

(No Model.)

T. M. CREPAR.
MACHINE FOR TEACHING TELEGRAPHY.

No. 522,454.

Patented July 3, 1894.

Fig. 1.

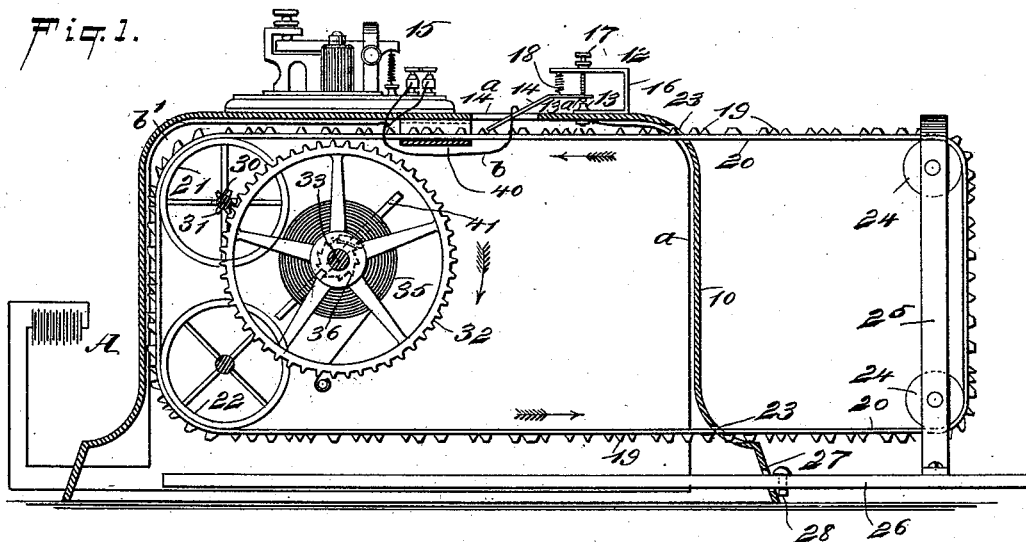


Fig. 2.

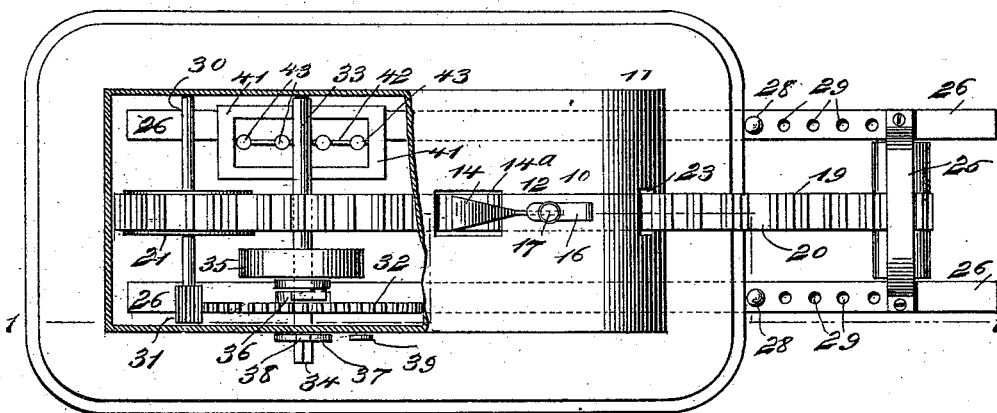


Fig. 3.

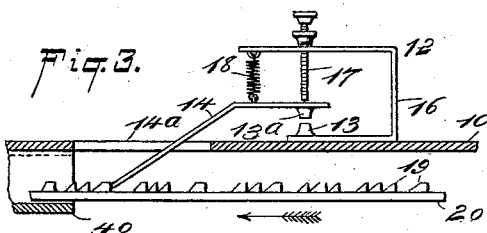


Fig. 4.

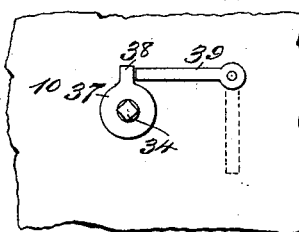
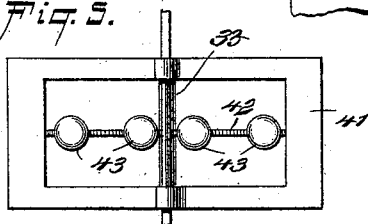


Fig. 5.



WITNESSES:

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THOMAS MORTIMER CREPAR, OF CLARE, MICHIGAN, ASSIGNOR TO HIMSELF
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MACHINE FOR TEACHING TELEGRAPHY.

SPECIFICATION forming part of Letters Patent No. 522,454, dated July 3, 1894.

Application filed March 20, 1894, Serial No. 504,361. (No model.)

To all whom it may concern:

Be it known that I, THOMAS MORTIMER CREPAR, of Clare, in the county of Clare and State of Michigan, have invented a new and
5 Improved Machine for Teaching Telegraphy, of which the following is a full, clear, and exact description.

My invention relates to improvements in that class of devices adapted for use in teach-
10 ing telegraphy; and the object of my invention is to produce a simple apparatus by means of which telegraphy may be rapidly, accurately and mechanically taught, also to provide a machine which may be adjusted so
15 as to make it of a greater or less capacity as regards words or characters, to provide means for regulating its speed so that the speed may be increased as the reader attains proficiency, and to construct a machine which may be
20 used for either sending or receiving messages.

To these ends my invention consists of certain features of construction and combinations of parts which will be hereinafter described and claimed.

25 Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters and figures of reference indicate corresponding parts in all the views.

30 Figure 1 is a vertical longitudinal section on the line 1—1 of Fig. 2 of the machine embodying my invention. Fig. 2 is a broken sectional plan of the apparatus. Fig. 3 is an enlarged detail sectional view of the circuit
35 worker. Fig. 4 is a detail elevation of the stop mechanism for stopping the machine; and Fig. 5 is a detail plan view of the fan attachment for regulating the speed.

The machine is provided with a case 10
40 which is preferably of metal, but may be of any suitable material and which has a suitable base 11 to stand on. On this case is a circuit breaker 12, which has a contact point 13 insulated on the case and connecting by a
45 wire *a* with a battery A, while opposite this contact is another one 13^a adapted to touch it, the second contact being on the circuit breaking spring 14, which projects through
50 a slot 14^a in the top of the case and is actuated by the teeth or projections on a belt, as hereinafter described, this spring connecting

by a wire *b* with the receiving instrument 15, which is also preferably arranged on the case, which is of usual or any approved construction and which connects by a wire *b'* with the
55 other pole of the battery A. The circuit breaker also comprises a supporting bracket 16 in which is an adjusting screw 17 of the usual kind, adapted to impinge on and limit the movement of the spring 14, which is nor-
60 mally lifted against the set screw by a spiral spring 18 which is attached to the spring 14 and to the bracket 16.

It will be understood that the circuit break-
65 ing spring 14 may be made of rigid material with the same result. The spring 14, or an equivalent arm, is actuated by the projections 19 on an endless belt 20, and these projec-
70 tions, as well as the belt, are preferably made of soft material such as rubber, so that they will move noiselessly beneath the spring 14. The projections 19 are of different widths and are dissimilarly spaced so that as they pass
75 beneath the spring 14 they will tilt it for differing periods and thus make longer and shorter intervals to correspond with the different characters of the Morse alphabet.

It will be seen that when the spring 14 is tilted so as to bring the contact 13^a against the contact 13, the circuit is closed through
80 the receiver, and as soon as a projection passes the spring, the spring 18 lifts it out of contact and breaks the circuit, so that a character is in this manner transmitted. It will be readily seen that the projections 19 may
85 be spaced and arranged so as to produce an unlimited variety of characters.

The belt 20 moves over pulleys 21 and 22 in one end of the case 10 and passes out
90 through slots 23 in the case and runs over pulleys 24 in the hanger 25, which is fastened to the tracks or rails 26, these being adjustable in and out of the case through slots 27, while they may be held in a desired position
95 by pins 28 which project through holes 29 in the rails. It will be seen that this arrangement provides for using different lengths of belts, so that a greater or less number of characters may be transmitted. The belt is arranged so that its upper member is parallel
100 with the top of the case 10 in order that the projections may pass regularly beneath the

circuit breakingspring 14. This action of the belt is further facilitated by a guide 40 which is arranged adjacent to the slot 14^a and through which the belt passes.

5 The shaft 30 of the pulley 21 is provided with a pinion 31 which meshes with and is driven by a cog wheel 32 on the main driving shaft 33, which is journaled transversely in the case 10 and is provided with a squared outer end 34 to which a key may be applied to wind it up. The shaft 33 is driven by a coil spring 35 like an ordinary watch spring, which is secured to the case and to the shaft, and the shaft has the ordinary pawl and ratchet 36 to prevent it from turning in the wrong direction. On the shaft, outside the case, is a collar 37 having a tooth 38 thereon which is adapted to engage a stop 39 pivoted on the case at one side of the shaft 33. It will be seen that by turning the stop into a horizontal position it will engage the tooth 38 and stop the shaft 33, while if it is tipped over so as to hang vertically, as shown by dotted lines in Fig. 4, it will permit the turning of the shaft and the moving of the belt.

25 The shaft 33 is provided with a fan regulator to govern its speed, which regulator has a frame 41 secured to the shaft 33 and in it is a threaded stem 42 which radiates from the shaft and carries weights 43 adjustable thereon, and by moving these out and in, the regulator may be controlled so as to move easier or less easy and thus regulate the speed of the shaft 33. It will be understood that a beginner will require that the shaft and belt move slower than will be the case after he has progressed somewhat with his studies.

When the machine is set in motion, the projections on the belt move the circuit breaking spring up and down so as to make and break the circuit, the contacts being longer or shorter according to the size of the projections on the belt, and when the circuit is closed, it is closed through the receiver, as illustrated, and the receiver acts in the usual manner, so that the student may take cognizance of its sounds

and acquire the necessary familiarity with them, while by adjusting the regulator, he may increase the speed of the machine as he gains proficiency. By unhooking the spring 18 the circuit closing spring is permitted to drop into contact with the contact 13, thus closing the circuit through the receiver, which may then be used as a sending instrument in the ordinary manner.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. A machine of the kind described, comprising a case, having a slot in its upper side a receiving instrument thereon, a circuit breaker on the case having an arm projecting through said slot into the case, a traveling belt having projections to engage the arm of the circuit breaker, the belt having one end supported in the case and the other end supported on adjustable pulleys outside the case, and clockwork mechanism to drive the belt, substantially as described.

2. The combination, with the case, the pulleys therein, the circuit breaker and the belt carried by the pulleys and adapted to actuate the circuit breaker, of the hanger having pulleys to carry the outer end of the belt, and the longitudinally adjustable rails supporting the hanger and extending into the case, substantially as described.

3. In a machine for use in teaching telegraphy, the combination with the slotted case and an endless traveling belt having projections as specified, of the contact point insulated from said case, the circuit-breaking spring which co-acts with said belt, a spring suspending the circuit-breaking spring, an adjusting screw arranged vertically over said contact, and an electric circuit arranged as shown and described.

THOMAS MORTIMER CREPAR.

Witnesses:

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