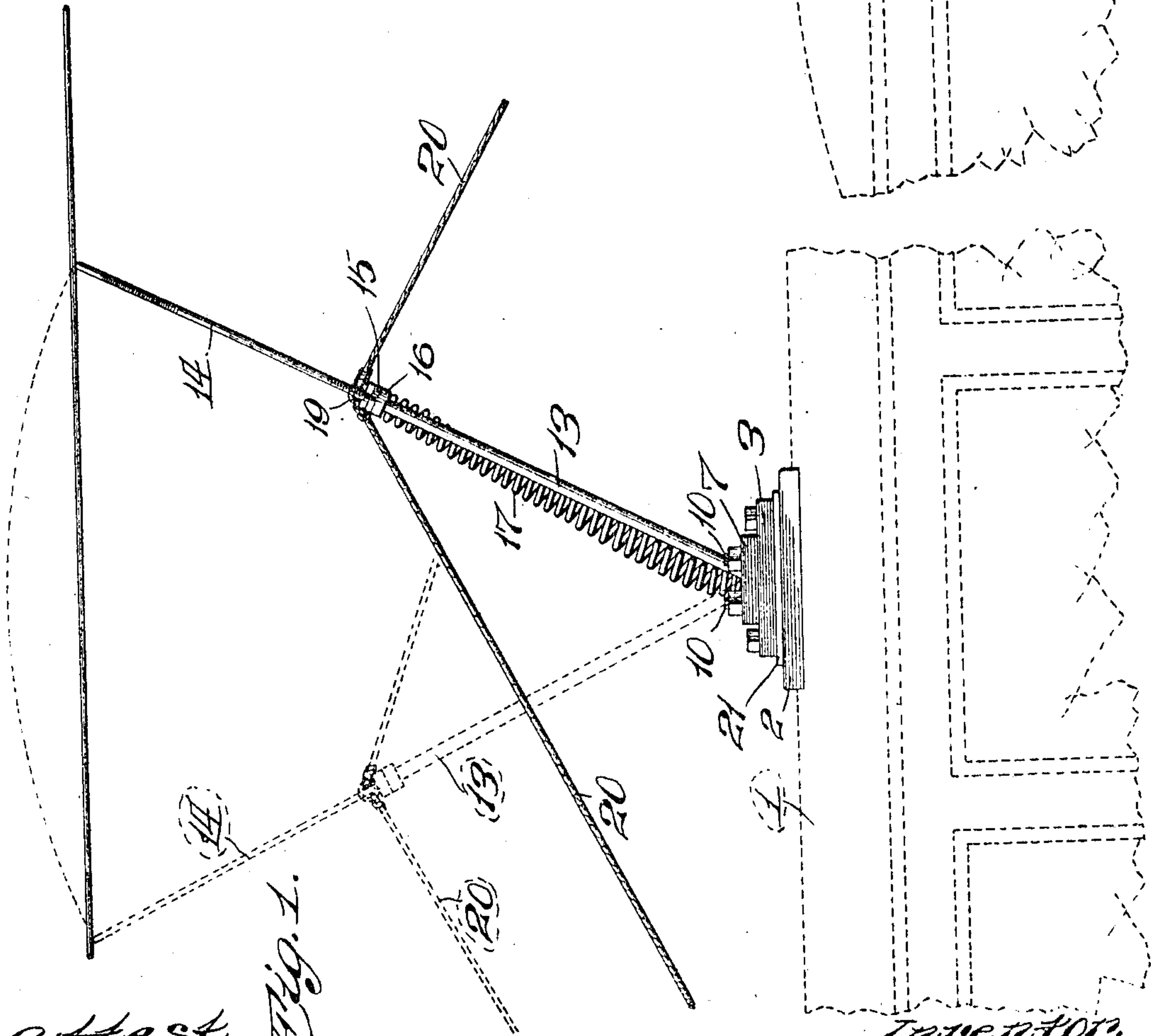
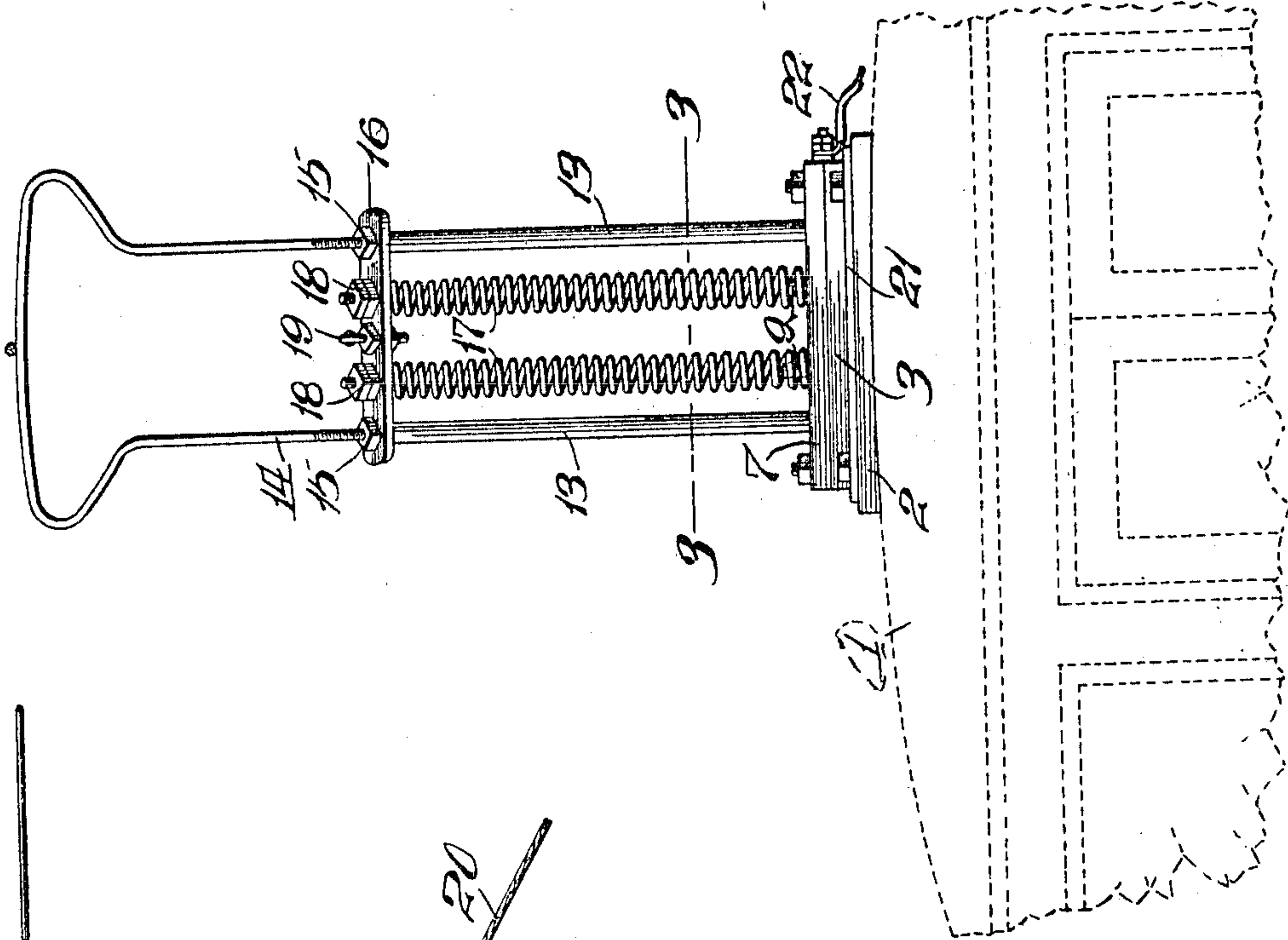


950,630.

H. BROD.  
TROLLEY POLE.  
APPLICATION FILED MAY 24, 1909.

Patented Mar. 1, 1910.  
2 SHEETS—SHEET 1.

Fig. 2.



attest.  
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Fig. 1.

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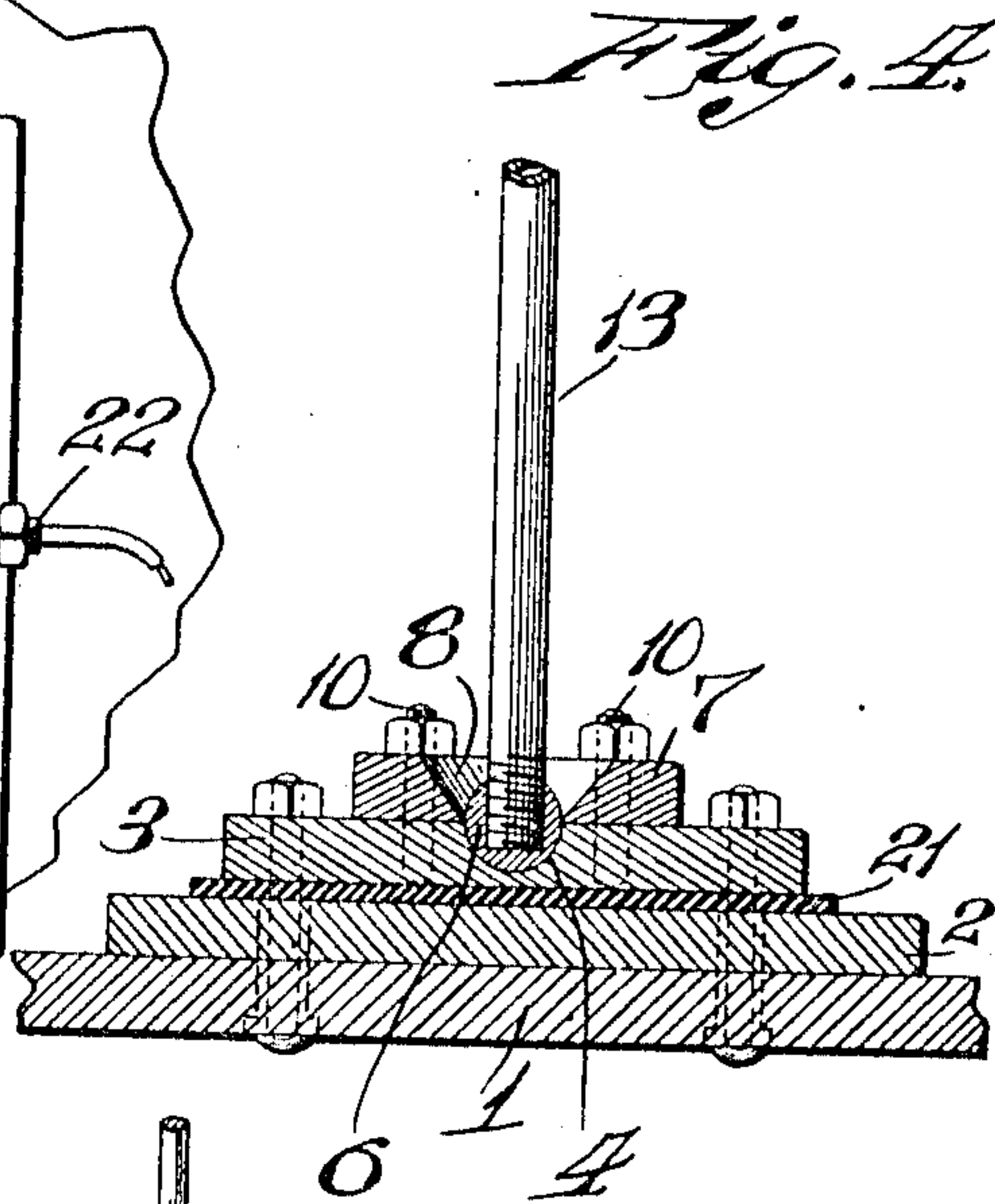
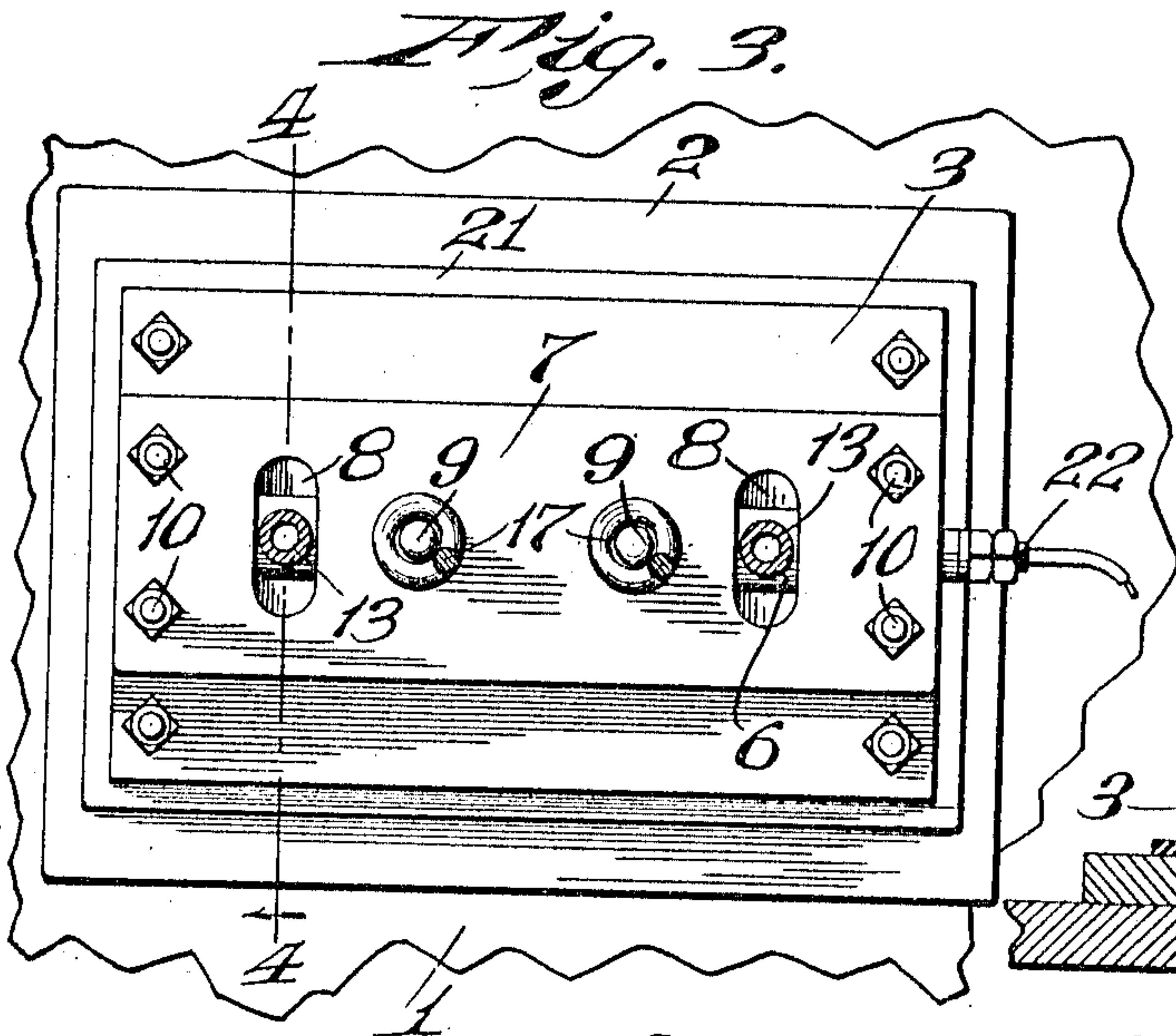
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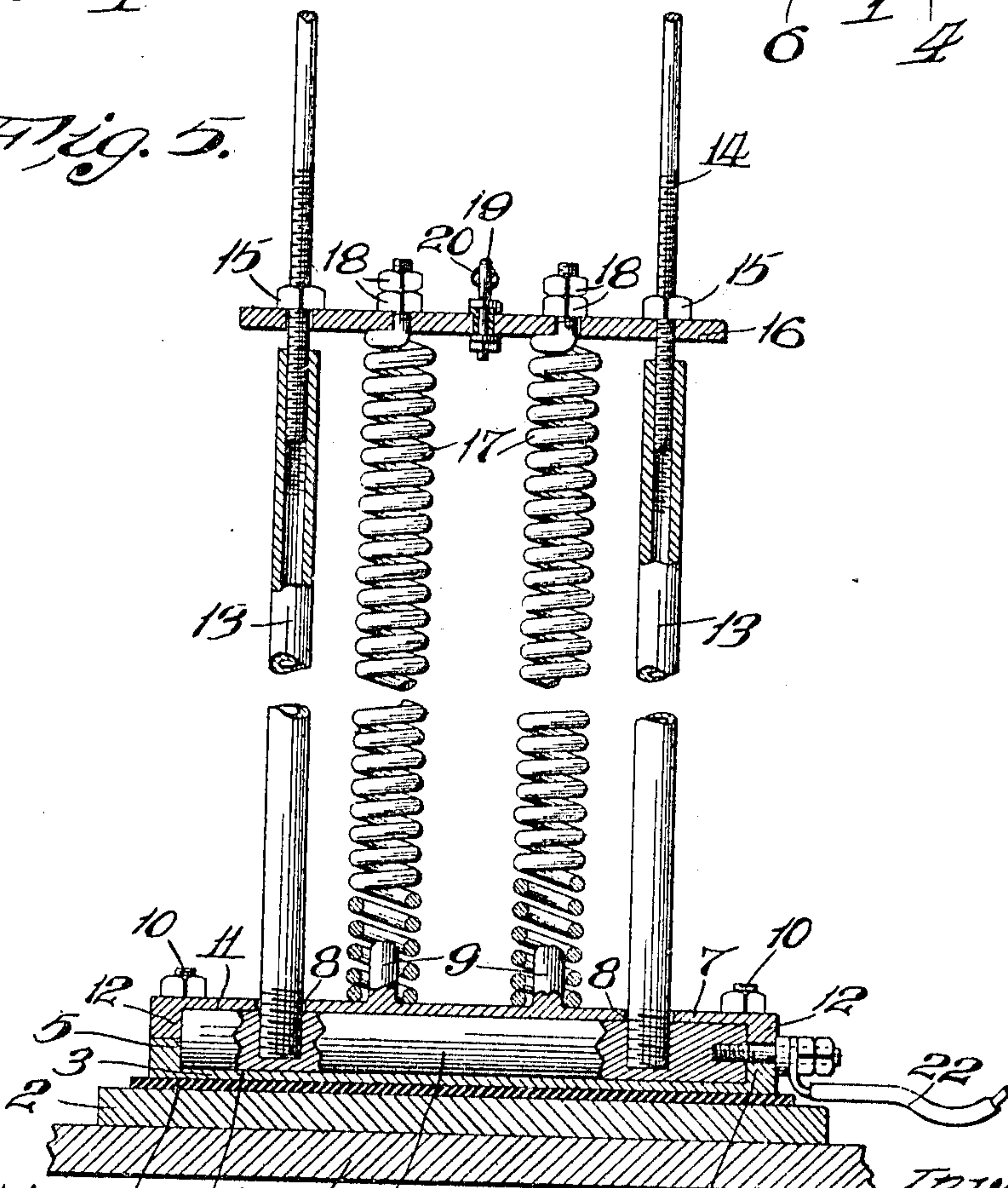
APPLICATION FILED MAY 24, 1909.

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2 SHEETS—SHEET 2.



*Fig. 5.*



attest.

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# UNITED STATES PATENT OFFICE.

HENRY BROD, OF ST. CHARLES, MISSOURI.

TROLLEY-POLE.

950,630.

Specification of Letters Patent.

Patented Mar. 1, 1910.

Application filed May 24, 1909. Serial No. 497,874.

*To all whom it may concern:*

Be it known that I, HENRY BROD, a citizen of the United States, and resident of St. Charles, Missouri, have invented certain new and useful Improvements in Trolley-Poles, of which the following is a specification containing a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention relates to trolley poles, and the object of my invention is to provide a trolley pole of the type having a broad face to frictionally engage a trolley wire, with simple means whereby the pole may be readily attached to or detached from a trolley support carried by the car, and means for adjusting the tension of the pole against the trolley wire.

To the above purposes, my invention consists in certain novel features of construction and arrangement of parts which will be hereinafter more fully described, pointed out in the claims and illustrated in the accompanying drawings, in which:

Figure 1 is an elevation of my improved pole showing a section of a car, and a second position of the pole in dotted lines; Fig. 2 shows a section of the rear end of a car in dotted lines with my improved pole thereon; Fig. 3 is a plan of the base of the pole taken on the line 3—3 of Fig. 2; Fig. 4 is a transverse sectional elevation taken on the line 4—4 of Fig. 3; and, Fig. 5 is an enlarged detailed elevation, partly in section, of the base section and trolley pole and the springs for normally holding the pole vertically.

Referring by numerals to the accompanying drawings: 1 designates the top of the car, to which is fixed a rectangular supporting block 2. Positioned on top of the supporting block is a bearing block 3, having a groove 4, semicircular in cross section, formed transversely of the bearing block 3.

5 designates vertical abutments integral with the bearing block 3 and arranged to limit the lateral movement of the shaft 6. A plate 7 having slots 8 and integral bosses 9, is secured to the block 3 by the bolts 10, and is provided with a semicircular groove 11, corresponding with the groove 4 in the block 3 and is provided with abutments 12 similar to the abutments 5. Threaded to the shaft 6 is a pair of vertical tubular arms 13 arranged to support a substantially U shaped rod 14, the upper ends of the arms 13 being

internally threaded to engage threads on the lower ends of the rod 14 to provide for the altitudinal adjustment of the rod 14. Nuts 15 are threaded to the lower ends of the rod 14, and are arranged to limit the vertical movement of the plate 16 which embraces the lower ends of the rod 14 above the tubular arms 13.

Embracing the bosses 9, and impinging the lower face of the plate 16 is a pair of expansive coil springs 17 the normal tendency of which is to maintain the arms and U shaped rod vertically. The upper ends of the springs 17 are threaded and locking nuts 18 are seated thereon to hold the plate and springs in operative positions. An eye bolt 19 is fixed to the plate 16 between the upper ends of the springs 17, and the rope 20 secured thereto which provides a means for shifting the positions of the pole as required in reversing the movement of the car.

Between the block 3 and trolley support 2, is a plate 21 of insulating material. Leading from the shaft 6 is a conductor 22, which is of the desired construction to carry the current from the pole to the motor.

In the operation of the device, it is obvious that a pole of this construction is of materially shorter length than the poles in common use and is much more easily shifted from one position to another relative to the movement of the car, in that, it is not necessary to remove the trolley from the trolley wire but merely to pull the pole, which pulling elevates the wire enough to allow the change of position from forward to rearward.

By the positioning of the trolley arms in a rotatable shaft, suitably supported on top of the car, and by placing expansive springs to the bearings supporting the shaft, and to a plate connecting the arms, it is obvious the springs will normally tend to a vertical position. Thus when the U shaped rod is placed against the trolley wire, the springs will carry the pole in such position as is required for the proper contact between the pole and the wire. If it is desired to adjust the pole for wires held at different altitudes, the nuts 15 may be turned upon the threaded ends of the rod 14, and the tubular arms turned against the rod 14, and the screw threaded openings in the shaft 6. To adjust the springs to the proper tensions, the nuts 15 may be turned to higher or lower positions on the rod, thus the plate 16 is

held against the nuts 15 in higher or lower planes.

I claim:

1. In a trolley pole, a base fixed to the  
5 top of the car, a bearing fixed to the base  
and insulated therefrom, a shaft mounted  
in the bearing, tubular arms carried by the  
shaft and internally threaded at their upper  
ends, a substantially U shaped rod having  
10 its ends threaded to the tubular arms, a  
plate connecting the lower ends of the rod,  
springs arranged between the bearing and  
said plate and means for adjusting the  
springs.

15 2. In a trolley pole, a base fixed to the  
top of the car, a bearing fixed to the base  
and insulated therefrom, bosses formed on

the bearing, a shaft mounted in the bear-  
ing, tubular arms carried by the shaft and  
internally threaded at their upper ends, a 20  
substantially U shaped rod having its ends  
threaded into the tubular arms, a plate con-  
necting the ends of the U shaped rod, an eye  
bolt carried by said plate, springs embrac-  
ing the bosses on the bearing and connected 25  
with the plate and means for adjusting the  
springs.

In testimony whereof, I have signed my  
name to this specification, in presence of two  
subscribing witnesses.

HENRY BROD.

Witnesses:

E. E. LONGAN,  
E. L. WALLACE.