

(No Model.)

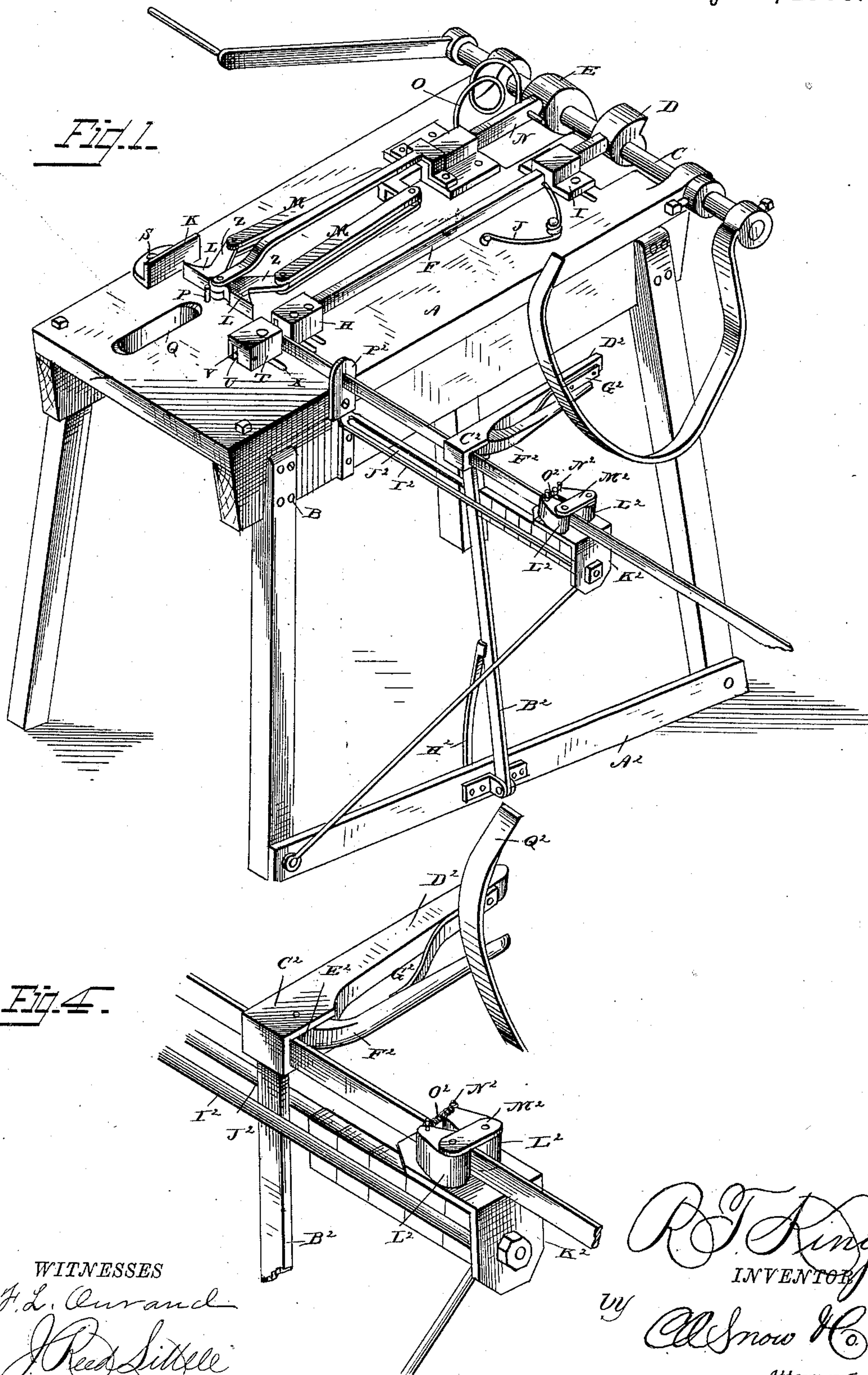
2 Sheets—Sheet 1.

R. T. KING.

MACHINE FOR MAKING SPLIT KEYS.

No. 277,577.

Patented May 15, 1883.



WITNESSES

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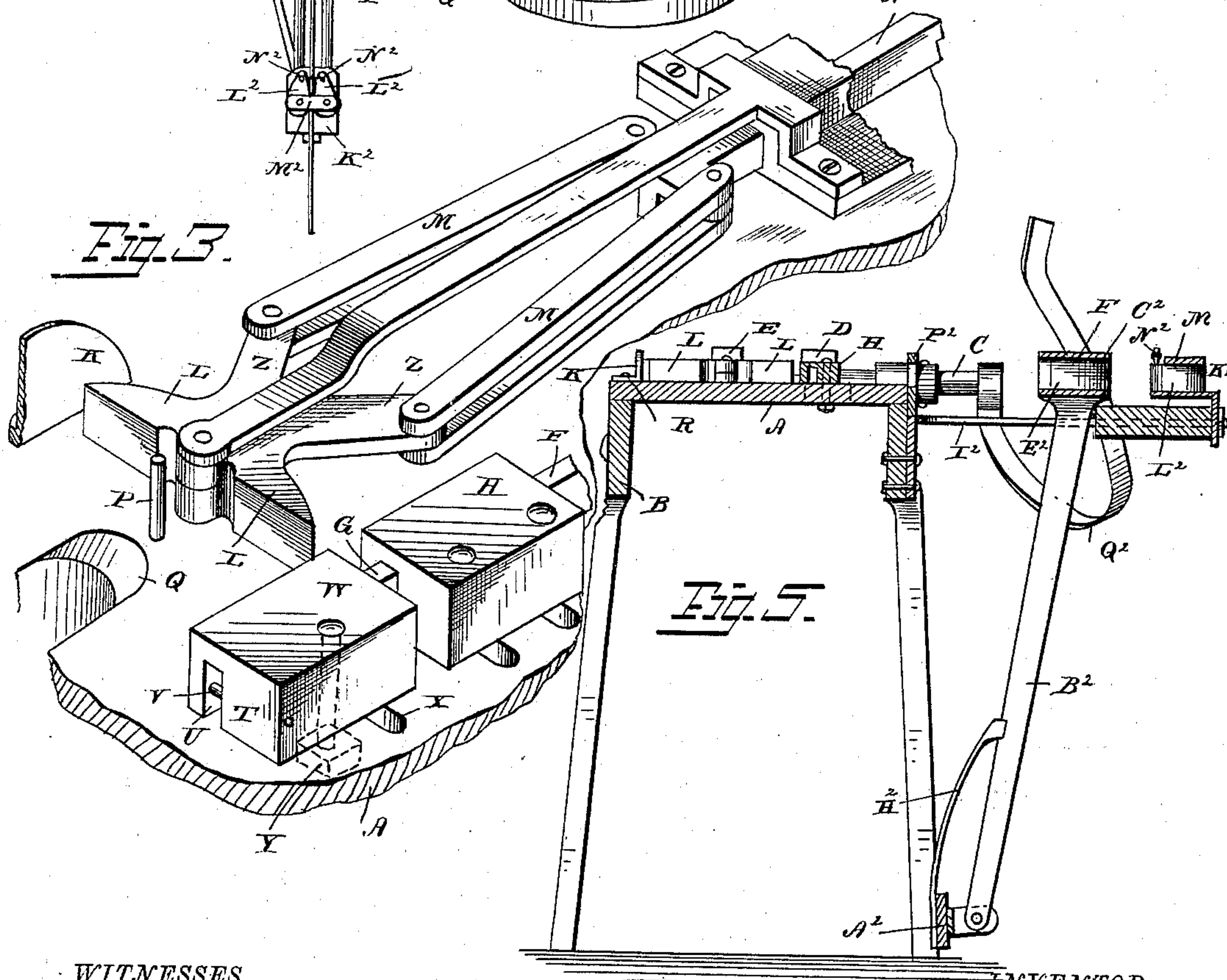
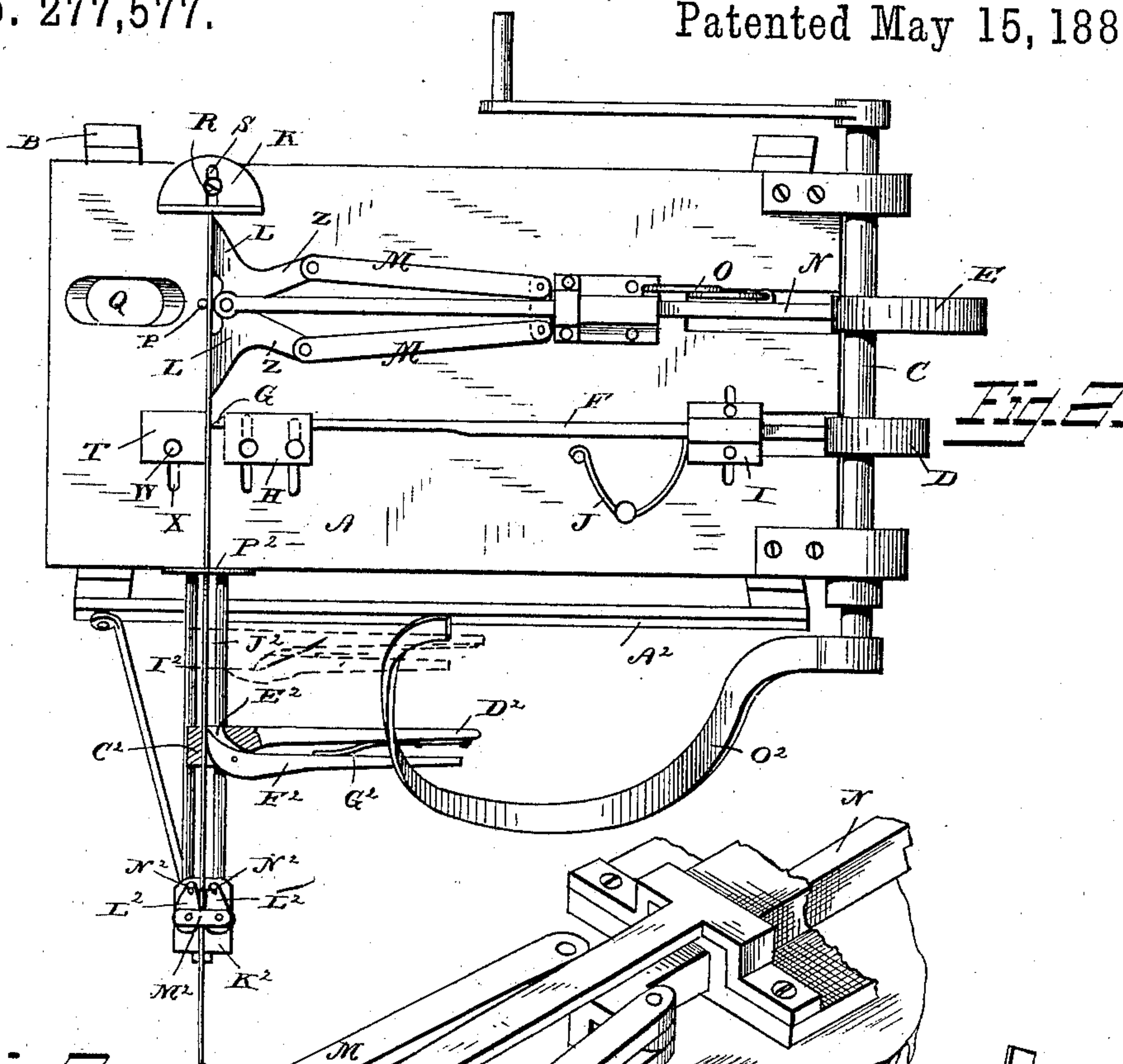
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INVENTOR

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UNITED STATES PATENT OFFICE.

ROBERT T. KING, OF COLUMBUS, OHIO.

MACHINE FOR MAKING SPLIT KEYS.

SPECIFICATION forming part of Letters Patent No. 277,577, dated May 15, 1883.

Application filed February 6, 1883. (No model.)

To all whom it may concern:

Be it known that I, ROBERT T. KING, a citizen of the United States, residing at Columbus, in the county of Franklin and State of Ohio, have invented a new and useful Machine for Making Split Keys, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to machines for making split keys, and has for its object to provide a simple and efficient automatic mechanism for feeding the wire or strip from which the keys are made. This automatic feed mechanism is adapted for operation in connection with my split-key machine patented to me August 15, 1882, No. 262,898, and my present invention further embodies improvements on the said machine.

In the drawings, Figure 1 is a perspective view of a split-key machine embodying my improvements, and having the automatic feed mechanism. Fig. 2 is a plan view thereof. Fig. 3 is a detail perspective view of the bending-dies, their operating-rod, the knife-box, and adjacent mechanism. Fig. 4 is a detail perspective view of the feed mechanism. Fig. 5 is a detail cross-section of Fig. 2.

Referring to the drawings, A designates the bed or table of the machine, which is mounted upon a suitable frame, B, and carries at one end a rotary cam-shaft, C, having the cutter-operating cam D and the cam E, for operating the bending and discharging mechanism. F is the reciprocating knife-stock, which carries the knife G, works through guides H and I, and is operated by the cam D and a retracting-spring, J. This cutter G is for cutting off the key-blanks from the strips of wire as the latter is fed against a gage, K, at the other side of the table. L L designate the bending-dies, that are pivoted together, and are connected by links M with a reciprocating bar or rod, N, operated by the cam E and a retracting-spring, O. P is the forming-pin, and Q is a slot in the table, through which the keys fall after being formed. All of this mechanism is substantially the same as that shown in my above-mentioned former patent, except that the table is preferably inclined from the end that carries the rotary shaft, as herein shown, and the stop-gage K is adjustable toward the forming-pin by means of a set-screw,

R, passing through a slot, S, in the said gage-plate. The table A is also provided with, in lieu of the stationary cutter shown in the above-mentioned patent, a knife-box, T, formed with a longitudinal slot, U, in which the knife works, and having a cross stop-pin, V, against which the knife comes. This knife-box T is laterally adjustable on the table by means of a pin or extension, W, projecting from its under side, and working in a cross-slot, X, in the table A, the said pin being secured by a nut, Y, or equivalent device. The guides H and I are laterally adjustable, like the box T, so that all of this cutting mechanism can be adjusted laterally in connection with the stop-gage K, to cut off different lengths of blanks for corresponding varying sizes of keys. As herein shown, the arms Z of the bending-dies or forming-jaws L L project from the top of the main portion of the jaws, so that they can, if necessary, work over the knife-boxes. The reciprocating bar or rod N is also raised to the height of the arms Z Z.

I will now proceed to describe the automatic feed mechanism. At the bottom of the frame of the machine is arranged a cross-bar, A², to which is hinged an upwardly-extending feed-bar, B², having a head, C², formed with an extension or arm, D², and with a slot, E², as shown. In this slot is pivoted a lever-clamping jaw, F², that is retained open by a spring, G², on the arm D². The feed-bar B² is forced from the frame of the machine by a continuously-acting spring, H², arranged on the cross-bar A².

I² is a laterally-projecting guide-bar, that extends from the frame of the machine, and is provided with a longitudinally-disposed slot, J², in which works the feed-bar B².

At the outer end of the guide-bar I² is arranged a right-angular plate, K², on top of which are pivoted a pair of cam-guides, L² L², that are braced and connected by a top cross-plate, M², and are provided with pins or extensions N² on top, around which is arranged a spring, O², that holds the cams together.

P² is a guide-plate secured to the side of the machine, on a line with the slot in the feed-bar and the cams, so that the wire or strip is fed into the machine on the desired line.

Q² is a curved arm, arranged on the driving-shaft, and adapted to engage the spring-actu-

ated lever F^2 as the driving-shaft revolves to close the said lever, so that its end binds against the side of the slot in the feed-bar.

In operation the automatic feed mechanism effects the feed of the wire in the following manner: The end of the wire or strip is first inserted between the cams L^2 and through the slot in the feed-bar B^2 , and through the guide P^2 up to the edge of the knife. Now, when the driving-shaft is revolved the curved arm thereon comes against the lever F^2 , so that the end of the latter, inside the slot of the feed-bar binds the wire firmly against the side of the slot, and the said curved arm forces the feed-bar B^2 toward the machine. As the said feed-bar is carried toward the machine it feeds the wire or strip into the latter against the guide-gage K , when it is cut off by the knife. As soon as the arm on the driving-shaft passes from engagement with the lever F^2 the latter releases its hold upon the wire and is forced back to its normal position by the spring H^2 , the wire being held from backward movement during this operation of the feed-bar by the cams L^2 L^2 .

I claim as my invention—

1. The combination of an upright feed-bar, hinged at its bottom, and having a head formed with a transverse slot, a horizontally-disposed spring-actuated lever secured to the head and working in the slot, mechanism at the outer end of the plane of movement of the hinged feed-bar for holding the wire or strip after it is carried forward by movement of the said feed-bar, and the horizontal rotary shaft having the curved lateral arm arranged to intermittently engage the clamping-lever as the shaft is revolved, as set forth.

2. The combination of an upright feed-bar hinged at its lower end, and having a head formed with a transverse slot and with a horizontal extension carrying the laterally-acting

spring, the retracting-spring arranged to act upon the lower end of the feed-bar, the clamping-lever fulcrumed to the head and working in the same, the said lever being actuated by the laterally-acting spring, clamping-cams arranged at the outer end of the plane of movement of the feed-bar, and the horizontal rotary operating-shaft, having the curved lateral arm arranged to intermittently engage the clamping-lever as the shaft is revolved, as set forth.

3. The combination of the upright feed-bar hinged at its lower end, and provided with a head having a slot and a horizontal extension, on which is arranged a laterally-acting spring, the clamping-lever actuated by this spring and working in the slot in the head, the horizontal feed-bar guide projecting laterally from the frame of the machine, the vertically-pivoted pair of clamping-cams, held together by the spring, so that they will embrace the wire or strip as it passes between them and hold it after it has been carried forward by the feed-bar, as set forth.

4. The combination, with a split-key machine, having the adjustable stop-gage, forming-jaws, a cutter arranged in laterally-adjustable guide-boxes, and operating mechanism, and a laterally-projecting slotted guide-bar, of a hinged feed-bar having a slotted head, a clamping-lever working in said slot, the holding-cams, and an arm on the driving-shaft of the machine arranged to engage the said lever, as set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

ROBERT THOMAS KING.

Witnesses:

F. W. ARNOLD,

E. THOS. HUGHES.