

C. E. BEACH.
 RELEASING MECHANISM.
 APPLICATION FILED MAY 29, 1911.

1,050,791.

Patented Jan. 21, 1913.

Fig. 1.

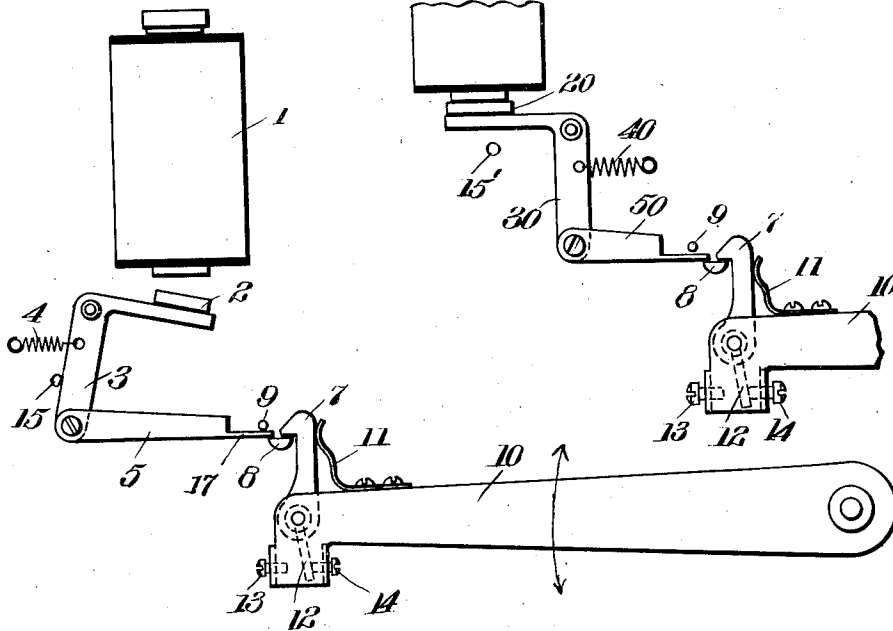


Fig. 4.

Fig. 2.

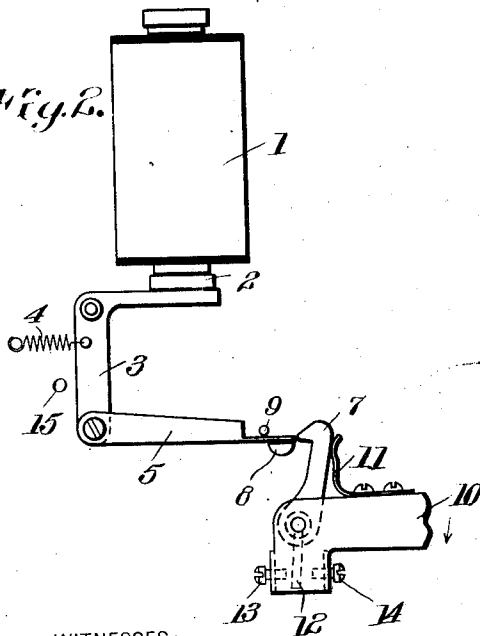
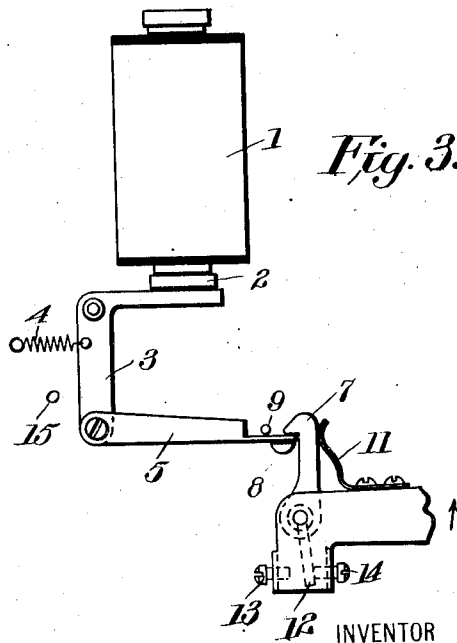


Fig. 3.



WITNESSES:

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RELEASING MECHANISM.

1,050,791.

Specification of Letters Patent.

Patented Jan. 21, 1913.

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To all whom it may concern:

Be it known that I, CLARENCE E. BEACH, a citizen of the United States, residing at Binghamton, in the county of Broome and State of New York, have invented certain new and useful Improvements in Releasing Mechanism, of which the following is a specification.

My invention relates to a releasing mechanism and has for its object to provide a device which will cause a movable member to be disengaged from a holding device and which will enable such member to again engage such holding device even though the disengaging means has not been withdrawn.

It has for its further object to provide a releasing mechanism operated by an electromagnet which is capable of operation upon a closure of the circuit instead of upon a break in the circuit, an arrangement for this latter purpose being shown in U. S. Letters Patent No. 726,882, dated May 5, 1903, to H. W. Doughty and C. E. Beach; and also to provide a modified arrangement of the latch-releasing mechanism which will perform its function when the circuit is broken.

In the accompanying drawings: Figure 1 shows the mechanism in the open-circuit position; Fig. 2 in the position assumed just after the circuit has closed, and the latch has been released; Fig. 3 in the position just after the latch has been restored and the circuit closed; and Fig. 4 shows a modification.

The mechanism consists of an electromagnet 1, having an armature 2, carried on a bell-crank lever 3 with a retracting spring 4.

5 is a releasing bar, pivoted at one end to the lower end of the lever 3, and guided, as to its free end, between two fixed pins 8, 9, secured to the frame of the machine. This releasing bar 5 has, at the end which passes between pins 8, 9, a thin blade-like portion 17.

7 is a hooked latch pivoted to a movable arm 10 and normally pressed by a spring 11 toward the pin 8. A tail 12, attached to the latch 7, by engagement with stops 13, 14, limits the movement of the latch.

15, 15' are stop pins.

The arm 10 is shown as pivoted and is assumed to be part of some mechanism which, after the arm is released, has means

for restoring the arm to its original position, and the double-pointed arrow on such arm 10 is intended to indicate that this arm has such to-and-fro movement.

In Fig. 4, a reversely-arranged bell-crank lever 30, retracting spring 40, and releasing bar 50, are shown in connection with the same form of latch shown in Figs. 1, 2 and 3.

The operation of the mechanism is as follows: Assuming the parts to be in the position shown in Fig. 1, upon a closure of the circuit, the magnet 1 is energized, pulls up its armature (see Fig. 1), moves the bell-crank lever, causing the releasing bar 5 to push latch 7 off of pin 8, thereby releasing arm 10. The end 17 of the bar 5 is made thin so that when the arm 10 is lifted, carrying with it the latch 7, this latch will pass the pin 8, the spring 11 permitting it to swing on its pivot for this purpose and then swing back into the position shown in Fig. 3, with its hook overlying the end 17 of the bar 5. When the circuit is interrupted, the magnet 1 is deenergized, the spring 4 pulls the armature away from the magnet and the bar 5 from under the hook of the latch, thus restoring the parts to the position shown in Fig. 1. It will however be noted that the arm 10 will be held up by the latch 7, as shown in Fig. 3, even if the end 17 of the bar 5 has not been withdrawn.

The operation of the modification shown in Fig. 4 is the same, except that the cycle of movements is initiated by a break in the circuit instead of a closure, and will be readily understood without further description.

I claim:

1. A releasing mechanism, comprising a magnet, a spring-retracted bell-crank lever, an armature on one arm of said lever, a releasing bar pivoted to the other arm, a pin on which said bar slides, a spring latch adapted to engage such pin, and a movable member carrying such latch.

2. A releasing mechanism, comprising a movable member carrying a spring latch, a stationary pin with which such latch is adapted to engage, a magnet, and means controlled by the magnet for disengaging the latch from the pin.

3. A releasing mechanism, comprising a movable member carrying a spring latch, a stationary pin with which such latch is

adapted to engage, a magnet, and a releasing bar controlled by the magnet for disengaging the latch from the pin.

4. A releasing mechanism, comprising a
5 movable member carrying a spring latch, a stationary pin with which such latch is adapted to engage, a magnet, and a releasing bar having a path of movement extending to the edge of the pin and controlled
10 by the magnet for disengaging the latch from the pin.

5. A releasing mechanism, comprising a magnet, a spring-retracted lever, an armature on one arm of such lever, a releasing
15 bar connected to the other arm of said lever, a pin on which said bar slides, the end of the bar having a path of movement extending to the edge of the pin, a spring latch having a portion extending over said pin and arranged to be disengaged therefrom by
20 movement of the bar, and a movable member carrying said latch.

6. A mechanism comprising a magnet, a movable member carrying a spring latch, a
25 pin with which said latch is adapted to engage, a releasing bar permanently resting upon said pin and adapted to slide over said pin to disengage said latch from the pin, the extent of the return movement of
30 the movable member being sufficient to permit the latch to overlie the end of the releasing bar, and an electro-magnet for sliding said bar.

7. A mechanism comprising a movable
35 member carrying a spring latch, a pin with which such latch is adapted to engage, a bar arranged to pass over said pin to disengage such latch, the extent of the return movement of the movable member being

sufficient to permit the latch to overlie the
40 end of the releasing bar, and means for advancing and retracting the bar.

8. A mechanism comprising a movable member carrying a latch, a stationary pin
45 adapted to be engaged by said latch to hold the movable member in one position, a releasing bar resting on said pin, and means for moving said bar to push the spring latch from the pin whereby the movable member
50 is released.

9. A mechanism comprising a movable member carrying a spring latch, a pin in the path of said spring latch, a releasing bar
55 adapted to rest on the pin and to assume one position to allow the latch to engage the pin to lock the movable member and to move over the pin to push the latch therefrom, and an electro-magnet controlling the movements of said bar.

10. A mechanism comprising a movable
60 member carrying a spring latch, a bar adapted to be moved toward the latch and receive the latch to lock the movable member in one position, a pin below the bar, said
65 bar when moved away from the latch releasing the latch to allow the latch to engage the pin to maintain the movable member in its one position, and said bar when again moved toward the latch serving to push the
70 latch from the pin to release the movable member.

In testimony whereof, I affix my signature in presence of two witnesses.

CLARENCE E. BEACH.

Witnesses:

H. W. DOUGHTY,
M. L. THOMAS.