

No. 859,584.

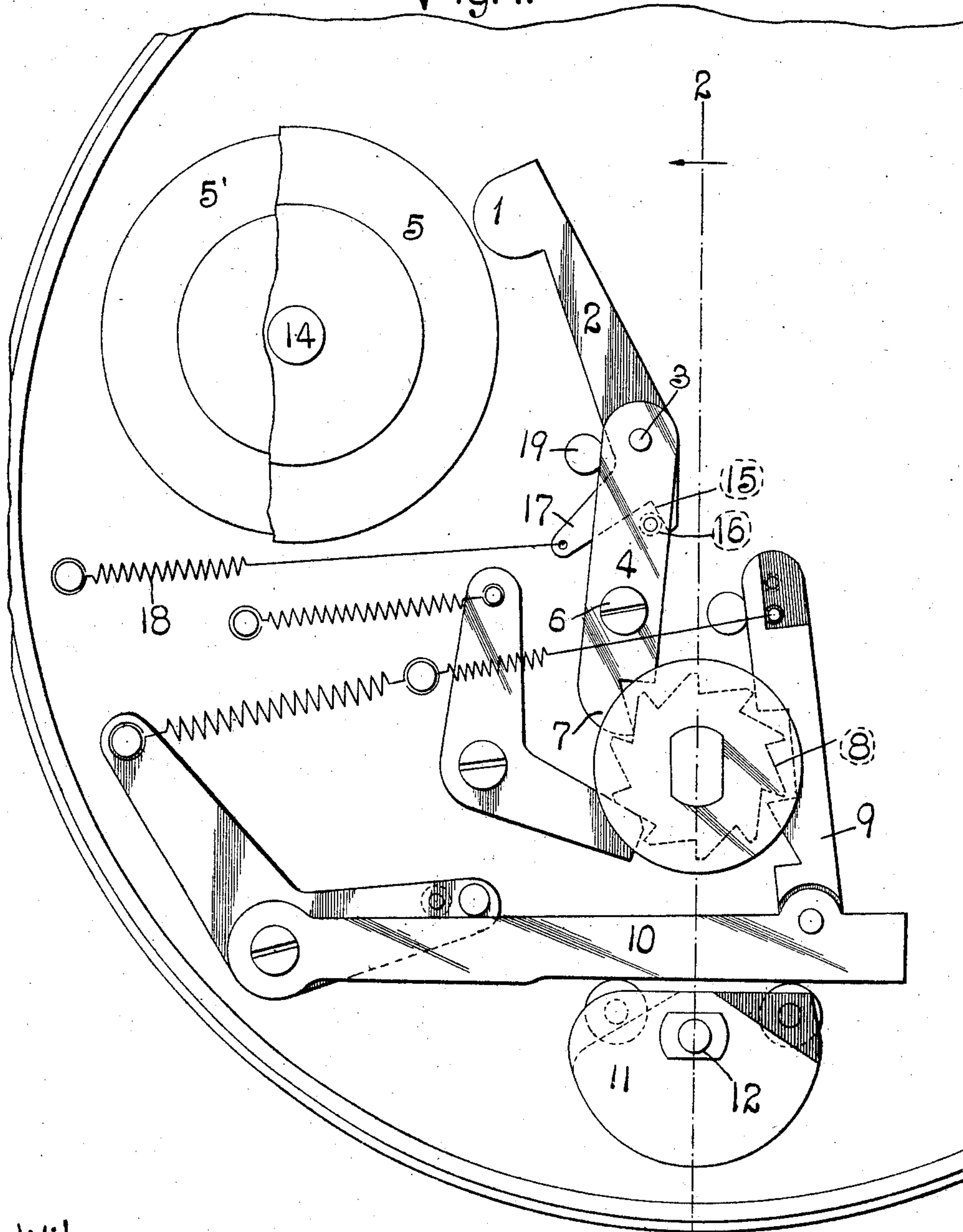
PATENTED JULY 9, 1907.

A. O. SCHMOLINSKI.
BELL RINGING MECHANISM.

APPLICATION FILED JAN. 28, 1907.

2 SHEETS—SHEET 1.

Fig. 1.



Witnesses

Edgar T. Farmer
Nels L. Church.

Inventor:
Adolph O. Schmolinski
by *W. Kewell Connally*
Atty's.

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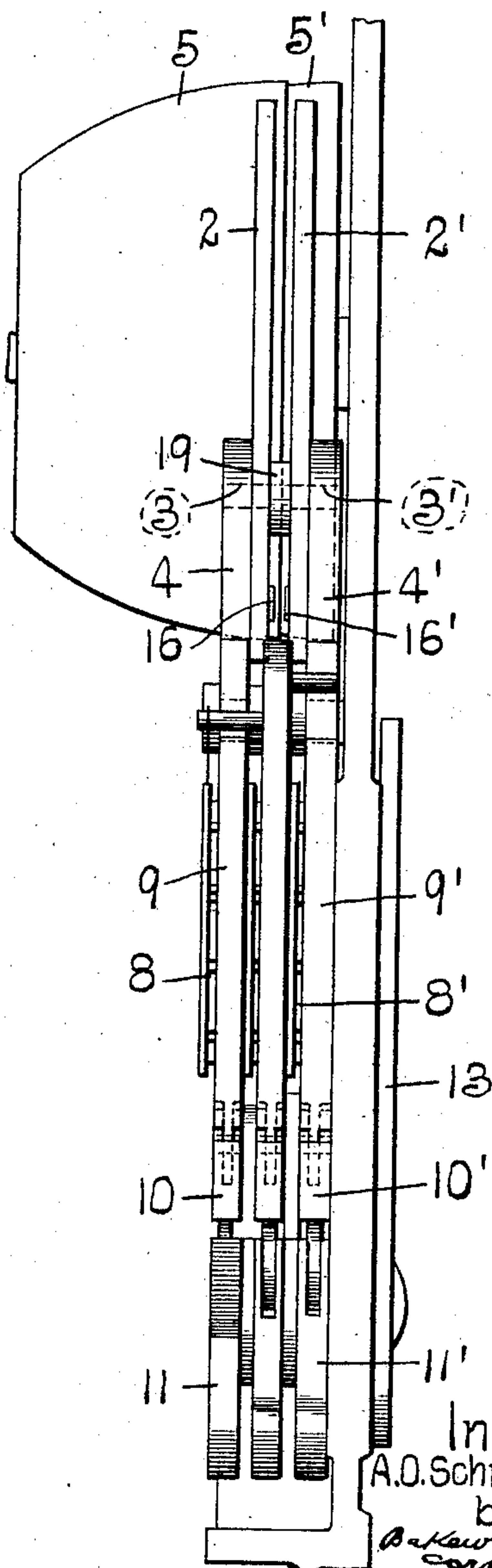
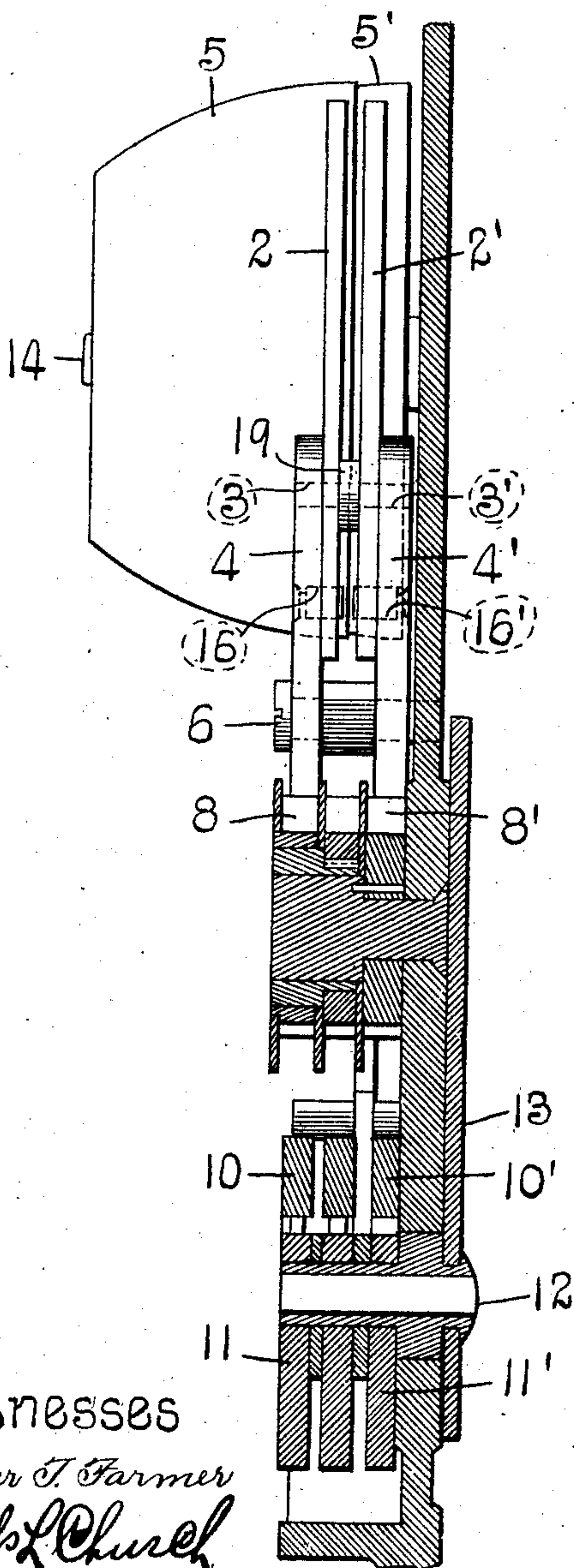
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2 SHEETS—SHEET 2.

Fig. 2.

Fig. 3.



Witnesses
Edgar T. Farmer
Wells L. Church

Inventor
A. O. Schmolski
by
B. K. H. & Co.
Corryville,
Ky.

UNITED STATES PATENT OFFICE.

ADOLPH O. SCHMOLINSKI, OF ST. LOUIS, MISSOURI, ASSIGNOR TO SECURITY REGISTER & MANUFACTURING COMPANY, OF ST. LOUIS, MISSOURI, A CORPORATION OF MISSOURI.

BELL-RINGING MECHANISM.

No. 859,584.

Specification of Letters Patent.

Patented July 9, 1907.

Original application filed May 31, 1906, Serial No. 319,616. Divided and this application filed January 28, 1907. Serial No. 354,487.

To all whom it may concern:

Be it known that I, ADOLPH O. SCHMOLINSKI, a citizen of the United States, residing at St. Louis, Missouri, have invented a certain new and useful Improvement in Bell-Ringing Mechanism, of which the following is a full, clear, and exact description, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a front elevation of my improved bell-ringing mechanism; Fig. 2 is a vertical sectional view taken on the line 2—2 of Fig. 1 looking in the direction of the arrow; and Fig. 3 is a side elevation of the mechanism shown in Fig. 1.

This invention relates to fare registers and particularly to that kind which are used in street cars for registering different classes of fares such, for example, as cash fares and transfers.

The object of my invention is to provide a bell-ringing mechanism which is so constructed that it will be impossible to ring the bell without first registering a fare.

Prior to my invention fare registers have been in use in which the bell-ringing mechanisms consisted of a lever carrying a spring arm that was provided at its outer end with a bell hammer, and means for actuating said lever comprising a ratchet wheel that engaged the lower end of the lever. The ratchet wheel formed part of the mechanism for registering the fares and was rotated each time a fare was registered, thereby causing the lever to be actuated for moving the bell hammer away from the bell, said lever being moved toward the bell to cause the hammer to strike the bell, by means of a spring. The objection to a bell-ringing mechanism of this description was that it was possible to ring the bell without first registering a fare due to the fact that the ratchet wheel could be rotated slightly without causing a fare to be registered and this movement of the ratchet was sufficient to cause the bell hammer to move away from the bell. By permitting the ratchet to return to its original position the actuating spring for the lever would draw said lever toward the bell and the momentum of the lever on its return stroke would cause the spring arm to yield and thus move close enough to the bell to cause the hammer to strike the bell.

My improved bell-ringing mechanism overcomes this objectionable feature and consists of a hammer 1 at the outer end of an arm 2 which is pivotally connected at 3 to the actuating lever 4, said hammer co-operating with a bell 5 shown in Fig. 1. The lever 4 is mounted

on a stud 6 and is provided at its lower end with a tooth 7 that co-operates with the teeth on a ratchet wheel 8 which forms part of the mechanism for registering the fares. I have shown only that part of the fare-registering mechanism which is employed for actuating the ratchet wheel 8 and which consists of a rack bar 9 carried by a lever 10 that is actuated by a cam 11 arranged underneath same, said cam being secured to a shaft 12 provided at its rear end with an arm 13 that is operated by suitable mechanism, as shown in my pending application Serial No. 319,616, filed May 31, 1906, of which this present application is a division.

I have herein shown my bell-ringing mechanism as comprising two bells 5 and 5', one for indicating that a fare of one class has been registered, and the other for indicating that a fare of a different class has been registered, these bells being nested together and mounted on a stud 14. A hammer co-operates with the bell 5' and said hammer is mounted on an arm 2' that is constructed and actuated in the same manner as the arm 2, the mechanism for actuating the arm 2' being indicated by the same reference character with a prime mark added, that is used for indicating the mechanism which actuates the arm 2.

The arm 2 is provided at its lower end with a shoulder 15 that bears against a pin 16 on the lever 4 and with an extension 17 to which one end of a spring 18 is connected, said spring operating to hold the shoulder 15 on said arm normally in engagement with the pin on lever 4 and thus hold the hammer 1 out of contact with the bell 5. A rigid stop 19 is provided for controlling the forward movement of the lever 4.

In operation, whenever the ratchet wheel 8 is rotated the lever 4 will be oscillated and thus cause the hammer 1 to move away from the bell 5. If the ratchet is rotated far enough to cause the tooth 7 on lever 4 to drop into the next tooth of the ratchet wheel the spring 18 will return said lever to normal position. As the lever comes against the stop 19 with great force, the hammer, which, as previously stated, is pivotally connected to the upper end of said lever, will be thrown forwardly and strike the bell, thus indicating that a fare has been rung up.

With a mechanism of this description it is impossible to ring the bell without rotating the ratchet far enough to cause the tooth on the lever 4 to drop from one tooth of the ratchet into the adjacent tooth for if the ratchet is rotated only a slight distance and then returned to its original position, the lever 4 will not be thrown against the stop 19 with enough force to cause the hammer arm 2 to swing on its pivot 3 and thus cause the hammer to strike the bell.

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

1. A bell-ringing mechanism comprising a bell, a lever, a rigid arm pivotally connected to said lever and provided with a bell hammer, said arm being provided with a shoulder, a stop on the lever adapted to co-operate with said shoulder for controlling the position of said arm relatively to the lever, means for actuating the lever to move the hammer away from the bell, yielding means for holding the shoulder on the hammer arm in engagement with its stop and for moving the lever toward the bell, and a device for arresting the return movement of the lever; substantially as described.

2. A bell-ringing mechanism comprising a bell, a lever, an arm pivotally connected to the outer end of said lever and provided with a bell hammer, a shoulder on said arm below its pivot, a stop on the lever with which said shoulder co-operates, a projection at the lower end of the hammer arm, a coiled spring connected to said projection, means co-operating with the lower end of the lever for

actuating it to place said coiled spring under tension, and a rigid stop for determining the normal position of the lever; substantially as described.

3. A bell-ringing mechanism comprising a plurality of bells nested together, a plurality of levers, each of which has a rigid bell hammer pivotally mounted thereon, ratchet wheels co-operating with the lower ends of said levers, means for turning said ratchet wheels independently to cause the bell hammers to move away from their co-operating bells, yielding means for returning the levers to normal position, and rigid stops for suddenly arresting the levers on their return movement; substantially as described.

In testimony whereof I hereunto affix my signature in the presence of two witnesses, this 27th day of October 1906.

ADOLPH O. SCHMOLINSKI.

Witnesses:

WELLS L. CHURCH,
GEORGE BAKEWELL.