

No. 710,188.

Patented Sept. 30, 1902.

B. J. FOLEY.
ELECTRIC SWITCH.

(Application filed Sept. 22, 1900.)

(No Model.)

2 Sheets—Sheet 1.

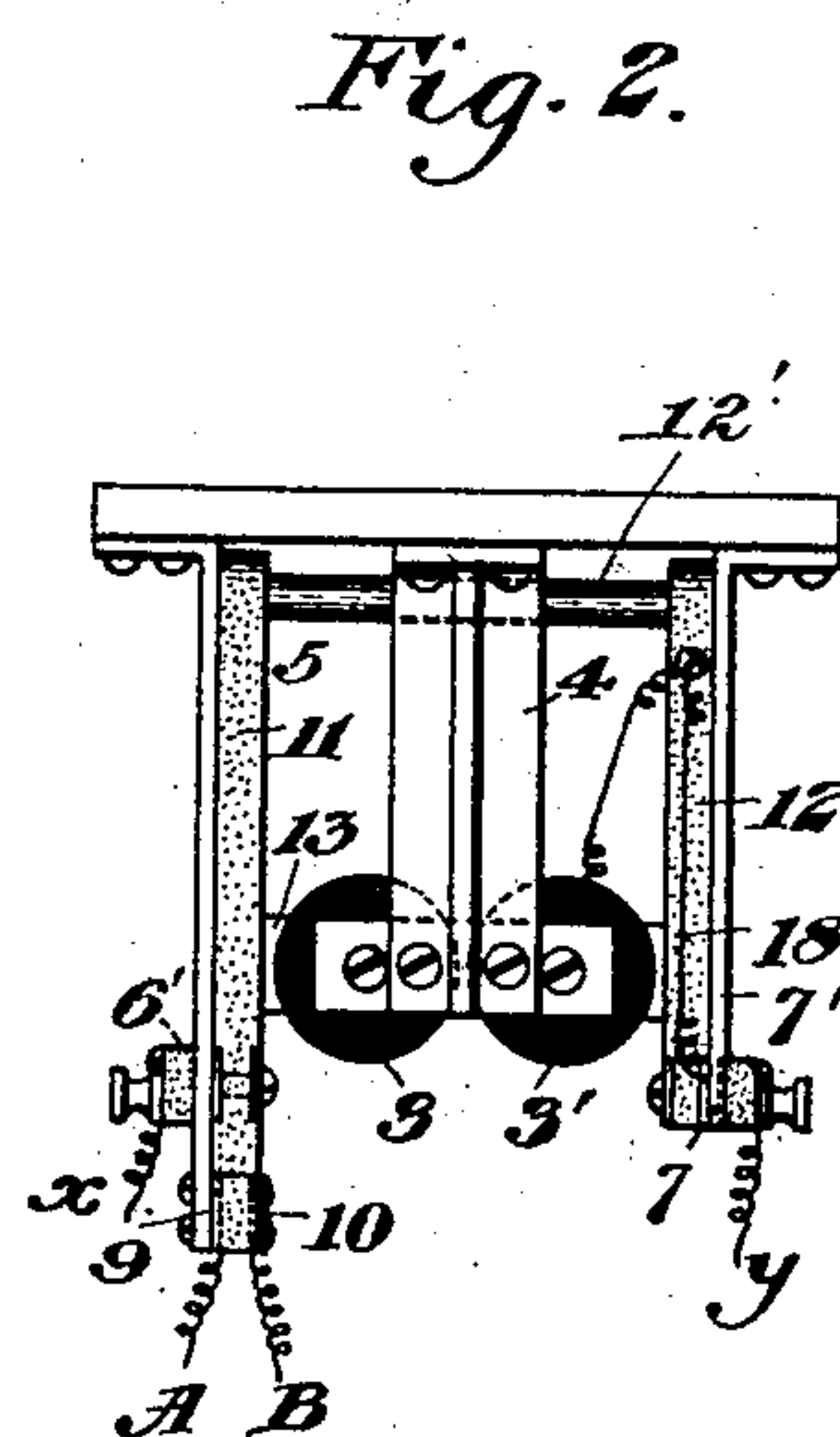
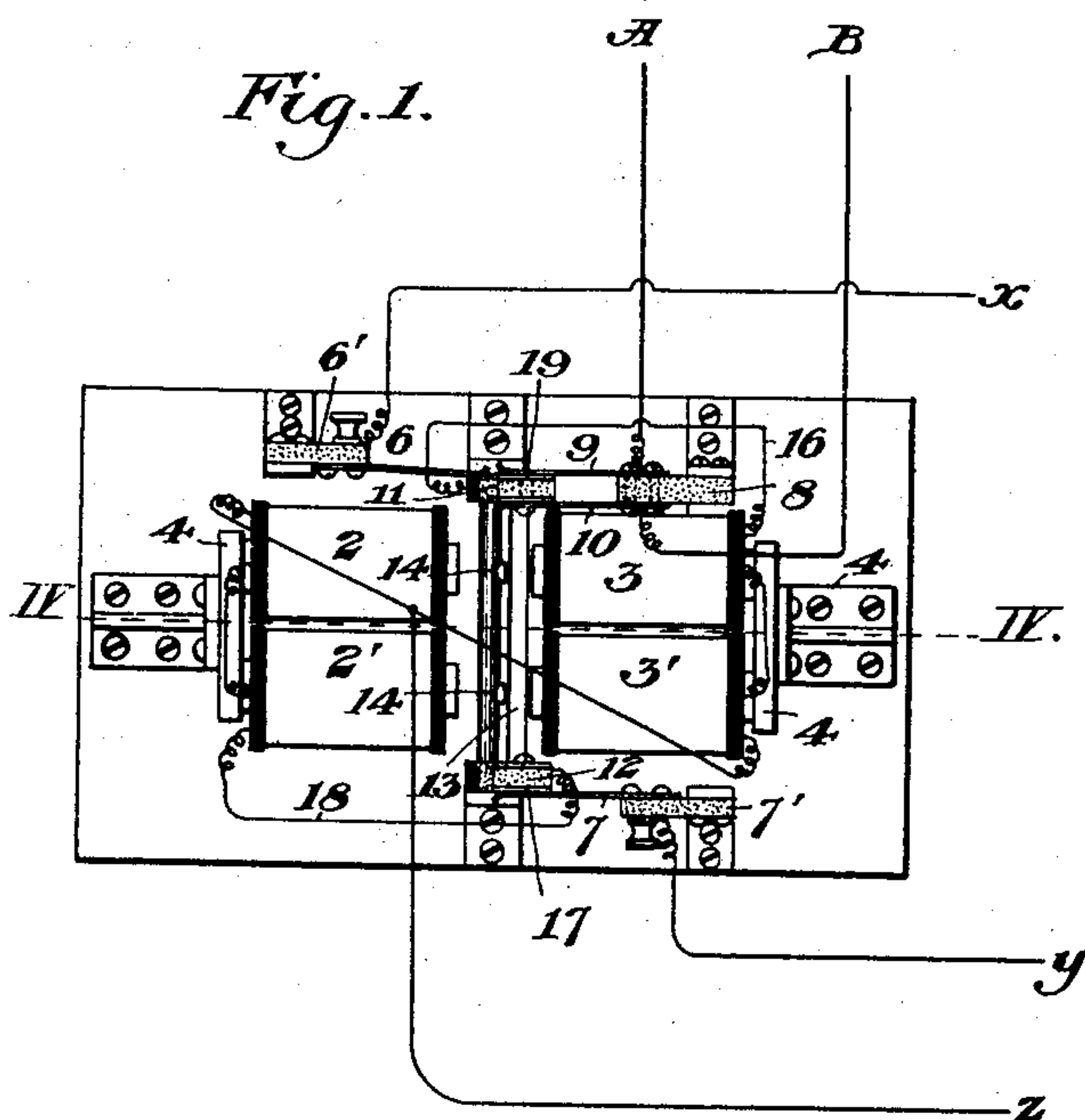


Fig. 3.

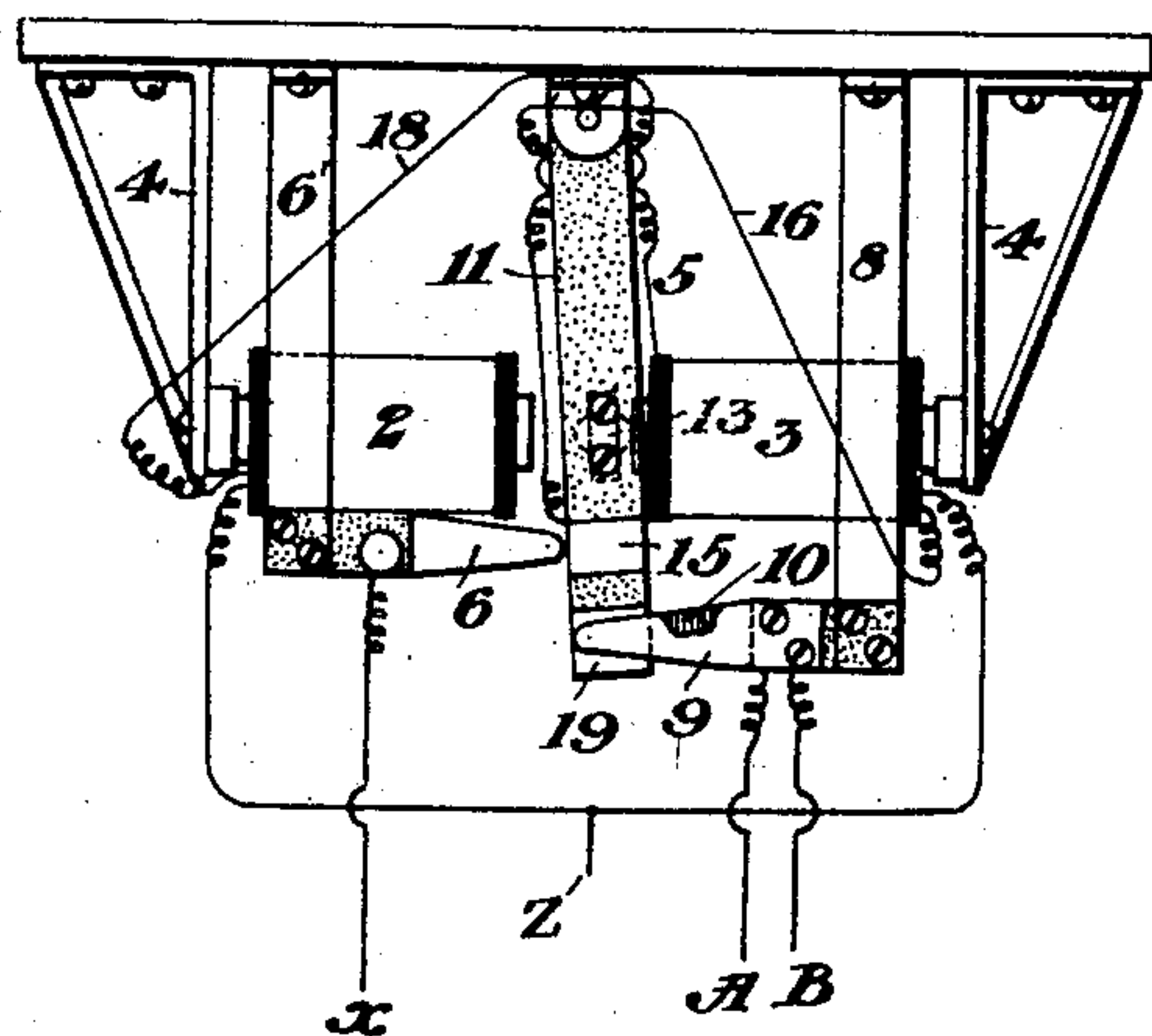
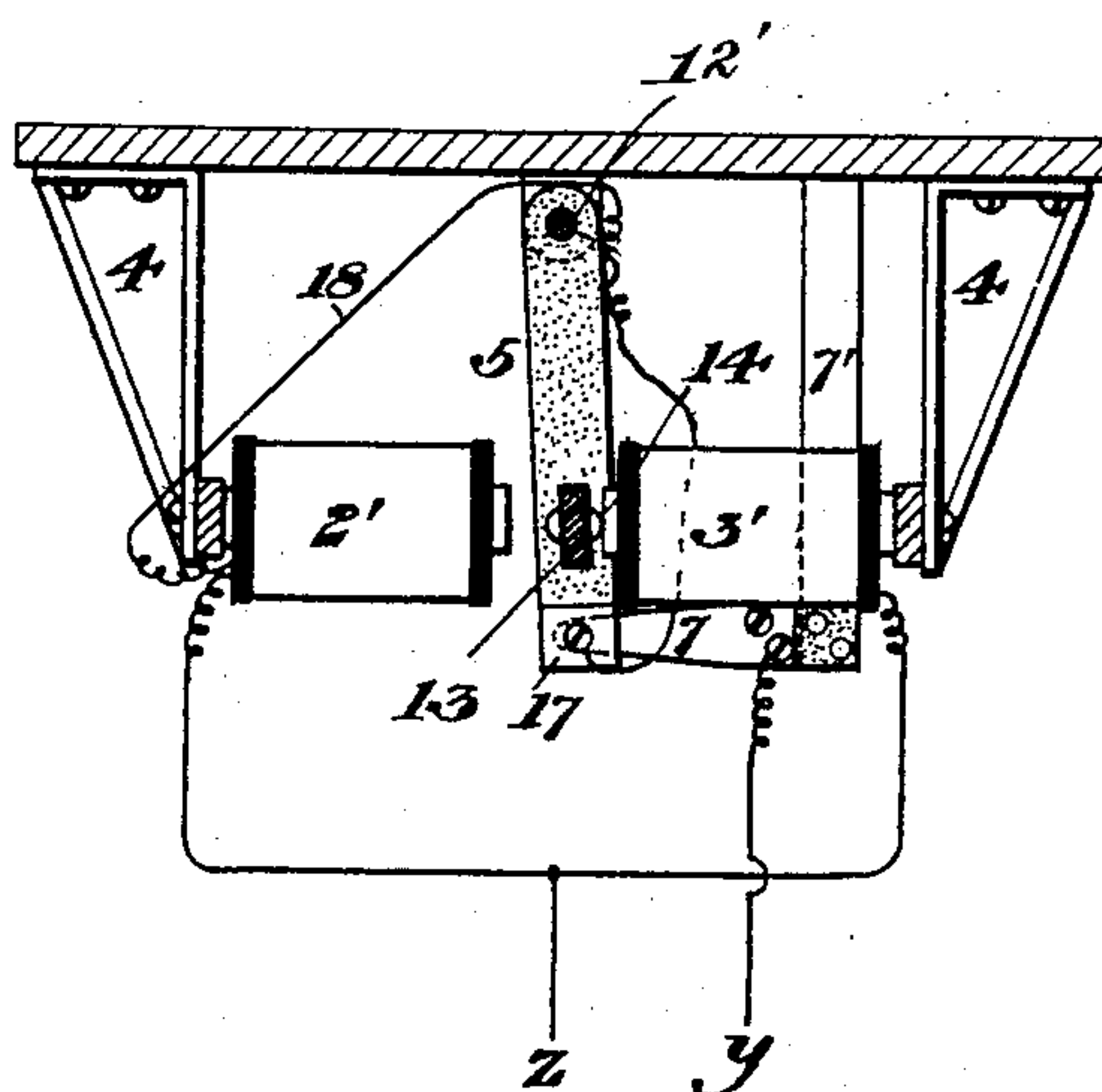


Fig. 4.



WITNESSES

L. A. Cunniff
Warren W. Swartz

INVENTOR

B. J. Foley
W. H. Kears & Kears
his attys.

No. 710,188.

Patented Sept. 30, 1902.

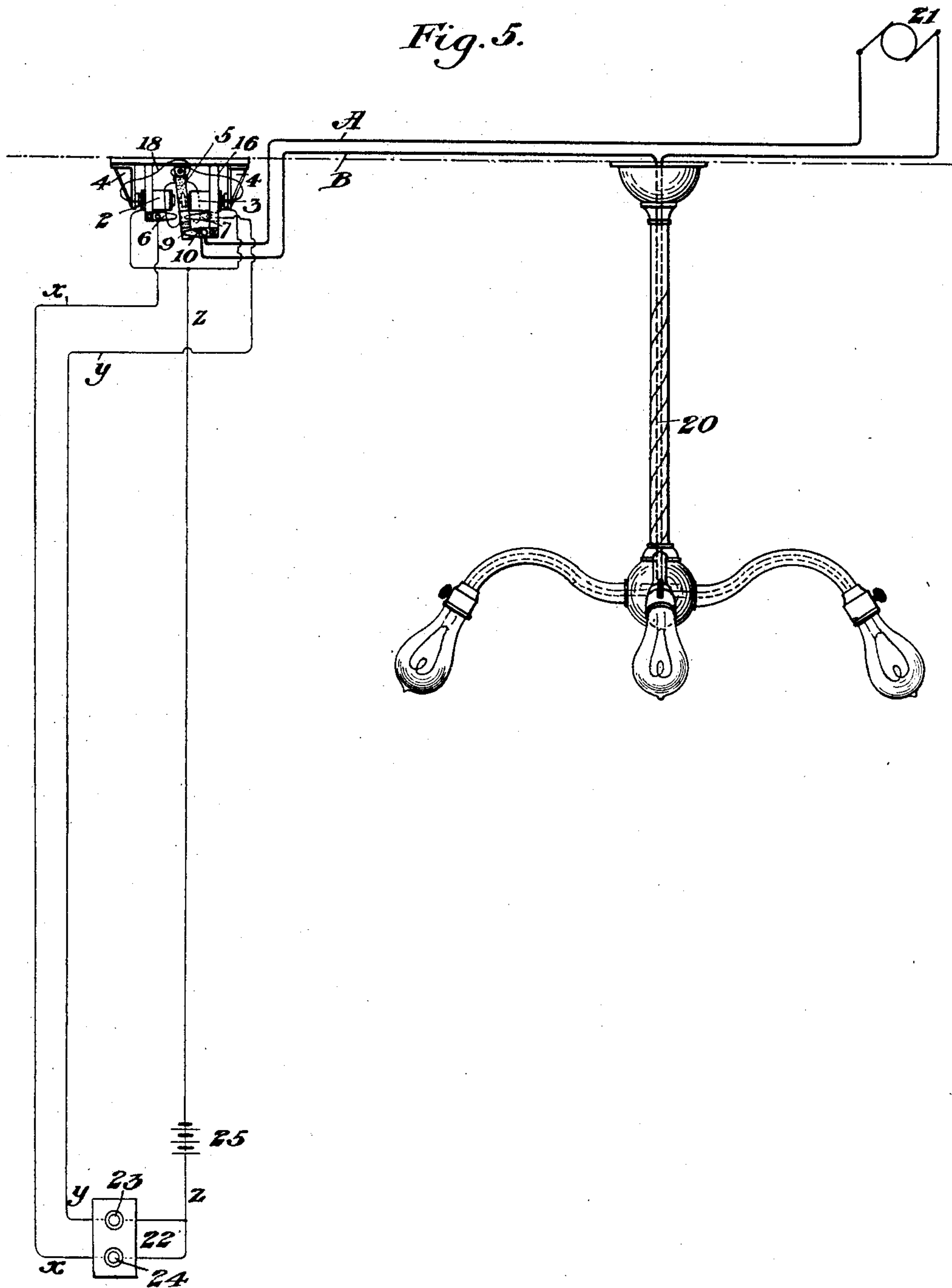
B. J. FOLEY.
ELECTRIC SWITCH.

(Application filed Sept. 22, 1900.)

(No Model.)

2 Sheets—Sheet 2.

Fig. 5.



WITNESSES

L. H. Brown
Warren W. Swartz

INVENTOR

B. J. Foley
by B. J. Foley & Co.
his attys.

UNITED STATES PATENT OFFICE.

BARTHOLOMEW J. FOLEY, OF PITTSBURG, PENNSYLVANIA.

ELECTRIC SWITCH.

SPECIFICATION forming part of Letters Patent No. 710,188, dated September 30, 1902.

Application filed September 22, 1900. Serial No. 30,847. (No model.)

To all whom it may concern:

Be it known that I, BARTHOLOMEW J. FOLEY, of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Electric Switches, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a bottom plan view of my improved switch. Fig. 2 is an end elevation thereof. Fig. 3 is a side view thereof. Fig. 4 is a longitudinal section on the line IV IV of Fig. 1, and Fig. 5 is a diagrammatic view showing my improved switch as applied to the lighting-circuit.

My invention relates to electric switches, and is designed to afford a construction whereby the circuit-breaker may be operated at a point distant from the main circuit; and it consists in the arrangement hereinafter more clearly set forth.

In the drawings, 2 2' and 3 3' are pairs of electromagnets of ordinary character mounted on standards 4 4 and set so as to alternately act upon rocking arm 5. 6 and 7, mounted on standards 6' and 7', are spring contact-terminals of wires x and y , respectively.

8 is a suitable standard upon which are oppositely mounted spring contact-terminals 9 and 10 of wires A and B, respectively. Rocking arm 5 is composed of uprights 11 and 12, mounted on pin 12' and having cross-bar 13 in line with the cores of the electromagnets and provided with steel or iron attraction-disks 14. On upright 11 I provide contact-plate 15, connected by wire 16 with magnet 3 3', and on upright 12 I provide plate 17, connected by wire 18 with the magnet 2 2'. The other ends of both magnet-windings are connected to a battery-wire z . At the lower end of upright 11, which I preferably elongate for that purpose, I place a conductor-plug 19, adapted to contact with springs 9 and 10.

In Fig. 5 I show diagrammatically the wire connections, and in which 20 is a light-fixture of conventional form. 21 is a dynamo supplying current by means of wires A and B. 22 is a two-way push-button of the ordinary open-circuit type having push-buttons 23 24, connected with battery 25 and with the switch,

as shown by bell-wires x and y and battery-wire z .

The operation is as follows: Current passing from the dynamo by wire A traverses spring 9, plug 19, spring 10, and thence to fixture 20 by wire B and returns to dynamo. Circuits xz and yz are normally open. If contact of wires y and z is made by pushing button 23, battery-current traverses wire y , spring-terminal 7, plate 17, wire 18, to coils 2 2', and thence returns by wire z , magnetizing the magnet-bars and causing arm 5 to be moved thereto, breaking the contact of springs 9 and 10 with plug 19, and thereby breaking the circuit A B. It will be seen that the passage of battery-current is but momentary, for as soon as arm 5 has approached magnets 2 2' circuit yz is broken by the breaking of contact of spring 7 with plate 17, and it is obvious that the circuit cannot be closed now by pushing button 23. If contact of wires x and z is now made by pushing button 24, battery-current traverses wire x , spring-terminal 6, plate 15, wire 16, to coils 3 3', and thence returns by wire z , magnetizing the magnet-bars 3 3' and causing arm 5 to be moved thereto, thereby forcing plug 19 between springs 9 and 10 and closing circuit A B. Circuit xz will now be open by reason of the non-contact of spring 6 with plate 15, which contact cannot be made by pushing button 24.

The advantages of my invention will be appreciated by those skilled in the art. It is simple in construction and effective in operation. Heretofore with wall-switches of the usual form for controlling electric currents in dwellings, &c., the entire current must pass through the said switch, wires of a capacity to carry the current being carried within the walls and partition, and, as is well known, there is the constant danger of fire arising therefrom. By the use of my invention this danger is greatly diminished, if not entirely removed, since the high-potential current is not carried to the wall-switch.

Changes may be made in the form, size, and arrangement of the parts without departing from my invention.

I claim—

1. An electric switch comprising a pair of electromagnets, an armature in position to be

attracted by either electromagnet alternately, a pair of contacts carried by said armature, a second pair of contacts in position to cooperate with the movable contacts, connections
5 from each contact of one pair to a source of current and from each contact of the other pair to one electromagnet, connections from the other ends of the electromagnet-windings to said source of current, and a contact make
10 and break for an independent circuit, controlled by said armature, substantially as described.

2. An electric switch comprising a pair of electromagnets, an armature movably arranged between said electromagnets, a pair of
15 contacts carried by said armature, a second pair of contacts in position to cooperate with the movable contacts, connections from each contact of one pair to a source of current and
20 from each contact of the other pair to one electromagnet, connections from the other ends of the electromagnet-windings to said

source of current, and a contact make and break for an independent circuit, controlled by said armature, substantially as described. 25

3. An electric switch comprising a pair of electromagnets, an armature arranged to oscillate between said electromagnets, a pair of contacts carried by said armature, a second pair of contacts in position to cooperate with
30 the movable contacts, connections from each contact of one pair to a source of current and from each contact of the other pair to one electromagnet, connections from the other ends of the electromagnet-windings to said
35 source of current, and a contact make and break for an independent circuit, controlled by said armature, substantially as described.

In testimony whereof I have hereunto set my hand.

BARTHOLOMEW J. FOLEY.

Witnesses:

G. I. HOLDSHIP,
L. M. REDMAN.