

No. 654,847.

Patented July 31, 1900.

W. M. SCOTT.
AUTOMATIC CIRCUIT BREAKER.

(Application filed Nov. 1, 1897.)

(No Model.)

2 Sheets—Sheet 1.

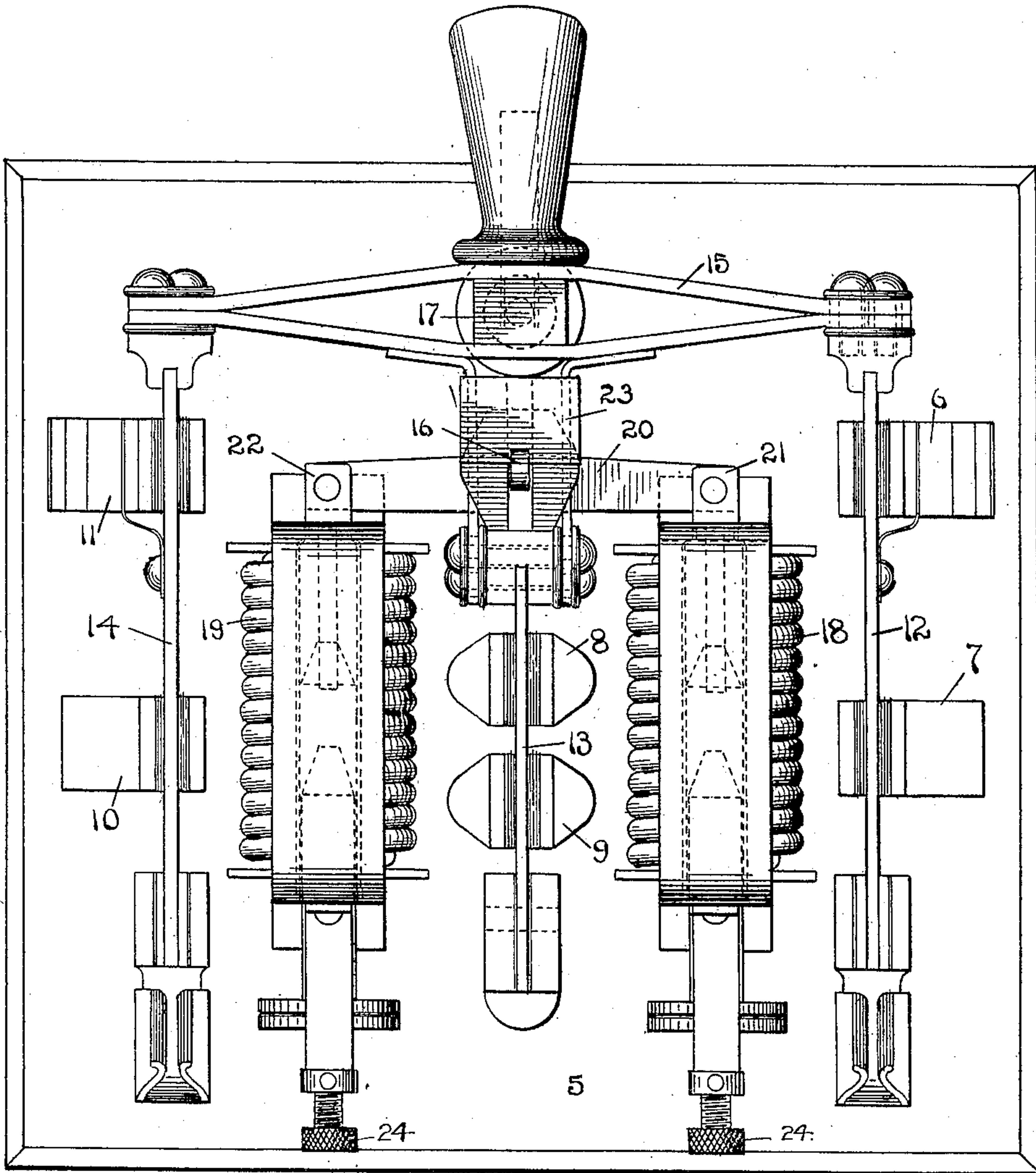
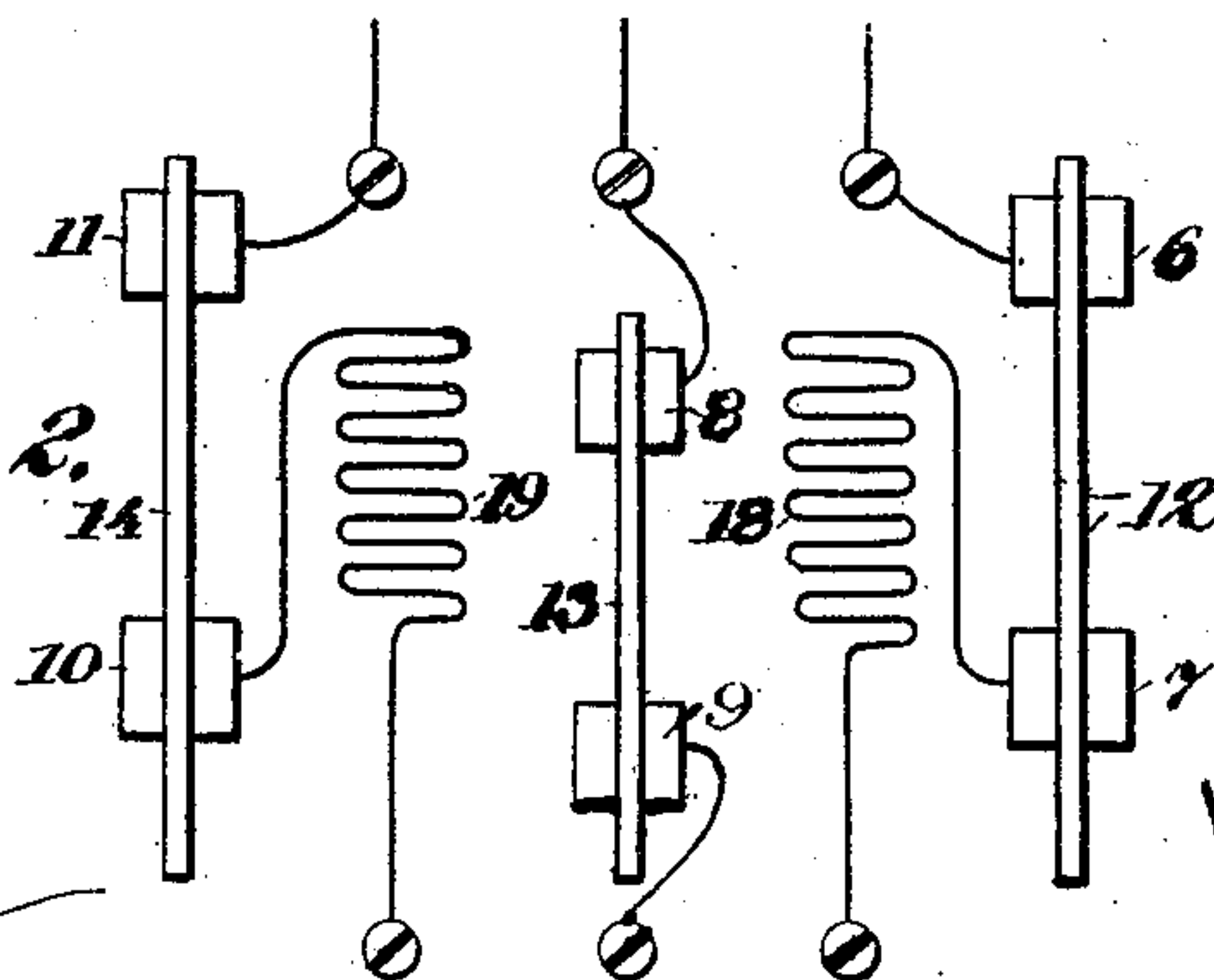


Fig. 1

Fig. 2.



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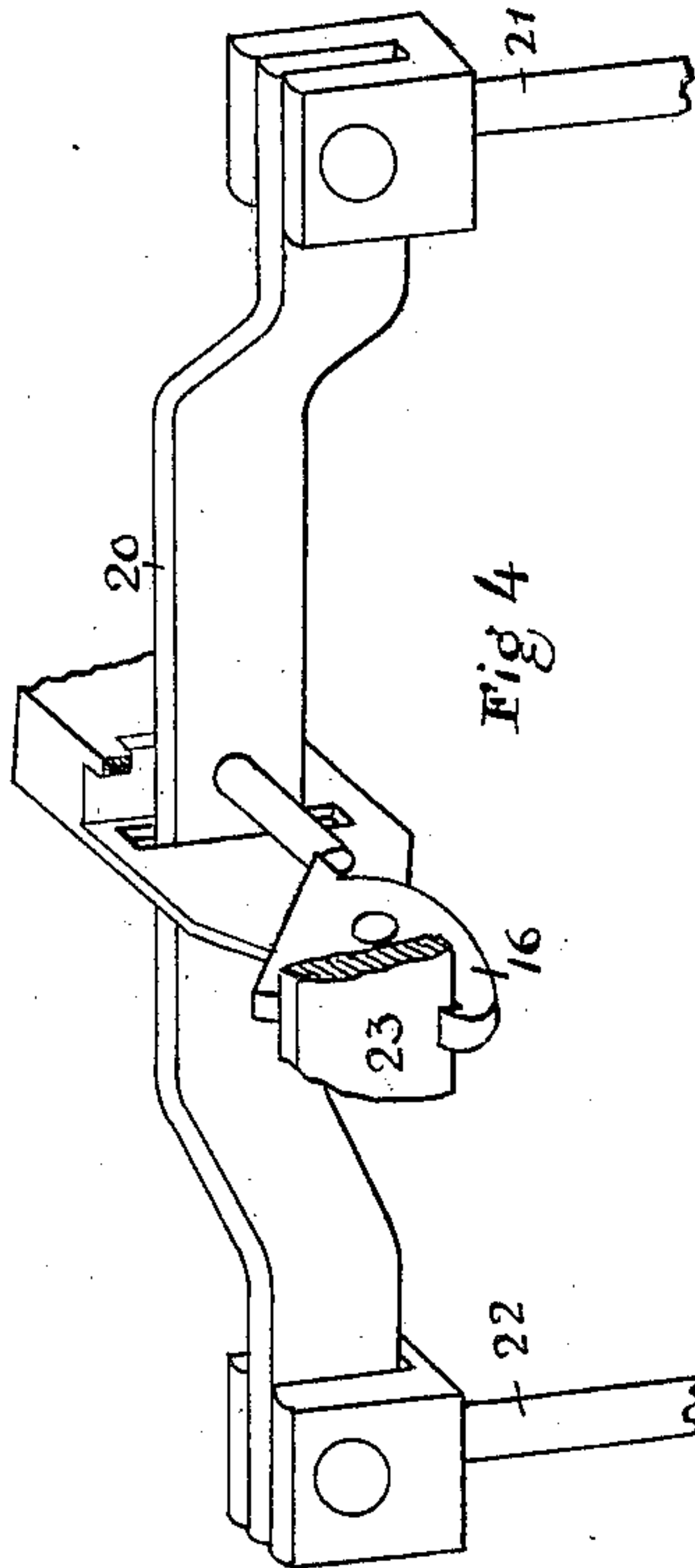


Fig 4

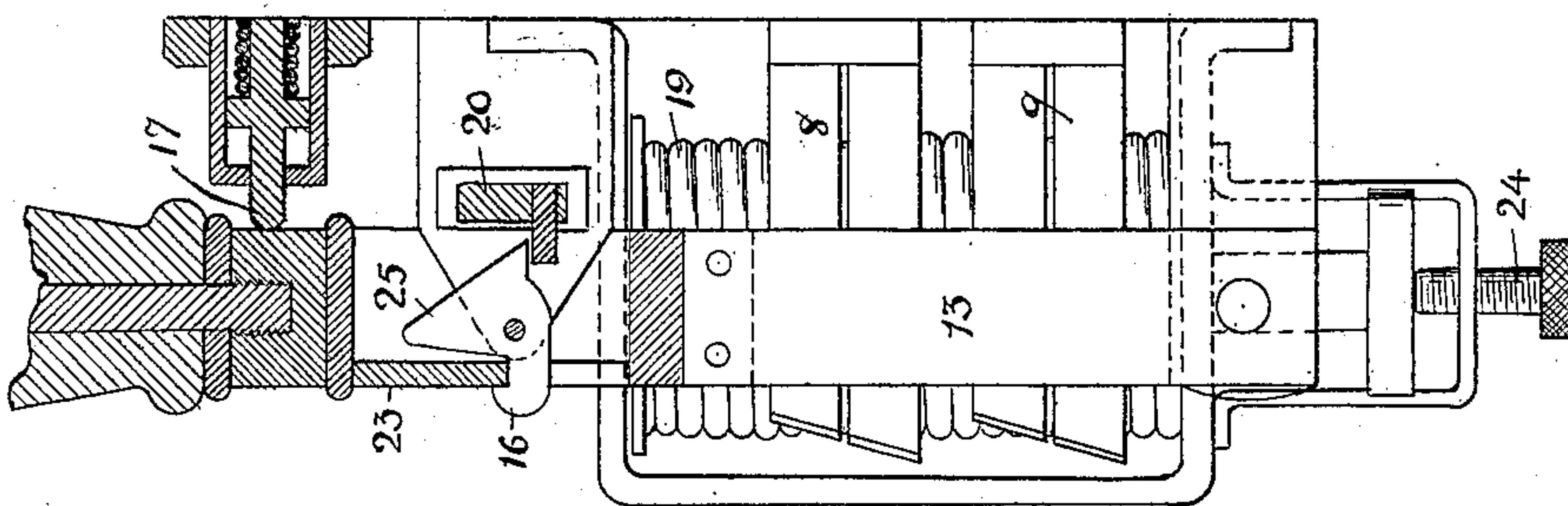


Fig 3

WITNESSES:

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UNITED STATES PATENT OFFICE.

WILLIAM M. SCOTT, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO
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AUTOMATIC CIRCUIT-BREAKER.

SPECIFICATION forming part of Letters Patent No. 654,847, dated July 31, 1900.

Application filed November 1, 1897. Serial No. 657,021. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM M. SCOTT, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented a new and useful Automatic Circuit-Breaker, of which the following is a specification.

My invention relates to automatic circuit-breakers; and the object of my improvements is to provide a circuit-breaker which will be actuated to open the circuits of two or more wires simultaneously or in a required order of succession upon the occurrence of a predetermined magnetic flow.

In the accompanying drawings, Figure 1 is a front view of a circuit-breaker embodying my invention, showing two jacketed coils with movable cores adapted to act conjointly or independently to actuate the latch and throw open the switches. Fig. 2 is a diagrammatic view of the circuit connections. Fig. 3 is a central vertical section of my device. Fig. 4 is a perspective view in detail of the several operating parts about members 16.

In Fig. 1, 5 is the base-block, upon which the several parts are mounted.

6 and 7 are stationary contact-terminals of one circuit. 8 and 9 are stationary contact-terminals of another circuit, and 10 and 11 are stationary contact-terminals of a third circuit. The bridges or movable contacts of these respective terminals (indicated by 12, 13, and 14) are movable on coaxial pivots and have their free ends yoked or fastened to a T-shaped frame 15. Mounted upon the lower middle part of this frame 15 is a plate 23, adapted to be engaged by latch 16 to hold the bridges in place against the action of the spring-piston 17.

18 and 19 indicate two jacketed solenoid-coils having vertically-movable cores adapted to be drawn upward therein upon the occurrence of a predetermined overload. Push-pins 21 and 22 extend through the upper ends of the coils and are adapted to communicate the impact of the movable cores to the horizontal bar 20. Said bar 20 is adapted upon its upward movement, caused by the movement of either or both of the pins 21 and 22, to impinge the latch 16, operating it to release the movable contacts and also to accel-

erate their actuation by the impingement of its upper member 25 against the member 23. If coil 18 were connected in series with the stationary contacts 6 and 7 (see Fig. 2) and coil 19 in series with the stationary contacts 10 and 11, upon the occurrence of a short circuit or an overload upon the wire connected with stationary contacts 6 and 7 the coil 18 will be energized to lift its core, which in turn through push-pin 21 will actuate bar 20 to impinge the latch, or upon the occurrence of a short circuit or overload upon the wire connected with stationary contacts 10 and 11 coil 19 will be energized to lift its core, which in turn through push-pin 22 will actuate bar 20 to impinge the latch, or upon the occurrence of a short-circuit or overload through both the said wires both coils will be energized simultaneously to actuate their cores to thrust upward the bar 20 to impinge the latch. Each movable core normally rests upon a screw 24, with knurled head, (shown in Figs. 1 and 2,) whereby it may be lowered or raised for adjustment with respect to the amount of above-normal flow necessary for its actuation. The relative positions of the stationary contacts 8 and 9 with respect to contacts 6, 7, 10, and 11 are such that switch 13 will be the last of the three switches to separate from its stationary contacts.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In an automatic magnetic circuit-breaker, the combination of separable coöperative contacts, a latch for holding said contacts in closed relation, a plurality of independent electromagnetic actuating devices, and a bar operated independently by each of said actuating devices to impinge upon and disengage said latch, substantially as specified.

2. In an automatic magnetic circuit-breaker, the combination of a plurality of conductors, each provided with separable coöperative contacts, a plurality of independently-operative electromagnetic actuating means, and mechanical means common to all the actuating means for communicating the actuation of each to cause the separation of said separable coöperative contacts, substantially as described.

3. In an automatic magnetic circuit-breaker,

the combination of separable coöperative con-
tacts, with mechanism for separating the same,
a latch for holding said contacts in closed re-
lation, a plurality of electromagnetic actuat-
5 ing devices, each operating independently of
the other, and a member operated by each of
said electromagnetic actuating devices upon
an overload therein to strike said latch and
disengage the same, substantially as de-
10 scribed.

4. In an automatic magnetic circuit-breaker,
the combination of separable coöperative con-
tacts, with a spring-actuated plunger for separ-
ating the same, mechanism for restraining
15 the actuation of the plunger, a plurality of
independent electromagnetic devices, and a
bar operated independently by each of said

electromagnetic devices for operating the re-
straining mechanism, substantially as speci-
fied. 20

5. In an automatic magnetic circuit-breaker,
the combination of separable coöperative con-
tacts, means for causing their separation, a
latch for normally restraining the separat-
ing means, a plurality of solenoids, a recipro- 25
cating member in each solenoid, and a bar
connecting said reciprocating members and
moved to release said latch by the independ-
ent action of either of said solenoids, substan-
tially as specified.

WM. M. SCOTT.

Witnesses:

JNO. STOKES ADAMS,
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