446,878.

Patented Feb. 24, 1891.

FIG. 4.

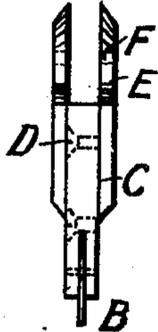


FIG. 5.

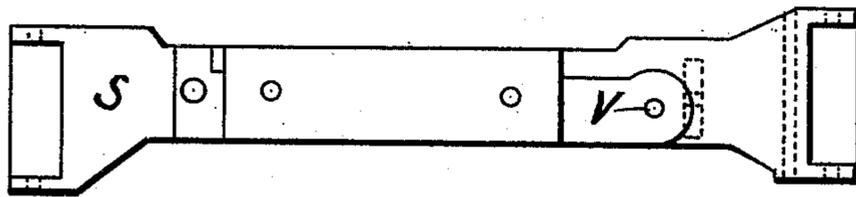


FIG. 6.

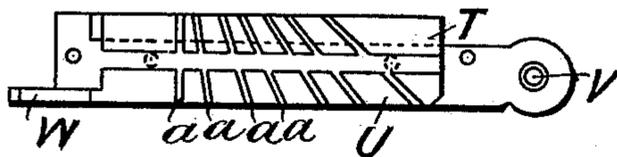


FIG. 7.

FIG. 8.

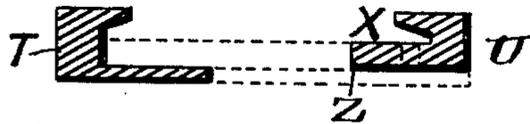


FIG. 9.



Witnesses:

Esceadick

William H. Shipley.

Inventor,

William C. Minns.

By Marshall Bailey
his attorney.

UNITED STATES PATENT OFFICE.

WILLIAM CHARLES MINNS, OF GREAT YARMOUTH, ENGLAND.

MACHINE FOR CUTTING GLAZIERS' WINDOW-LEAD.

SPECIFICATION forming part of Letters Patent No. 446,878, dated February 24, 1891.

Application filed January 14, 1890. Serial No. 336,883. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM CHARLES MINNS, plumber and decorator, a subject of the Queen of Great Britain, residing at Union Place, Albion Road, Great Yarmouth, in the county of Norfolk, England, have invented a new and useful Glaziers' Window-Lead-Cutting Machine, of which the following is a specification.

This invention relates to a machine for cutting window lead into proper lengths or sections for glaziers' use in the manufacture of leaded window and other glazing work.

The machine consists of a guillotine-knife working in vertical grooves in a frame pivoted to a bed-plate over which the said frame works in the quadrant of a circle and is secured in any convenient position by a split pin taking into holes or recesses in the bed-plate aforesaid. On the said bed-plate is fixed a plate carrying a second plate, divided longitudinally to take the lead and slotted transversely to allow the knife to pass thereinto, the transverse slots being in a line with the holes or recesses in the bed-plate; and in order that my invention may be more fully understood and carried into practice I will now proceed to describe the same with reference to the accompanying drawings, in which similar letters indicate corresponding parts.

Figure 1 is a perspective view of the machine. Fig. 2 is a longitudinal section thereof with the lever A removed. Fig. 3 is a transverse section through the center, and Figs. 4 to 8 show details of construction. Fig. 9 is an end view of the H-shaped lead.

The guillotine-knife B is inclosed between two metal plates C, secured to each other by rivets, screws, or the like D. Each plate is provided with a projection E, having an aperture F.

Fig. 4 shows the knife and plates in side elevation.

Between the two parallel projections E the lever A is placed, and a pivot-pin G is passed through the apertures F in the plates and through the curved slot H in the lever A. (Shown in Fig. 3.) The lever A is pivoted at J to the standard K, and the curved slot H will cause the knife and plates to travel in a vertical line when the lever is raised or

lowered. The plates C work in grooves in the standards K and L.

Y is a curved metal spring, one end of which is fixed to the lever A, the other end being loose and free to move up and down on the standard L. The spring is so bent that it tends to raise the lever A from the standard L, the normal position of the lever and knife being shown in Figs. 1 and 3.

The frame M, to which the standards K and L are affixed, is pivoted by the pin N to the bed-plate O. The bed-plate is curved in the shape of the quadrant of a circle, and the face of the bed-plate is cut away equal to the thickness of the frame M, as shown in Fig. 1. The frame M may be turned on its pivot-pin N and moved over the quadrant.

An apron-piece P is affixed to the front of the frame M, and is provided with an aperture through which a split pin Q may be passed and made to enter one of a series of holes R, arranged around the circumference of the quadrant for the purpose of adjusting the knife according to the angle at which it is desired to cut the lead.

The plate S, carrying the slotted plates, is made flat on its under surface and passes over the cut-away portion of the bed-plate O in the form of a bridge, so that the frame M may pass freely under the said plate S. This plate S and the slotted plates T and U are shown detached in Figs. 5 and 6.

Fig. 7 is a section of the fixed plate T, and Fig. 8 is a section of the movable plate U. The plate S is screwed or otherwise rigidly affixed to the bed-plate O. The plate T is fixed to the plate S and may be formed in one with it. The movable plate U is pivoted at V to the plate S, and is provided with a thumb-piece W for quickly opening and closing the same.

The lead cut by this machine is of H section, and the rib *a'* is gripped between the plates T and U.

The movable plate U is provided with a longitudinal under flange Z, parallel with its upper surface, (see Fig. 8,) and when the plate U is closed up to the plate T, as shown in Fig. 6, this flange Z closes up to the side of the fixed plate T, leaving a groove X between the flange Z and the upper surface of both slotted plates, which are level with each other.

This groove is shown in Fig. 8 and serves to receive one of the flanges a^2 of the H-section lead, the other flange lying on the upper surfaces of the plates T and U. Slots a are cut in the plates T and U sufficiently deep to reach the flange Z, so that the knife, passing into these slots, will cut through the bottom flange of the H-section lead, and so make a clean cut. These slots are arranged so as to radiate from the pin N, the center about which the movable frame M turns. Each hole or recess R in the quadrant is in a line with one of the slots a , or is in such a position relative thereto that when the knife B is over one of the slots a the aperture in the apron-piece P is immediately in front of one of the holes or recesses R in the quadrant.

b b are gages with set-screws c , so that they may be adjusted longitudinally according to the length of the lead which it is desired to cut off. The gages are pivoted to brackets d on the bed-plate O, and are provided with counterpoises e , so that they may be easily turned on their pivots out of position when it is required to remove the cut lead.

f f are trays to hold the lead before and after cutting.

The action of the apparatus is as follows: The bed-plate O is firmly secured to a bench or wooden block, so as to be perfectly steady, and the trays f f are adjusted and fastened to the ends of the plate S by screws, if desired. The movable plate U is now opened by turning it on its pivot V and the lead inserted between the plates T and U, the rib a' of the lead being vertical—*i. e.*, between the plates—and the flanges a^2 horizontal. The plate U is now closed up to the rib a' of the lead. The meeting-line of the plates T and U is so arranged that there will be no undue pressure on the end nearest the pivot—*i. e.*, the meeting line is not radial with pivot V. The lead will thus be fairly held the whole length of the plates T and U, the top flange of the lead lying on the slotted plates and the bottom flange lying on the flange Z of the movable plate T. The frame M is then moved over the quadrant until the knife is over the

desired slot a , when the pin Q is passed into the corresponding hole or recess R. The gage or gages are now set, the lead moved into correct position, the movable plate U held in position by placing the thumb on the thumb-piece W, and the lever A is then depressed. The knife cuts through the lead and enters the slot. When the power is removed from the lever A, the spring Y returns it to its initial position. The gage is then pushed aside and the lead moved along between the slotted plates and a fresh piece cut off, and so on.

What I claim is—

1. In a machine for cutting glaziers' window-lead into proper sections or lengths, the combination of a vertically-moving knife, supports for said knife, a frame for said supports or standards, a quadrant over which said frame moves, fixed and movable plates, substantially as described, having radial slots, and means for operating said knife, substantially as and for the purposes hereinbefore set forth.

2. In a machine for cutting glaziers' window-lead into required sections or lengths, the combination of a suitable frame, a cutting-knife supported upon said frame, means for operating said knife, a fixed plate, and a movable plate, each having slots radial with the center, around which the cutting-knife revolves, substantially as set forth.

3. In a machine for cutting glaziers' window-lead into proper sections or lengths, the combination of suitable frame moving over a quadrant, a guillotine-knife, grooved standards fixed to said frame for said knife to move up and down in, a lever adapted to operate said knife, and fixed and movable plates T U, having slots radial with the pivot of the said movable frame, substantially as and for the purposes hereinbefore set forth.

WILLIAM CHARLES MINNS.

Witnesses:

B. E. KNIGHT,
54 Fleet Street, London, E. C.

THOMAS LAKE,
Southampton Buildings, London.