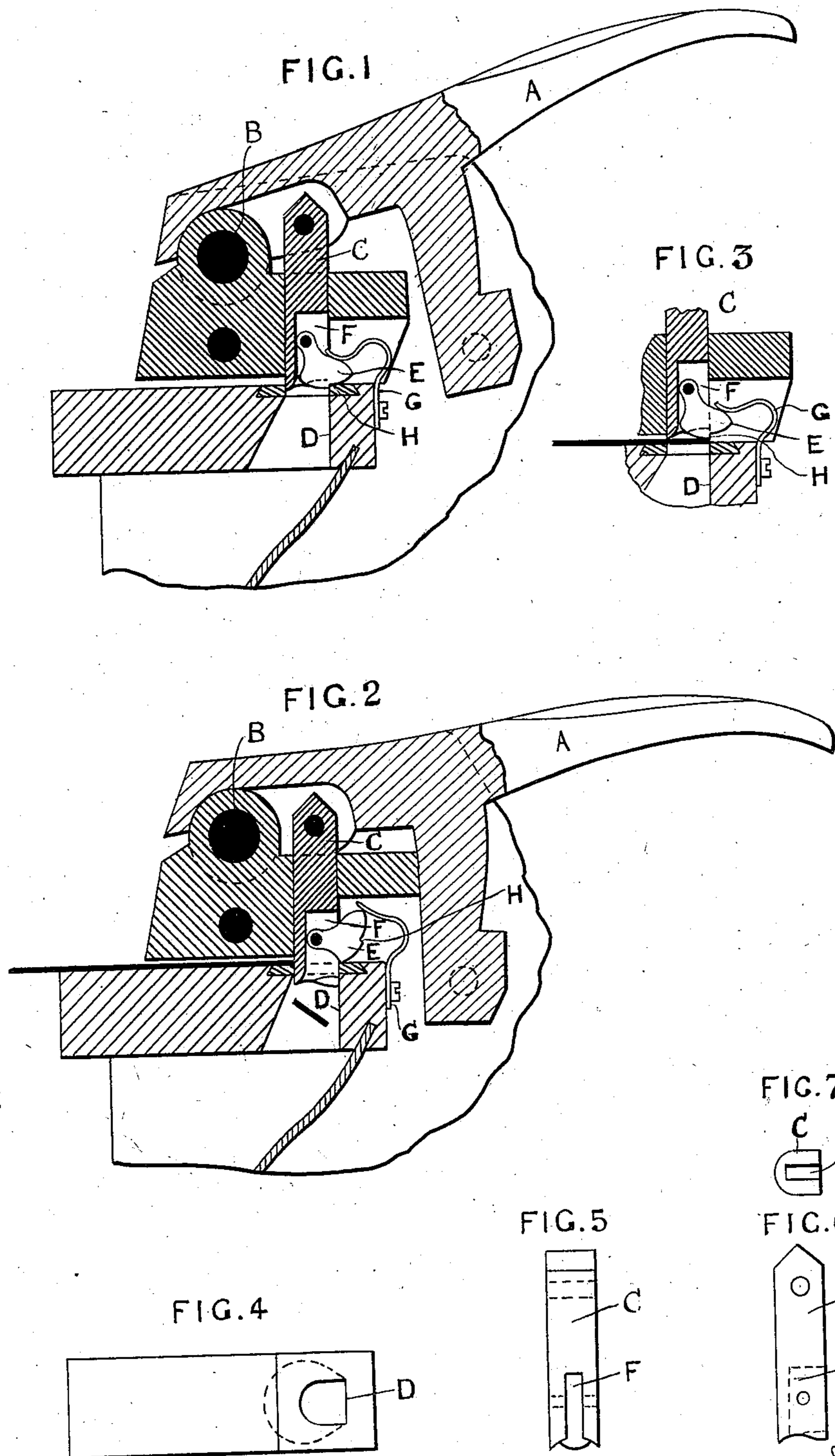


(No Model.)

D. MCGILL.
TICKET PUNCHING AND RECORDING DEVICE.

No. 557,142.

Patented Mar. 31, 1896.



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UNITED STATES PATENT OFFICE.

DAVID MCGILL, OF LONDON, ENGLAND.

TICKET PUNCHING AND RECORDING DEVICE.

SPECIFICATION forming part of Letters Patent No. 557,142, dated March 31, 1896.

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To all whom it may concern:

Be it known that I, DAVID MCGILL, residing at London, England, have invented an Improvement in Ticket Punching and Recording Devices, of which the following is a specification.

My invention relates to ticket punching and recording devices, and has for its object the provision of means whereby the operation of the punching device is prevented until a ticket or other article is placed in proper position in the device for punching, the punching device being freed from the influence of the locking device while the edge of the punch has partially cut the ticket or other material.

My invention is designed to overcome the great difficulties that have obtained in machines previously made with reference to fraudulent use of the machine by conductors and others, in which means have been provided for locking the punching and recording mechanism until some resistance, such as a ticket, is interposed between the punch and die. It has, however, been found that in a variety of ways the locking mechanism can be manipulated and unlocked by an unscrupulous person and the punching mechanism can be operated without a piece of the ticket being punched out as a record of a fare taken. This result may be achieved, for instance, by a hair or fine wire being applied to tie the locking-gear back into the unlocked position, so that the punching operation can take place whether a ticket is put into the space between the punch and die or not, as the case may be.

My invention consists in arranging upon the punch a locking device, or a tumbler connected to locking device, in such a way that the edge of the punch is so situated with reference to said locking device or operative tumbler that the edge of the said punch protects the locking device by cutting into the ticket or other article before the contact of the locking device with the ticket is sufficiently made to unlock the punch, and therefore when the punch is unlocked a clipping must be deposited in the receptacle as a result of the operation.

In order that my invention may be the better understood, I will now proceed to describe the same in relation to the accompanying

drawings hereunto annexed, reference being had to the letters marked thereon.

Like letters refer to like parts in the various figures.

Figure 1 is a sectional elevation of one form of punch according to my invention, the punch being shown after having made a partial movement downward and being in the locked position, and is thereby prevented from further downward movement sufficient to operate the recording mechanism or allow any record to be made by a clipping being deposited. Fig. 2 is a similar view with the ticket shown in place and the ticket-clipping in the act of falling through the die. Fig. 3 is a detail view of the punching device, showing the ticket in place operating the locking device so as to put it into the unlocked position to allow the ticket to be punched. Fig. 4 is a plan of the die, and Figs. 5, 6 and 7 are different views of the punch.

To carry my invention into effect I arrange operative means, such as a lever A pivoted upon a support B adapted to produce the reciprocation of a punch C within a die D. The punch C is made with a flat back, the edge of which is not adapted to cut, and in this back a recess F is made in the body of the punch, extending to the bottom end thereof. Within this recess is pivoted the locking device or means for operating a locking device. I shall here describe the punch as having the locking device placed therein; but it must be understood that the alternative is clearly within the essence of my invention. The locking device, as shown in the drawings, consists of a tumbler or detent E, which is pivoted within the recess F of the punch C. This tumbler or detent E has on its lower side a small projecting edge H, adapted to engage against the edge of the die D when the tumbler or detent E is in its lowest position. The edge of the tumbler or detent E is so formed at the back of the notch or edge H that when the detent E comes in contact with the ticket the detent E will slide upon the said ticket and be turned around its axis, so as to allow the punch to be moved down into the die.

In order to maintain the tumbler E in its normal locking position, a small spring G is supported at one end upon the die-block, the

other end being free to act upon the detent E to force it into its lowest position. The cutting edge of the punch C is so made that it protects the detent E from being operated by anything else than that from which the punch C can take a clipping. To carry this out, it will be noticed from the drawings that the punch has its edge of an undulating form, the front and back portions being prominent, while the part of the edge between these said portions is set back. In this manner the tumbler E is entirely protected from being tampered with, and the punch enters a portion of the ticket before the tumbler E is completely operated into the unlocked position, so that unless the punching operation is completed the ticket cannot be withdrawn, and therefore the device cannot be rung off unless a clipping is left as a record of the transaction. The part of the ticket that is not cut by the punch on the partial operation of the device before the locking device is unlocked is sufficient to form a platform rigid enough to move the tumbler into the position so that the device is unlocked.

It will be noticed that the tumbler has only to be moved sufficiently to allow the notch or projection H to pass the edge of the die, when the specially-curved edge of the tumbler, acting against the die, tends to continue to move the tumbler about its axis to the position shown in Fig. 2 against the pressure of the spring G.

It is advisable that the punching mechanism shall be controlled by any of the well-known devices, so that when the punch is moved downward, so as to perforate the ticket, it is restrained from returning to the normal position until its proper stroke has been completed, in order that the recording and signaling mechanism may be operated with certainty every time the punch clips a ticket.

Having fully described my invention, what

I claim, and desire to secure by Letters Patent, is—

1. A ticket-punch comprising a die, a punch and a locking device for the punch arranged to be released by contact with the material to be punched, the said locking device being protected against fraudulent operation by the edge of said punch, which extends down in front of the locking device and between it and the inlet-opening for the tickets.

2. In a ticket punching and recording device, a punch having a recess at its end, a tumbler or detent pivoted to the punch within the recess, adapted with a projection to engage the edge of the die in the locking position, and to be moved into the unlocked position by the ticket or other material, during the cutting of the same, in combination with a die between the punch, substantially as described.

3. A ticket-punch, comprising a die, a punch and a locking device carried by the punch in line with the material to be punched, to be released by contact therewith, said locking device being protected against fraudulent operation by the edge of the punch, which extends down in front of the locking device and between it and the inlet-opening for the tickets.

4. In a ticket punching and recording device, a punch with a recess, a pivoted and spring-pressed tumbler arranged in the recess and adapted to engage with the die in the locked position, and to be operated into the unlocked position by contact with the ticket or other article, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

DAVID MCGILL.

Witnesses:

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