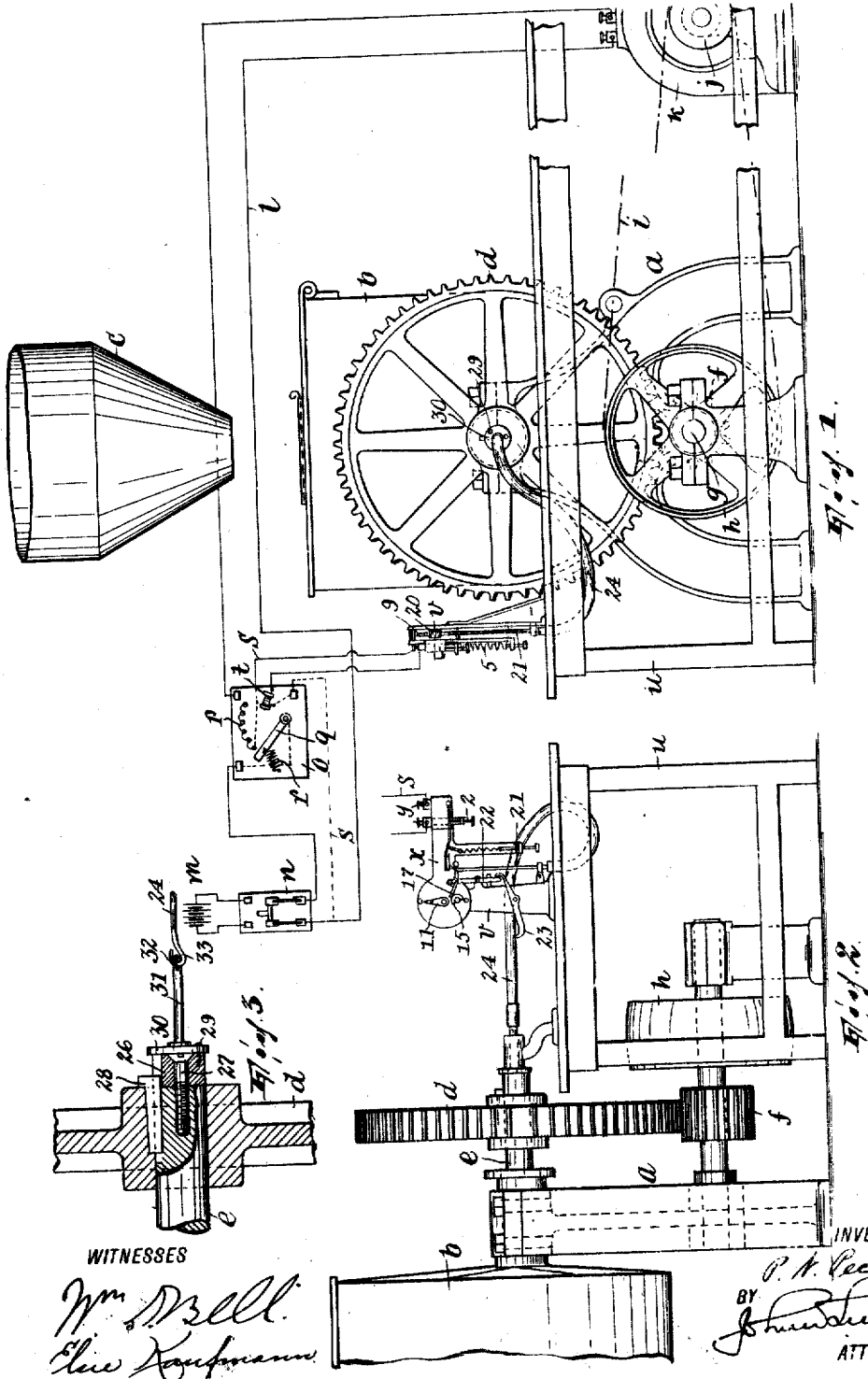


P. N. PECCI.
AUTOMATICALLY CONTROLLED MIXING MACHINE OR THE LIKE.
APPLICATION FILED APR. 5, 1911.

1,006,003.

Patented Oct. 17, 1911

2 SHEETS—SHEET 1



WITNESSES

Wm. Bell.
Elie Kaufmann.

INVENTOR,

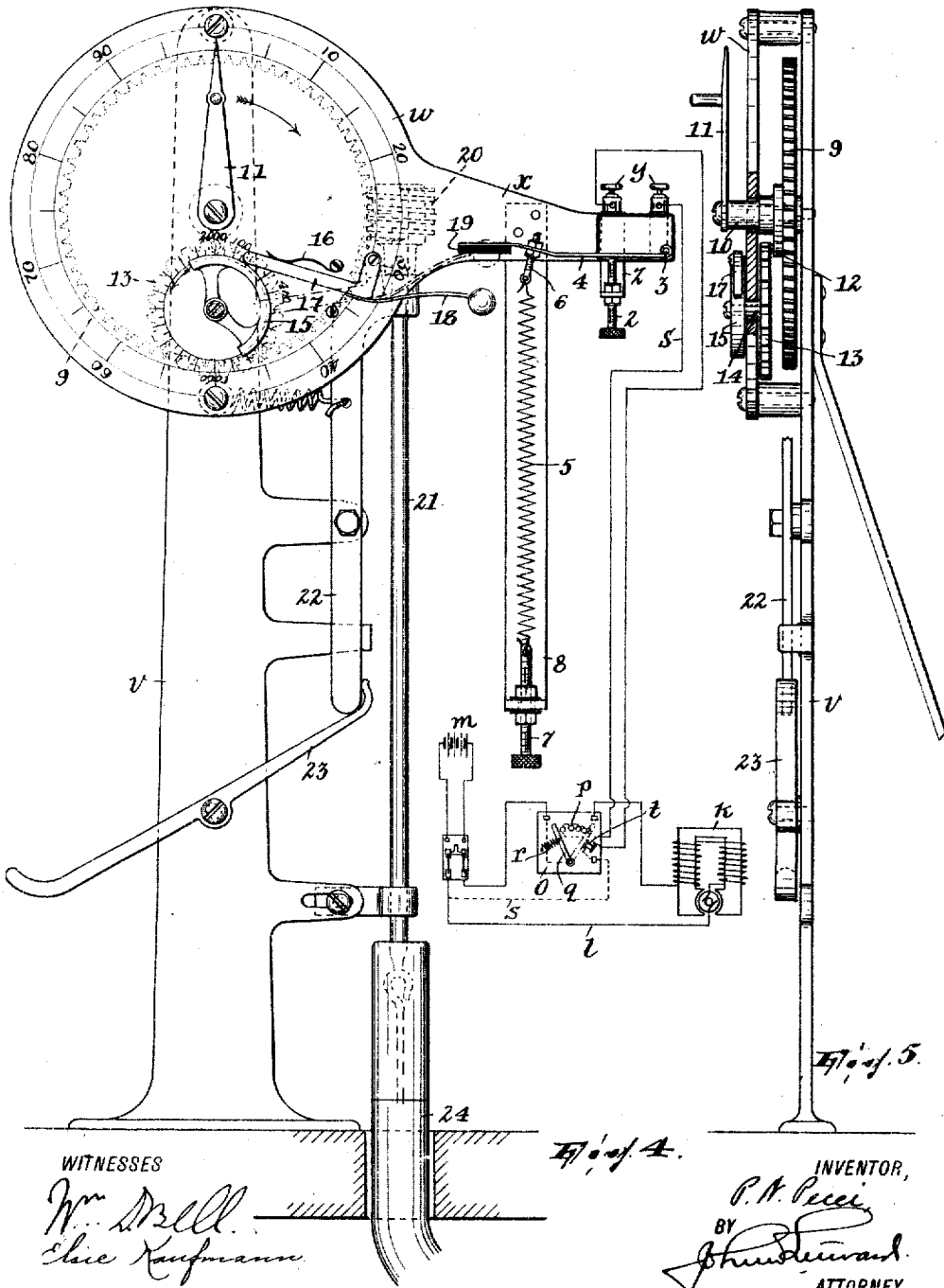
P. N. Pecci,
BY
J. H. Schenck
ATTORNEY.

P. N. PECCI.
 AUTOMATICALLY CONTROLLED MIXING MACHINE OR THE LIKE.
 APPLICATION FILED APR. 5, 1911.

1,006,003.

Patented Oct. 17, 1911.

2 SHEETS-SHEET 2.



UNITED STATES PATENT OFFICE.

PIO NARCISO PECCI, OF PATERSON, NEW JERSEY, ASSIGNOR OF ONE-SIXTH TO PETER DOW, ONE-SIXTH TO HERMAN PORZIG, ONE-SIXTH TO CHARLES GRUND, AND ONE-SIXTH TO RICHARD MEYER, ALL OF PATERSON, NEW JERSEY.

AUTOMATICALLY-CONTROLLED MIXING-MACHINE OR THE LIKE.

1,006,003.

Specification of Letters Patent.

Patented Oct. 17, 1911.

Application filed April 5, 1911. Serial No. 619,014.

To all whom it may concern:

Be it known that I, PIO N. PECCI, a citizen of the United States, residing at Paterson, in the county of Passaic and State of New Jersey, have invented certain new and useful Improvements in Automatically-Controlled Mixing-Machines or the Like, of which the following is a specification.

This invention relates to dough-mixing machines and similar apparatus where it is essential that the operation of the driven element or elements should be stopped after a certain number of cycles of movement thereof have been performed, and it consists in the improved means, hereinafter described in detail and then embodied in the clauses of the claim, whereby the stopping of the mechanism referred to may be accomplished automatically and with precision.

According to my invention the machine to be driven is operated from an electric motor and the operation of this motor is controlled from the said mechanism through means which is adjustable so that it may be set to stop the motor after any selected number of cycles of movement of the parts of said mechanism have been performed.

In the preferred arrangement the motor circuit is provided with a circuit-closer normally held open and adapted to be closed by hand, such closing thereof causing the closing of a shunt including an electro-magnet which holds the circuit-closer in the closed position until the circuit of the shunt is broken by means operated from the driven member, whereupon the circuit-closer resumes its normal or circuit-breaking position, cutting out the motor and thereby effecting the stopping of the driven mechanism.

In the accompanying drawings, Figure 1 is a semi-diagrammatic view of my invention in side elevation; Fig. 2 is a front elevation of the essential parts of the invention excepting the circuit connections and certain accessories thereof; Fig. 3 illustrates a detail of Figs. 1 and 2; and Figs. 4 and 5 are enlarged front and side elevations of a part of the means, operated from the driven member, for controlling the circuit through the shunt.

In said drawings, *a* is a mixing machine having a hopper *b* into which the material

to be mixed or otherwise treated may be discharged from the receptacle *c*, the agitating means (not shown) of the machine *a* being operated from the gear-wheel *d* which is carried by the main shaft *e* of the machine, and the said gear-wheel being driven from a pinion *f* fixed on a suitably journaled shaft *g* carrying a pulley *h* around which extends a belt *i* also extending around the pulley *j* of an electric motor *k*.

The motor *k* is admitted in the circuit *l* having a source of energy *m* and a switch *n*. In the circuit is a rheostat *o* comprising a resistance *p* which is connected to one end of the wiring of the circuit at a break therein, and an arm *q* whose pivoting end is connected with the other end of said wiring at said break, the arm *q* being normally held out of contact with the resistance *p* by a spring *r*. From the free end of the resistance extends one end of a wire *s* forming a shunt and including a magnet *t*, the other end of the shunt wire being connected with the wire *l* at that side of the aforesaid break in the circuit formed by wire *l* coinciding with the arm *q*. So long as the circuit through the shunt is otherwise closed, when arm *q* is manually moved into contact with the resistance the magnet *t* will be energized and hold arm *q* in the circuit closing position (in contact with the resistance *p*) against the influence of spring *r*; as soon as the circuit through the shunt is disestablished the deenergizing of the magnet *t* permits the arm *q* to assume the open position, disestablishing the circuit *l*.

The making and breaking of the circuit through the shunt is effected as follows: On a stand *u* near the machine *a* is arranged a pedestal *v* carrying a disk *w* provided with markings so as to form a dial, as shown in Fig. 4, and having an arm *x*. Insulated binding posts *y* serve as means to which to attach the ends of the shunt *s* at a break in the wiring of the shunt, the said binding posts being carried by the arm *x*. One of these binding posts has electrically connected with it a metallic depending stirrup *z* carrying an adjustable stop in the form of a set screw *2*, while *3* is a metallic stud contacting with the other binding post and having pivoted upon it a metallic arm *4* which rests upon the stop *2* and is held thereagainst by a spiral spring *5* connecting

adjusting screws 6 and 7, the former in the arm 4 and the latter in a bracket 8 depending from arm α . The shunt is normally closed by the arm 4 at the break formed between 2 and 3, but upon elevating arm 4 the circuit through the shunt will be broken, and, if the circuit l is at this time closed via g , magnet t will be deenergized, breaking circuit l .

10 The means for actuating 4 to break the circuit through the shunt may be described as follows: Journaled in the pedestal v back of the disk w is a worm wheel 9 provided with a stud 10 penetrating the disk w and carrying a pointer 11 movable with reference to the indices on the dial of the disk. A stud 12 on the worm wheel is engageable with a star wheel 13 fixed on the rear end of a shaft 14 journaled in disk w and carrying at its forward end a cam 15. Held against the periphery of the cam by a spring 16 or otherwise is a tappet-arm 17 pivoted in the disk w and having a spring-hammer 18 which, when the tappet-arm is allowed to fall in the rotation of the (segmental) cam, strikes the insulating piece 19 of the arm, elevating the same to break the shunt circuit. Around the periphery of the cam may be marked indices constituting another dial as shown, one end of the cam being employed as a pointer in reference to this dial. Meshing with the worm-wheel 9 is a worm 20 carried by a vertical shaft 21 which is journaled in a lever 22 fulcrumed in the pedestal v , the lower end of the lever being engaged by the hooked end of an operating lever 23 pivoted in the pedestal; upon depressing the free arm of lever 23, lever 22 will be shifted to break the connection between the worm and worm-wheel, so that the gear and pointer (9 and 11) and the cam (15) may be reset. To the lower end of the shaft 21 is connected a flexible shaft 24 which may be connected with the shaft e as shown in Fig. 3. Here 26 is a block secured to the end of the shaft e by a screw 27 and kept from turning by the key 28 which holds gear d from turning on shaft e . By screws 29 head 30 of a stem 31 having an eye 32 to receive the hook 33 on the flexible shaft 24, is secured to the shaft 26.

The operation is as follows: It requires as many revolutions of shaft 21, and consequently of shaft e , as there are teeth in the worm-wheel 9 to cause the latter to complete one revolution upon being driven by the worm 20; correspondingly, it requires as many revolutions of the worm-wheel 9 as there are teeth in the star wheel 13 to effect one revolution of the cam 15. By depressing the lever 23 to disengage the worm from the worm-wheel, the latter will be free so that it and the cam may be adjusted relatively to each other in setting the cam so

that it will permit the fall of the tappet-arm 17 after a predetermined number of cycles of movement of shaft e . Such adjustment having been effected, arm g of the rheostat is moved to the circuit closing position. Motor k is thus energized and the machine a driven therefrom. When the predetermined number of revolutions of shaft e have been accomplished, cam 15 (which revolves in the direction of the arrow in Fig. 4) clears the tappet-arm 17, which, falling against the stop 17' under the pressure of the spring 16, throws the spring-hammer 18 against the circuit closing arm 4, breaking the shunt circuit and consequently deenergizing magnet t so that the circuit-closing arm g is allowed to assume the open position, disestablishing the circuit l ; the motor k is thus deenergized, and machine a stops.

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

1. The combination, with an electric motor and mechanism to be operated therefrom, of means for controlling said motor from said mechanism comprising coacting parts, one of which is movable into coacting relation to the other, a dial, and moving means, comprising a pointer member forming an adjustable part thereof and cooperating with the dial, for transmitting movement from said mechanism to the moving part, substantially as described.

2. The combination, with an electric motor and mechanism to be operated therefrom, of means for controlling said motor from said mechanism comprising coacting parts, one of which is movable into coacting relation to the other, and means for transmitting movement from said mechanism to the moving part comprising intermeshing gear members, one being movable into and out of engagement with the other, substantially as described.

3. The combination, with an electric motor, an electric circuit including the motor and having a break, a circuit-closer at said break and mechanism to be operated from the motor, of means for controlling the circuit-closer comprising coacting parts, one of which is movable into coacting relation to the other, a dial, and moving means, comprising a pointer member forming an adjustable part thereof and cooperating with the dial, for transmitting movement from said mechanism to the moving part, substantially as described.

4. The combination, with an electric motor and mechanism to be operated therefrom, of a circuit-closer normally held in the open position, an electro-magnet to hold the circuit closer in the closed position, means, including a source of energy and circuit connections, for energizing the mo-

tor and magnet, said means having two breaks in its circuit connections, and said circuit closer being disposed at one of said breaks, and means, operated from said mechanism, for establishing and disestablishing the circuit at the other break therein, substantially as described.

5 5. The combination, with an electric motor and mechanism to be operated there-
10 from of a circuit-closer normally held in the open position, an electro-magnet to hold the circuit-closer in the closed position, an electric circuit comprising a source of energy, including the motor and having a
15 break therein, said circuit-closer being disposed at said break, a shunt from said circuit also having a break and including the magnet, and means, operating from said mechanism, for establishing and disestab-
20 lishing the electric connection through the shunt at the break therein, substantially as described.

6. The combination, with an electric motor and mechanism to be operated there-
25 from, of a circuit-closer normally held in the open position, an electro-magnet to hold the circuit-closer in the closed position, an electric circuit comprising a source of energy, including the motor and having a
30 break therein, said circuit closer being disposed at said break, a shunt from said circuit also having a break and including the magnet, and adjustable means, oper-
35 ated from said mechanism, for establishing and disestablishing the electric connection through the shunt, at the break therein, substantially as described.

7. The combination, with an electric-motor and mechanism to be operated there-
from, of a circuit-closer normally held in
40 the open position, an electro-magnet to hold the circuit-closer in the closed position, an electric circuit comprising a source of energy, including the motor and having a
45 break therein, said circuit closer being disposed at said break, a shunt from said circuit also having a break and including the magnet, and means, comprising a rotary cam and a tappet-arm actuated thereby, for
50 establishing and disestablishing the electric connection through the shunt at the break therein, substantially as described.

8. The combination, with an electric motor and mechanism to be operated there-
from of a circuit closer normally held in
55 the open position, an electro-magnet to hold the circuit-closer in the closed position, an electric circuit comprising a source of energy, including the motor and having a
60 break therein, said circuit closer being disposed at said break, a shunt from said circuit also having a break and including the magnet, and means, comprising a stop-motion, a cam actuated from said stop-motion
65 and a tappet-arm actuated by said cam, for establishing and disestablishing the electric connection through the shunt at the break therein, substantially as described.

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

PIO NARCISO PECCI.

Witnesses:

WM. D. BELL,
ELSIE KAUFMANN.