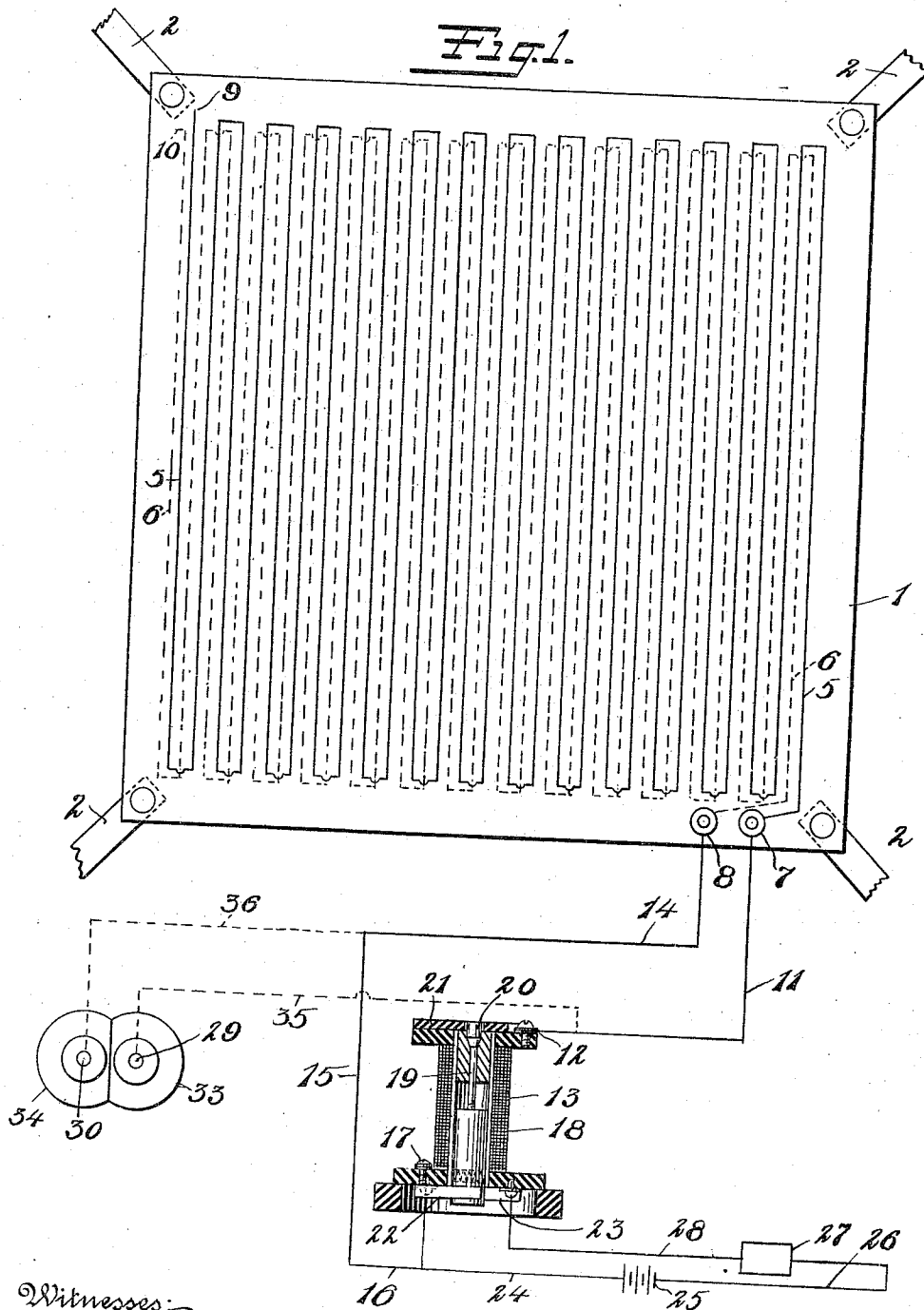


973,335.

C. S. BATDORF.
AUTOMATIC STOP MECHANISM.
APPLICATION FILED OCT. 19, 1908.

Patented Oct. 18, 1910.

2 SHEETS—SHEET 1.



Witnesses:
Chas. A. Leach.
Fred M. Dammeyer.

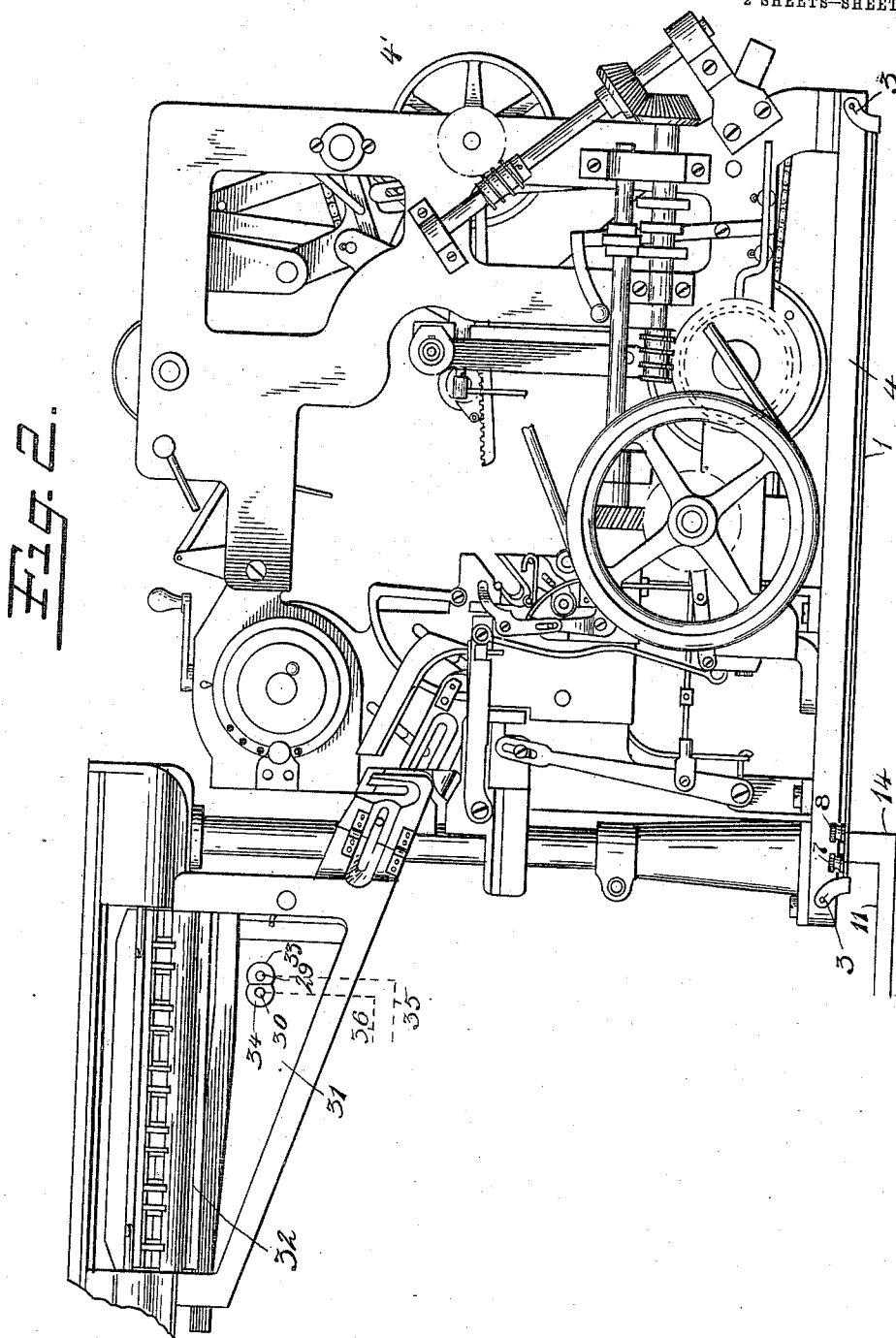
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2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

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AUTOMATIC STOP MECHANISM.

973,335.

Specification of Letters Patent.

Patented Oct. 18, 1910.

Application filed October 19, 1908. Serial No. 458,563.

To all whom it may concern:

Be it known that I, CHARLES S. BATDORF, a citizen of the United States, residing at Brooklyn, county of Kings, State of New York, have invented certain new and useful Improvements in Automatic Stop Mechanism, of which the following is a full, clear, and exact description.

My invention relates to improvements in automatic stop mechanism which is adapted to be used with machines for assembling and wrapping small articles of metal such as coins, buttons and the like, and is particularly, but not exclusively, adapted for use with machines for assembling and wrapping coins such as that described in my co-pending application Serial No. 331,850, filed August 24, 1906.

One object of the invention is to provide means for automatically stopping the operation of the machine should any of the articles become displaced as by the breaking of a stack and scattering of the articles composing the same, or by failure of the stacking means to operate properly, due to the feeding of an insufficient number of articles to the stacking mechanism, or under any other circumstances when the articles operated upon drop beneath the machine.

A further object of my invention is to provide means for automatically stopping the operation of the machine when the coins or other articles are improperly fed to it or become banked up in the feeding mechanism thereof.

To these ends the invention contemplates suitable electrical contacts mounted beneath or adjacent the operative parts of the machine whereby, when the coins are improperly handled or fed, a circuit will be completed and the stop mechanism will be thereby brought into operation.

In the embodiment of my invention herein selected for illustration, the automatic stop mechanism to accomplish the first object comprises broadly certain electrical contacts and connections which will be rendered operative to stop the machine when a coin or other metallic article is dropped to the bottom of the machine to which the mechanism is attached and comes in contact with said connections.

In the drawings, which illustrate a preferred embodiment of my invention, Figure 1 shows a plan view of the main contact

and feed chute contact members and a diagrammatic arrangement of the electrical connections used in conjunction therewith. Fig. 2 shows a side elevation of a coin stacking and wrapping machine with the invention attached thereto.

In the drawings, Fig. 1, 1 indicates the contact carrying member proper, which may be composed of a sheet of leather or other suitable material of sufficient size to underlie preferably the entire body portion of the machine with which it is used, said member having supports 2 by which it may be supported beneath the machine, as for example in the manner of a tray or apron. Upon the upper surface of the member 1, two contact circuit wires of opposite polarity 5 and 6 are suitably secured by any suitable means. The terminals of the contact wires 5 and 6 are secured to binding posts 7 and 8 respectively, preferably upon the margin of the sheet. The contact wires 5 and 6 traverse the breadth of the sheet in alternate transverse loops as indicated in Fig. 1, the transverse lengths of the wire 5 alternating with those of the wire 6, and said loops are effectually insulated from each other. By following out the paths of wires 5 and 6, it will be found that they terminate in the open ends 9 and 10 respectively at the opposite side of the sheet, as viewed in Fig. 1, whereby the circuit is normally maintained open between the wires. The binding post 7 is connected by means of circuit wire 11 with one contact screw 12 of a solenoid 13, while the binding screw 8 is connected by means of circuit wires 14, 15 and 16 with the main circuit wire 24.

Within the solenoid 13 is mounted a slidable metal core 18, which is provided with a stem 19 terminating in the finger piece 20 which extends through the top plate 21 of the solenoid. The core 18 is of such length as to project when in depressed position, as shown in Fig. 1, below the coil of the solenoid and between and in contact with the spring contact strips 22 and 23 respectively in the circuit of the motor 27 which operates the machine 4' and said core is so held, as by friction, that it will remain either in the lower or upper position unless influenced to change its position. The contact strip 22 is connected by means of circuit wire 24 with a suitable source of electricity conventionally indicated as a battery 25 and

by a circuit wire 26 with a motor 27 from which power is derived to operate the machine with which the stop mechanism of my invention is to be used. Said strip 22 is also connected with contact screw 17. The opposite contact strip 23 is connected by circuit wire 28 with the motor 27.

The operation of the mechanism thus far described is as follows: With the contact apron 1 secured in proper position beneath the body of the machine 4', as indicated in Fig. 2, the machine is started in operation through the motor 27, it being understood that the core 18 of the solenoid has been depressed by manually pressing upon the stem 19 to bring it into contact with the contact strips 22 and 23 to complete the electrical circuit through the motor 27. If during the operation of the machine, a coin or other article upon which the machine is operating, should fall upon the apron 1 beneath the machine, the circuit from the source of power 25 will at once be completed through the contact wires 5 and 6 and through the solenoid 13, whereupon the solenoid will be excited and the core 18 withdrawn within the same, and from between the contact strips 22 and 23, whereby the circuit from the source of electricity 25 through the motor 27 will be broken and the motor and machine stopped, and simultaneously the circuit through the solenoid will be broken. To again start the machine, it will only be necessary to remove the coins or other articles from the contact wires 5 and 6 of apron or tray 1, whereby the solenoid circuit will be broken and upon again depressing the core 18 the operating circuit of motor 27 will be restored, whereupon the operation of the machine will be resumed.

To accomplish the second object of my invention, namely, the stopping of the machine through improper feeding or banking up of the articles to be fed to the machine, I provide the electrical terminals 29 and 30 which are mounted preferably within the rear wall 31 of the feed chute 32 (Fig. 2) of the machine, such for example as that illustrated in my copending application No. 331,850 above referred to. These terminals 29 and 30 are suitably insulated from the chute and from each other by the insulating blocks 33 and 34. From terminals 29 Fig. 1 a circuit wire 35 leads to the wire 11 and thence to contact screw 12 of the solenoid 13, while from electrode 30 a circuit wire 36 leads to circuit wire 15 and thence by circuit wire 16 to circuit wire 24, source of electricity 25, wire 26, motor 27, wire 28, contact strip 23, core 18, contact strip 22, to the opposite binding screw 17 of the solenoid.

With the parts arranged for operation as above described, namely, with the core 18 of the solenoid depressed to form electrical

connection between the strips 22 and 23 should the coins or other articles become stacked up in the chute 32 so that connection is effected between the electrodes 29 and 30 by the fact that one or more coins bridge the gap between them, the resulting completion of the circuit through the battery 37 and solenoid 13 would serve to excite the solenoid 13 and withdraw its core 18 from between the contact strips 22 and 23 and thereby break the circuit from the source of electricity 25 to the motor 27 and thereby stop the motor and consequently the operation of the main machine. At the same time the circuit through the solenoid will be broken as above described.

While I have here illustrated and described the preferred embodiment of my invention, it is to be understood that the same may be altered in details and arrangement of parts without departing from the spirit and scope thereof.

What I claim is:

1. An automatic stop mechanism for electric power driven machines, comprising a power circuit and electrical connections controlling said power circuit, said connections being so arranged adjacent the machine that displacement of an article or articles of conductive character being operated upon thereby and the lodging thereof across said connections will serve to close said connections and open the power circuit.

2. An automatic stop mechanism for electric power driven machines, comprising a power circuit, a make-and-break device in said circuit, a normally open auxiliary circuit controlling said make-and-break device, and a plurality of terminals in said auxiliary circuit so arranged adjacent said machine that displacement of an article or articles of conductive character being operated upon by said machine and lodging thereof across said terminals will serve to close said auxiliary circuit and open the power circuit.

3. An automatic stop mechanism for electric power driven machines, comprising a power circuit, a make-and-break device in said circuit, a plurality of normally open auxiliary circuits controlling said make-and-break device, the terminals of each of said auxiliary circuits being arranged in pairs and adjacent different parts of said machine respectively, whereby the displacement of an article or articles of conductive character being operated upon by said machine and lodging thereof across a pair of said terminals will serve to close one or more of said auxiliary circuits and open the power circuit.

4. An automatic stop mechanism for electric power driven machines, comprising a power circuit, a switch in said circuit, a solenoid controlling said switch, a normally

open auxiliary circuit for said solenoid, the terminals of said auxiliary circuit being so arranged adjacent said machine that the displacement of an article or articles of conductive character being operated upon thereby and lodgment thereof across said terminals will serve to close said auxiliary circuit and operate the switch.

5. An automatic stop mechanism for electric power driven machines, comprising a power circuit, a make-and-break device in said circuit, a normally open auxiliary circuit controlling said make-and-break device, said auxiliary circuit comprising a pair of wires traversing adjacent paths throughout the area beneath said machine whereby the displacement of an article or articles of conductive character being operated upon by said machine and lodgment thereof across said pair of wires will serve to close said auxiliary circuit and operate said make-and-break device.

6. An automatic stop mechanism for electric power driven machines, comprising a power circuit, a switch in said circuit, a normally open auxiliary circuit controlling said switch, said auxiliary circuit comprising a pair of wires arranged in adjacent loops throughout the area beneath said machines, the members of the loops of one wire alternating with the members of the adjacent loops of the other wire whereby the dropping of an article of conductive character being operated upon by said machine and lodgment thereof across said pair of wires upon said circuit wires will serve to close the circuit and operate the switch in the power circuit.

7. An automatic stop mechanism for electric power driven machines, comprising a power circuit, a switch in said circuit, a normally open auxiliary circuit controlling said switch, said auxiliary circuit comprising a pair of wires arranged in adjacent loops throughout the area beneath said machine, whereby the displacement of an article of conductive character being operated upon by said machine and lodgment thereof across said pair of wires will serve to close said circuit and operate said switch, and an insulating support for said auxiliary circuit wires.

8. In a stop mechanism for electric power driven machines, an auxiliary power controlling circuit device comprising an insulating support and a pair of circuit wires arranged in adjacent loops across said support, the members of the loops of one wire alternating with the members of the adjacent loops of the other wire.

9. In an automatic stop mechanism for electric power driven machines, an auxiliary power controlling circuit device comprising an insulating support of suitable material, and a pair of circuit wires arranged in ad-

jacent loops across said support, the members of each loop of one wire alternating with the members of the adjacent loops of the other wire.

10. In an automatic stop mechanism for electric power driven machines, an auxiliary power controlling circuit device comprising a support composed of a sheet of suitable insulating material, and a pair of circuit wires arranged in parallel loops across and secured to said support, the members of each loop of one wire alternating with the members of the adjacent loops of the other wire.

11. In an automatic stop mechanism for electric power driven machines, a power circuit, a solenoid having terminals of said circuit mounted thereon adjacent the core opening, a core in said solenoid adapted to be projected between and in contact with said terminals and to be withdrawn therefrom by the excitation of the solenoid.

12. In an automatic stop mechanism for electric power driven machines, a power circuit, a solenoid having terminals of said circuit mounted thereon adjacent the core opening thereof, a core in said solenoid adapted to be manually projected between and in contact with said terminals and to be withdrawn therefrom by the excitation of the solenoid.

13. In an automatic stop mechanism for electric power driven machines, a power circuit, a solenoid having terminals of said circuit mounted thereon adjacent the core opening thereof, a core in said solenoid adapted to be manually projected between and in contact with said terminals and to be withdrawn therefrom by excitation of said solenoid, said core having a stem projecting through the end of said solenoid for manual operation of said core.

14. In an automatic stop mechanism for power driven machines, the combination with a source of power means for controlling said source and electrical connections controlling said means, said connections being so arranged adjacent the machine that displacement of an article or articles of conductive character being operated upon thereby and lodgment thereof across said connections will serve to close said connections and operate said power controlling means to stop the machine.

15. In an automatic stop mechanism for power driven machines, the combination with a source of power, of power controlling means and a normally open electric circuit controlling said means, a plurality of terminals in said circuit so arranged adjacent said machine that displacement of an article or articles of conductive character being operated upon thereby and lodgment thereof across said terminals will serve to operate said power controlling means to stop the machine.

16. In an automatic stop mechanism for electric power driven machines, comprising a power circuit, a make and break device therein, a normally open auxiliary circuit
5 controlling said make and break device and a plurality of terminals in said auxiliary circuit so arranged adjacent said machine that displacement of an article or articles of conductive character being operated upon by
said machine and lodgment thereof across 10
said terminals will serve to close said auxiliary circuit and open the power circuit and simultaneously again open said auxiliary circuit.

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