

C. A. PFANSTIEHL.
VIBRATOR.
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964,312.

Patented July 12, 1910.

Fig. 1.

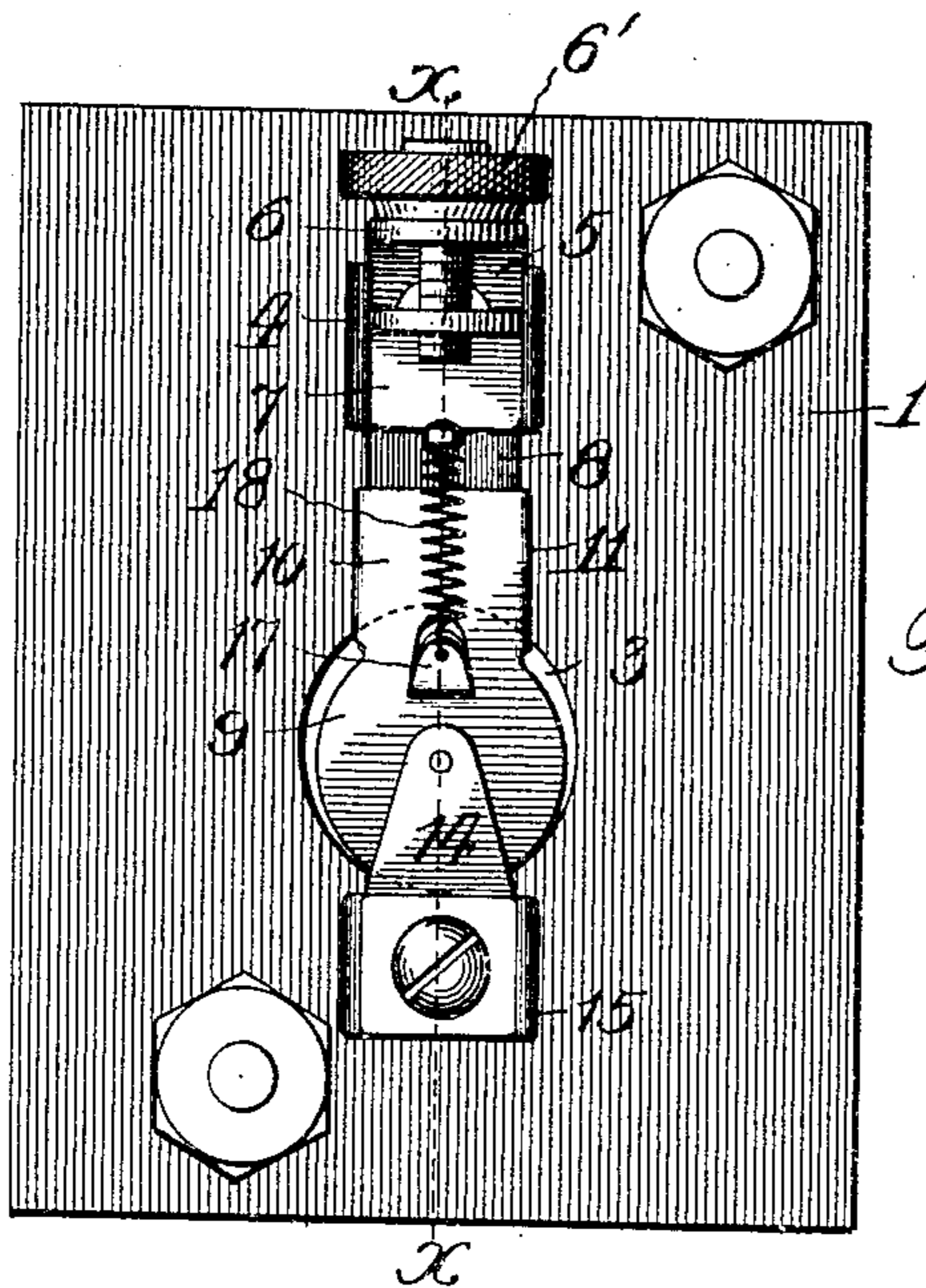


Fig. 2.

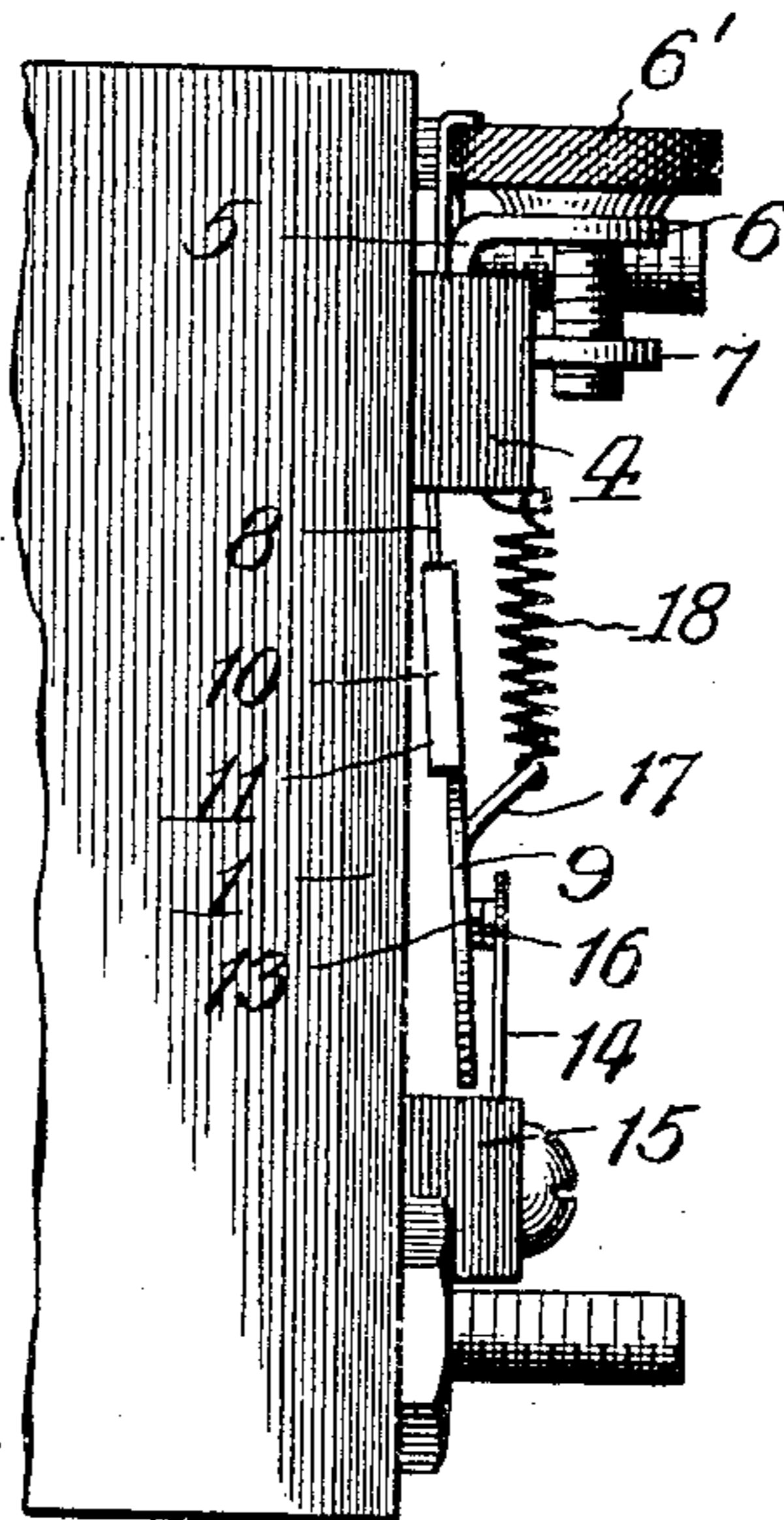


Fig. 3.

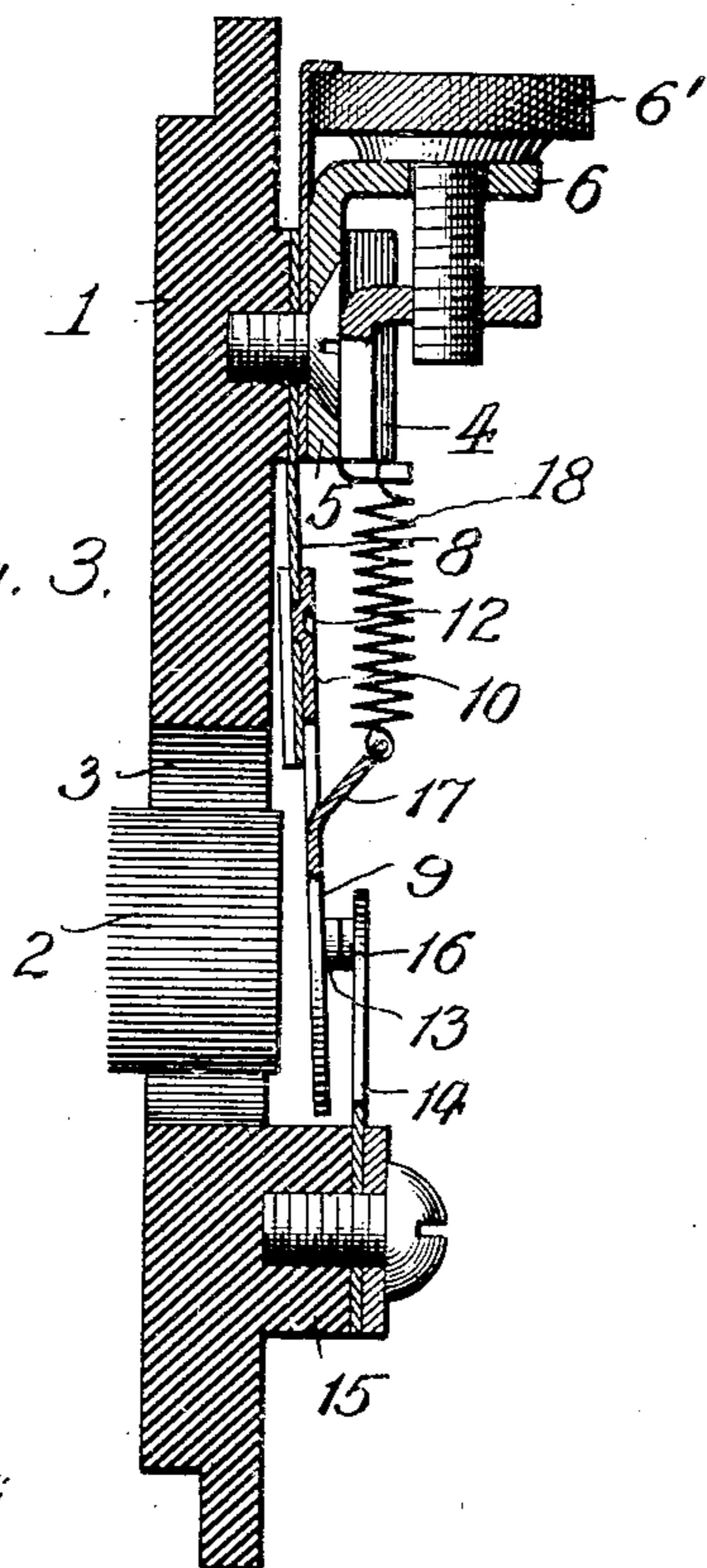


Fig. 4.

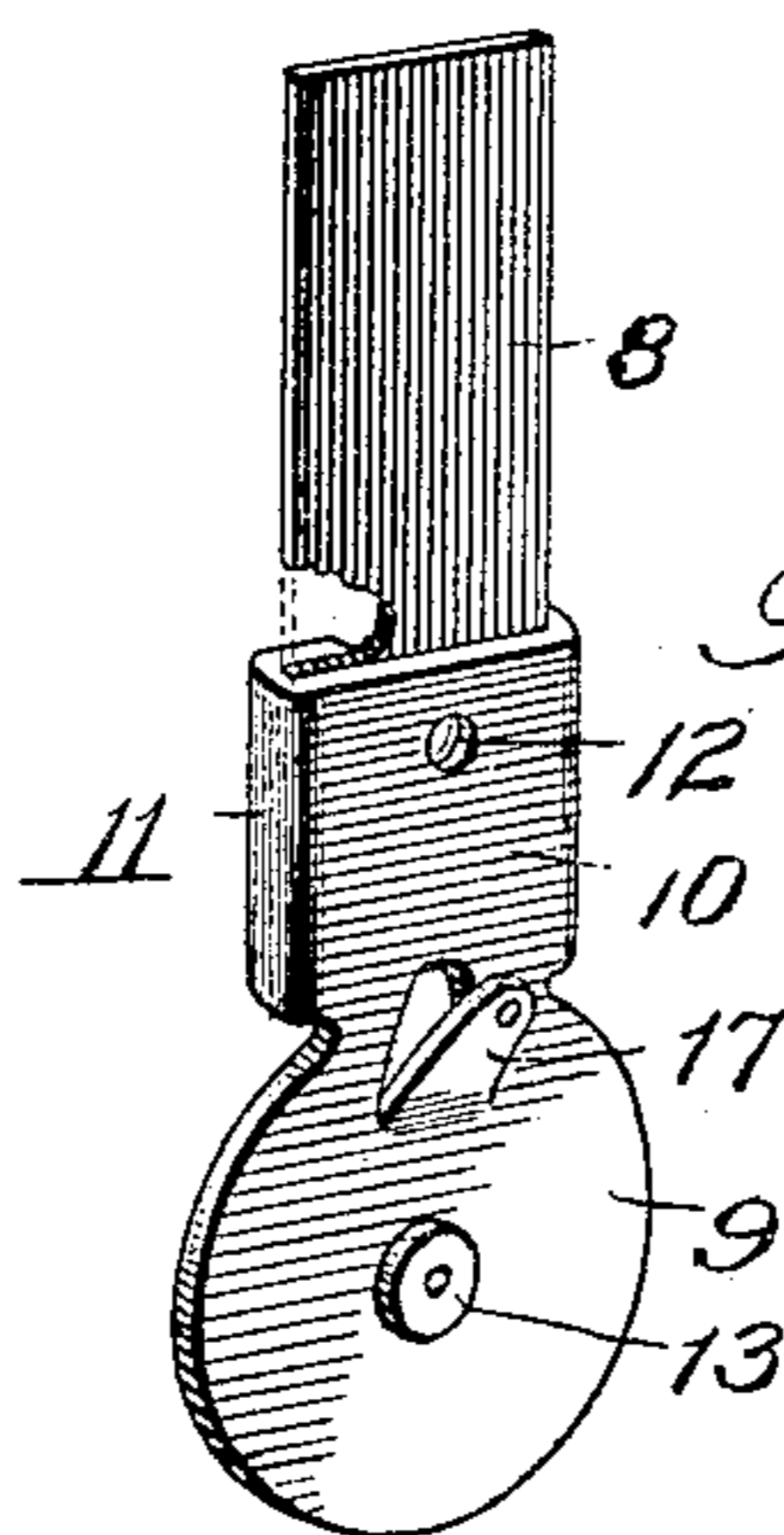
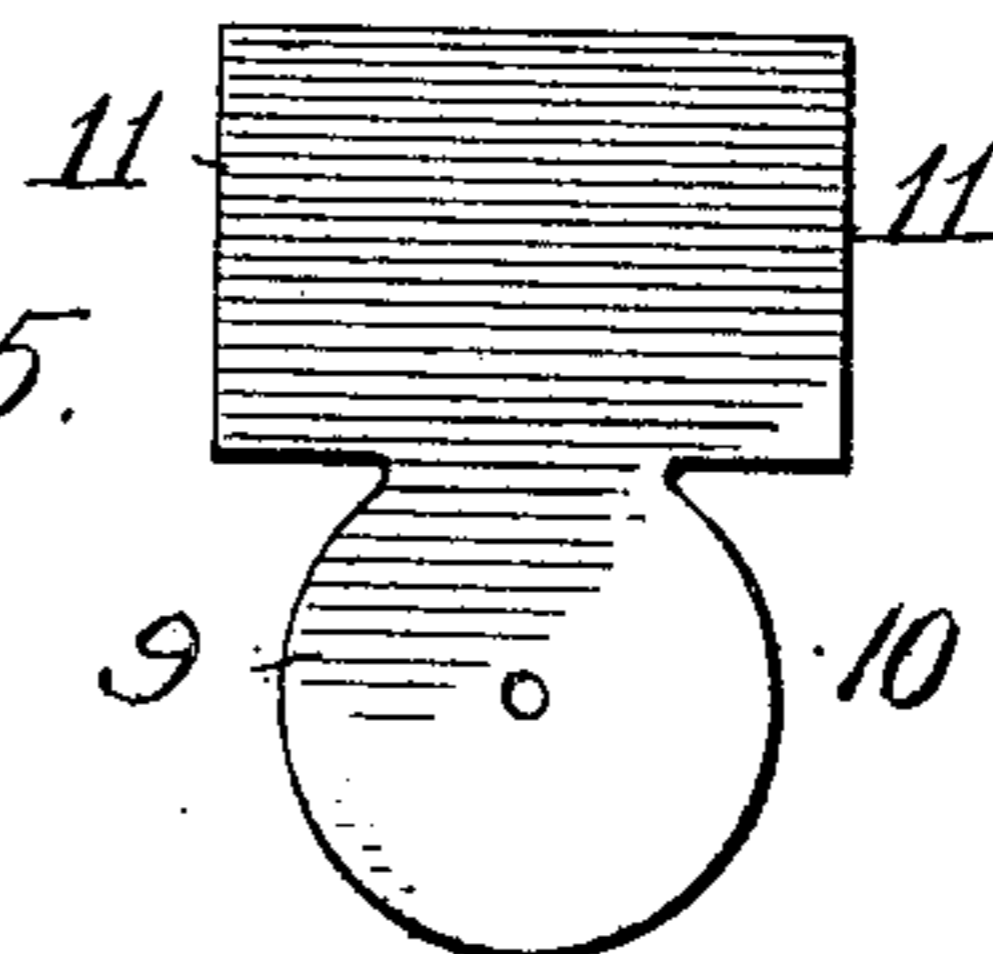


Fig. 5.



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UNITED STATES PATENT OFFICE.

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VIBRATOR.

964,312.

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To all whom it may concern:

Be it known that I, CARL A. PFANSTIEHL, a citizen of the United States of America, and a resident of Highland Park, in the
5 county of Lake and State of Illinois, have invented certain new and useful Improvements in Vibrators, of which the following is a specification.

This invention relates to that class of current interrupters for induction coils and the like, in which a vibratory armature or hammer is actuated by the core of the coil to effect the desired frequency interruptions of the circuit. And the present improvement
15 has for its object to provide a simple and efficient structural formation and combination of parts, with which great economy in manufacture is attained, all as will hereinafter more fully appear.

In the accompanying drawings: Figure 1, is a front elevation. Fig. 2, is a side elevation. Fig. 3, is an enlarged vertical section on line $x-x$, Fig. 1. Fig. 4, is a perspective view of the vibratory reed and
25 armature. Fig. 5, is a similar view of the blank from which the armature is formed.

Similar numerals of reference indicate like parts in the several views.

Referring to the drawings, 1 represents
30 the base upon which the vibrator mechanism is mounted, which base will ordinarily be the end closure head of a spark-coil, with the core 2 of said coil projecting into an orifice 3, in said head as shown to constitute
35 the usual fixed anvil of the vibrator.

4 are saddle lugs carried by the base 1, and between which is fixedly secured the bracket member 5, having an upper out-turned flange 6, which forms the bearing for
40 the tension adjusting screw hereinafter described. Said saddle lugs also constitute guides for the sliding plate 7, which is formed at one end with an outturned flange having operative connection with the above
45 mentioned tension adjusting screw, and at the other end is provided with a central lug for connection to one end of the tension spring hereinafter described.

6' is the adjusting thumb screw above referred to and having bearings in the out-turned flanges of the parts 5 and 7 to effect an adjustment of the part or plate 7.

8 is a resilient tongue or reed secured between the lugs 4, and beneath the bracket
55 member 5, aforesaid, by the attaching screw

which secures said bracket member to the base 1, as shown. The lower end of said reed is free to vibrate and carries an armature or hammer as follows:—

9 is the armature or hammer above referred to, and which is formed of wrought metal and has a main portion arranged in adjacent relation to the coil core 2, aforesaid.

10 is an extension of said armature formed with side wings 11 which are adapted to be folded around the free end of the tongue or reed 8 aforesaid to connect the parts together. The connection is further insured by an inset 12 of the metal of said extension into an orifice formed therefor in the tongue or reed 8, as shown in Fig. 3.

13 is a hammer head carried centrally on the main portion of the armature 9 aforesaid.

14 is an overhanging plate secured at one end to a bracket post 15 on the base 1, with its overhanging portion in spaced and parallel relation to the adjacent end of the coil 2, as shown. Said plate is provided with an anvil head 16 adapted to receive the impact of the hammer 13 of the armature in the vibration of the same between the coil core 2 and the plate 14, in the operation of the mechanism.

17 is an out-turned ear formed midway the length of the armature 9 aforesaid, and adapted for connection to the end of a tension spring 18, heretofore referred to. The spring 18 extends in substantially parallel relation to the tongue or reed 8, and by its attachment to the adjustable plate 7 is adapted to have its tension regulated by an adjustment of said plate 7, through the instrumentality of the adjusting screw 6' aforesaid, to vary the frequency of the vibrations of the armature and the consequent frequency interruptions of the circuit.

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

1. In a vibrator the combination of a base, a bracket post on said base, an overhanging stationary anvil plate secured to said post, a vibratory reed secured to the base, an armature secured to the free end of said reed and provided with an out-turned ear, a plate having a sliding adjustment on the base, a screw for adjusting said

plate, and a tension spring arranged in substantially parallel relation to the reed and secured at one end to the sliding plate and at the other end to the aforesaid ear of the
5 armature, substantially as set forth.

2. In a vibrator, the combination of a base, a bracket post on said base, an overhanging stationary anvil plate secured to said post, a vibratory reed secured to the
10 base, saddle lugs on the base for holding the reed in place, an armature secured to the free end of said reed and provided with an out-turned ear, a sliding plate moving between the aforesaid saddle lugs, a screw for
15 adjusting said plate, and a tension spring arranged in substantially parallel relation to the reed and secured at one end to the sliding plate and at the other end to the aforesaid ear of the armature, substantially
20 as set forth.

3. In a vibrator, the combination of a base, a bracket post on said base, an overhanging stationary anvil plate secured to said post, a vibratory reed secured to the
25 base, saddle lugs on the base for holding the reed in place, an armature secured to the free end of said reed and provided with an out-turned ear, a fixed bracket member secured between the saddle lugs aforesaid, a
30 screw passing through the fixed bracket

member and having operative engagement with the aforesaid sliding plate, and a tension spring arranged in substantially parallel relation to the reed and secured at one
end to the sliding plate and at the other 35 end to the aforesaid ear of the armature, substantially as set forth.

4. In a vibrator, the combination of a base, a bracket post on said base, an overhanging stationary anvil plate secured to
40 said post, a vibratory reed secured to the base, saddle lugs on the base for holding the reed in place, an armature secured to the free end of said reed by side wings bent around said reed, the armature having an
45 out-turned ear, a sliding plate moving between the aforesaid saddle lugs, a screw for adjusting said plate, and a tension spring arranged in substantially parallel relation to the reed and secured at one end to the
50 sliding plate and at the other end to the aforesaid ear of the armature, substantially as set forth.

Signed at Highland Park, Ill. this 29th day of January, 1910.

CARL A. PFANSTIEHL.

Witnesses:

MARGARET O'KEEFE,
F. B. WILLIAMS.