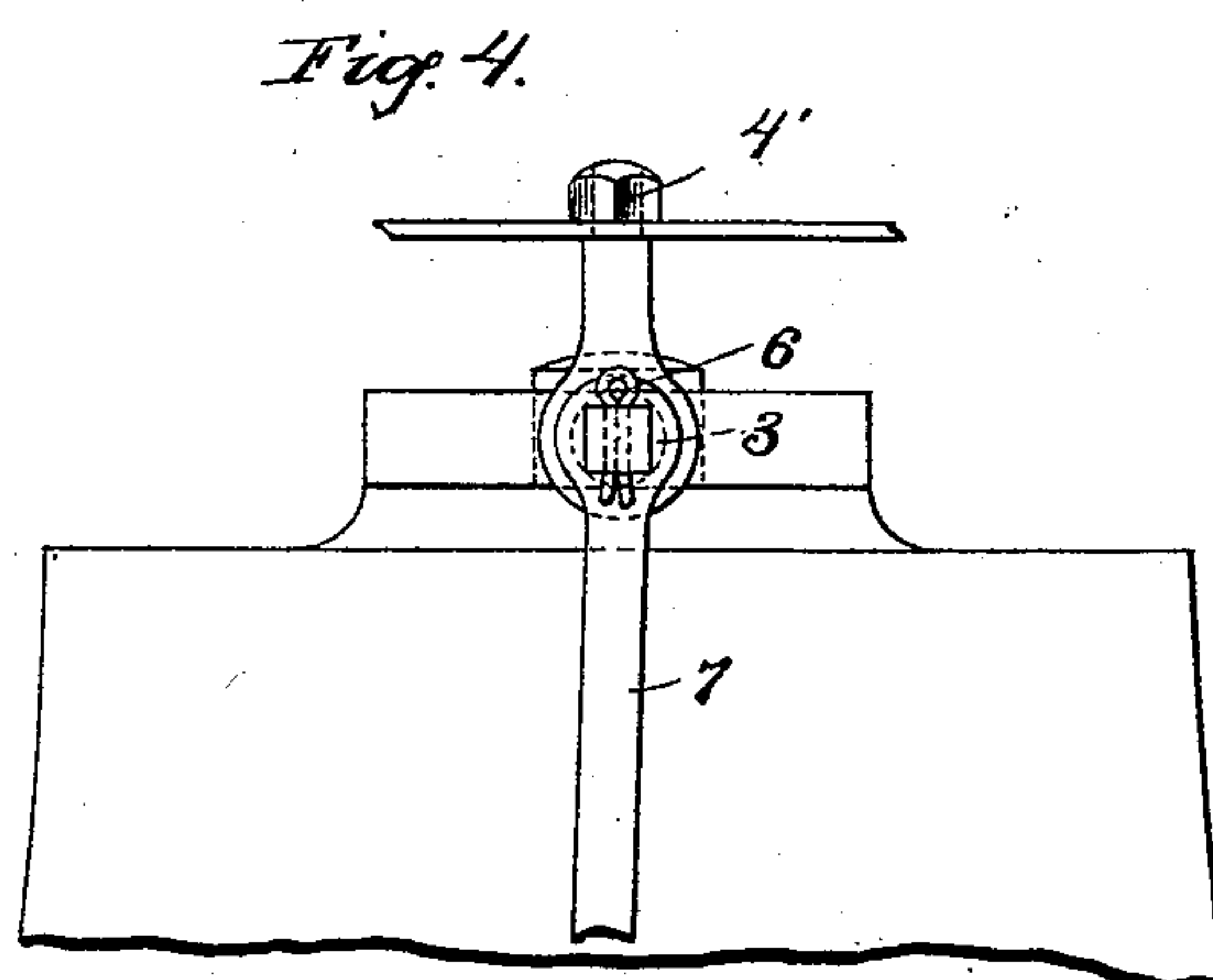
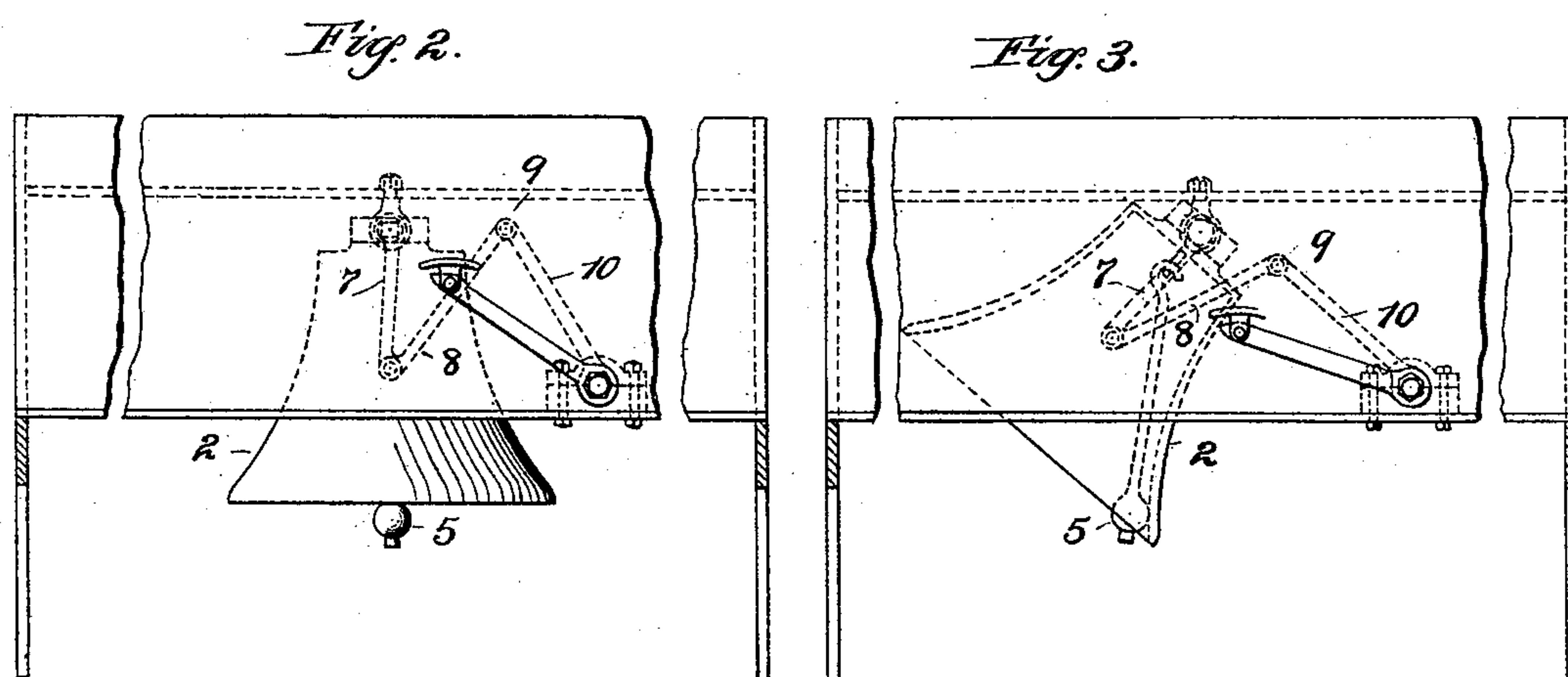
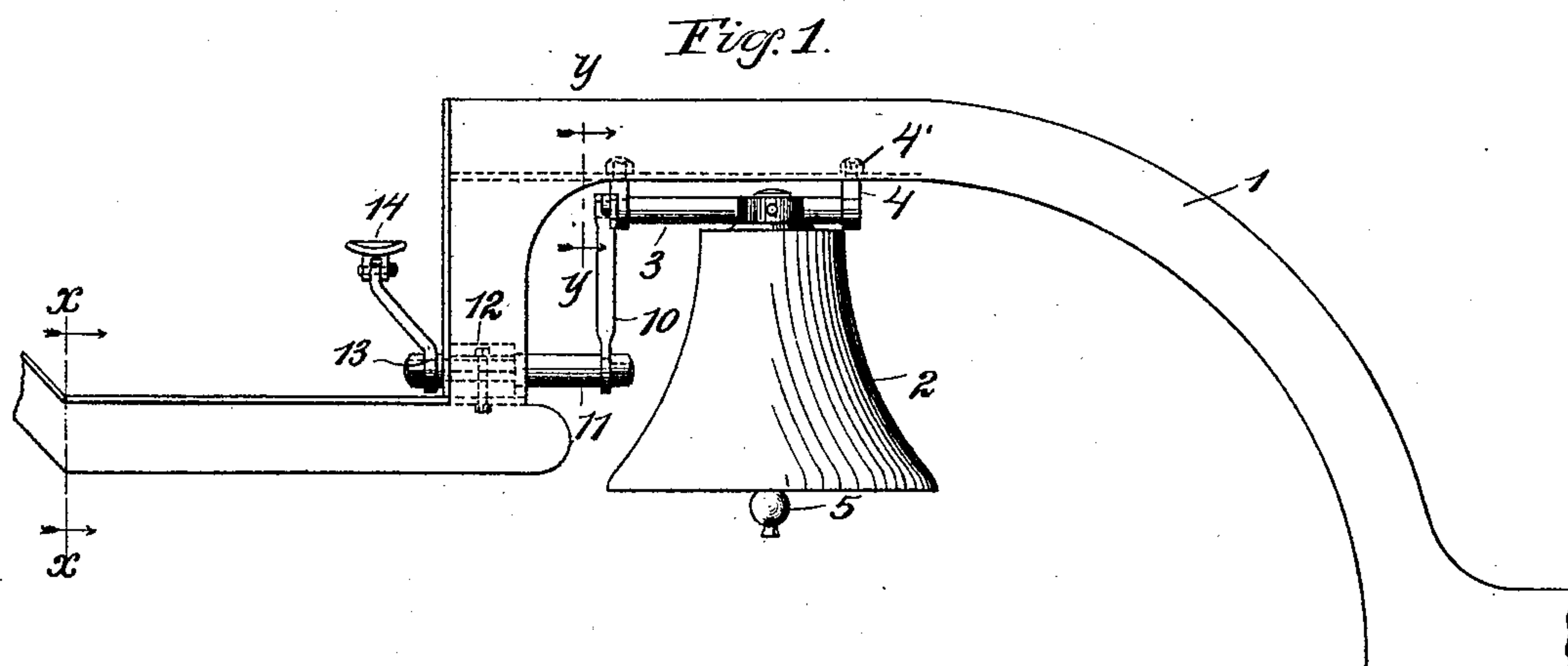


(No Model.)

A. BRUEGGER.
ALARM BELL.

No. 500,187.

Patented June 27, 1893.



Witnesses.
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O. J. Keegin

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UNITED STATES PATENT OFFICE.

ABRAHAM BRUEGGER, OF MUSKEGON, MICHIGAN, ASSIGNOR TO THE
MUSKEGON CHEMICAL FIRE ENGINE COMPANY, OF SAME PLACE.

ALARM-BELL.

SPECIFICATION forming part of Letters Patent No. 500,187, dated June 27, 1893.

Application filed October 29, 1892. Serial No. 450,382. (No model.)

To all whom it may concern:

Be it known that I, ABRAHAM BRUEGGER, a citizen of the United States, residing at Muskegon, in the county of Muskegon and State of Michigan, have invented certain new and useful Improvements in Signal-Alarm Bells; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to mechanism for operating signal alarm bells, and particularly to that class which is adapted by reason of the marked characteristics of the tone produced for use on fire-engines, and other vehicles, and consists in the construction and arrangement of parts which will be hereinafter more fully described, and particularly pointed out in the claims. In alarm bells of this class, it is necessary that the sound produced by the ringing of the bell shall be distinguishable from all other sounds whatsoever, so that full warning may be given of the approach of the engine. This distinction of sound is produced quite as much by the mode of ringing the bell, as by the quality of the sound produced. To secure the desired result, a perfectly regular and uniform ringing of the bell is necessary.

Hitherto it has been the custom to place the bell on the top of the fire-engine, and to ring the same by having an attendant pull on a cord attached to the bell. In some types of fire-engines, however, it is undesirable to thus place the bell on the engine, as it interferes with the working of other apparatus, and besides it is desirable to have the bells so placed that it can be operated by pressure with the foot.

The object of my invention is to so mount the bell that it can be swung under the frame of the fire-engine, if desired, and to provide such mechanism that it can be rung by the pressure of the foot on a pedal, suitably arranged. This object I accomplish by swinging the bell on a shaft, suspended preferably under the frame work of the engine back of the driver's seat, and by attaching to said shaft a vertical arm, the free end of which is connected by means of a toggle joint with

a rock shaft, actuated by a treadle placed in front of the driver's seat.

My invention is fully illustrated in the accompanying drawings forming a part of this application, in which the same reference numerals indicate the same or corresponding parts, and in which—

Figure 1 is a side view of a portion of the frame of a fire engine, showing the alarm bell in position. Fig. 2 is a view taken on the line $x x$ Fig. 1, and looking in the direction of the arrow, showing in dotted lines the position and arrangement of the various parts of the operative mechanism, the bell being at rest. Fig. 3 is a similar view, showing the parts in the position they assume when the bell is in motion. Fig. 4 is a view taken on the line $y y$ Fig. 1, looking in the direction of the arrow, showing the mode of connecting the vertical rod to the bell shaft.

Referring to the drawings, 1 represents the front portion of the frame of a fire engine.

2 represents the bell, provided with the clapper 5, which may be hung in any suitable and well-known manner upon the shaft 3, which shaft is journaled in the supports 4, said supports being held in position by the bolts 4'. The bell may be of any suitable size and shape, and may have any desired tone. It may also be hung in any suitable position, the position shown being as it is generally not occupied with other apparatus, and being convenient of access. To one end of the bell shaft 4, is rigidly secured the vertical rod 7, whose free end is connected to one arm 8 of the toggle joint 9, the other arm 10 of said joint being rigidly secured to one end of the rock-shaft 11. The key 6 holds the arm 7 from slipping on said bell shaft. The rock shaft 11 is journaled in a suitable manner at 12, and extends through the portion of the frame of the engine directly under the driver's seat. On the end of shaft 11 which projects in front of the driver's seat is secured the pedal 13, to the upper end of which is pivotally secured the foot rest 14.

In the operation of the device, when the treadle 13 is depressed, the rock shaft 11 is turned, and with it arm 10 of the toggle joint 9. The arms of the toggle joint are loosely secured together, and since arm 8 is attached

to arm 10, which is rigidly secured to a revoluble shaft, when arm 10 of the toggle joint is turned, it causes the arms of the toggle joint to be straightened out, and the bell shaft 5 3 to be partially revolved, thus bringing the parts of the mechanism in the position shown in Fig. 3, and causing the side of the bell to hit the clapper. As the treadle 13 is moved up and down, a steady and uniform ringing 10 of the bell is produced, the motion of the various parts of the mechanism being very easy, and but little force being required to cause such motion.

It is obvious that the position or location 15 of the bell on the engine or vehicle may be varied, and that changes in the position and arrangement of the various parts of my bell-ringing mechanism may be made without departing from the spirit or scope of my invention, and I claim all such modifications. 20

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

1. In a bell ringing apparatus, the combination with a revoluble support for the bell,

of a depending arm rigidly secured to such support, a toggle joint one arm of which is pivotally secured to said depending arm, and the other rigidly secured to a rock-shaft, and a lever for operating the said rock-shaft, substantially as described. 25 30

2. In a bell ringing apparatus, the combination with a suitable support, of a bell secured to a revoluble shaft journaled in or to such support, a depending arm 7 rigidly secured to such support, a toggle joint consisting of the arms 8 and 10, the arm 8 being pivotally attached to the end of said depending arm, and the arm 10 rigidly secured to a suitably-journaled rock shaft, and a lever for operating said rock-shaft, substantially as described. 35 40

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

ABRAHAM BRUEGGER.

Witnesses:

WILLIAM A. GLEW,
N. J. BROWN.