

No. 696,545.

Patented Apr. 1, 1902.

A. W. BROWNE.
DENTAL ENGINE WALL BRACKET.

(Application filed July 1, 1901.)

(No Model.)

2 Sheets—Sheet 1.

FIG. 1.

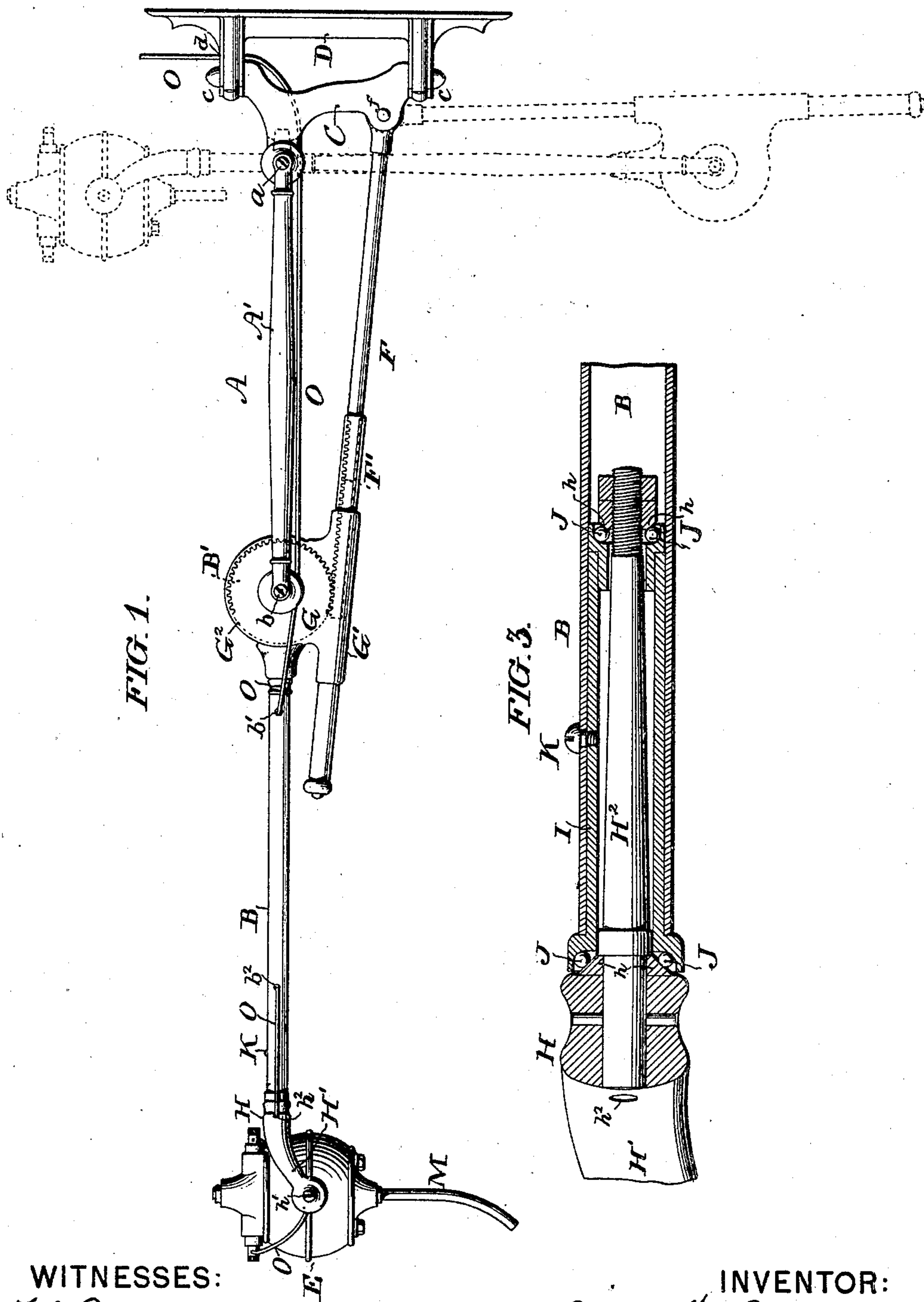
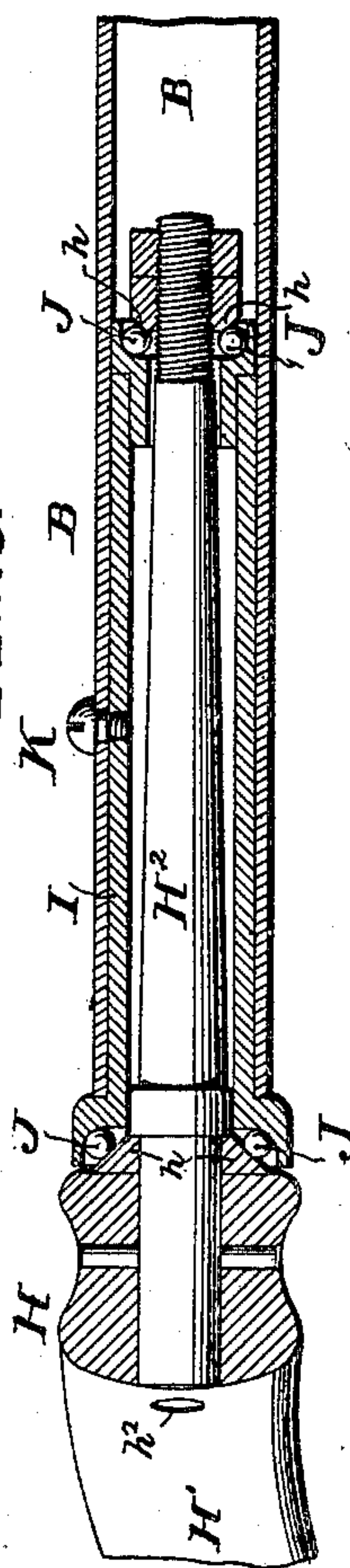


FIG. 3.



WITNESSES:

J. H. Baile
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INVENTOR:

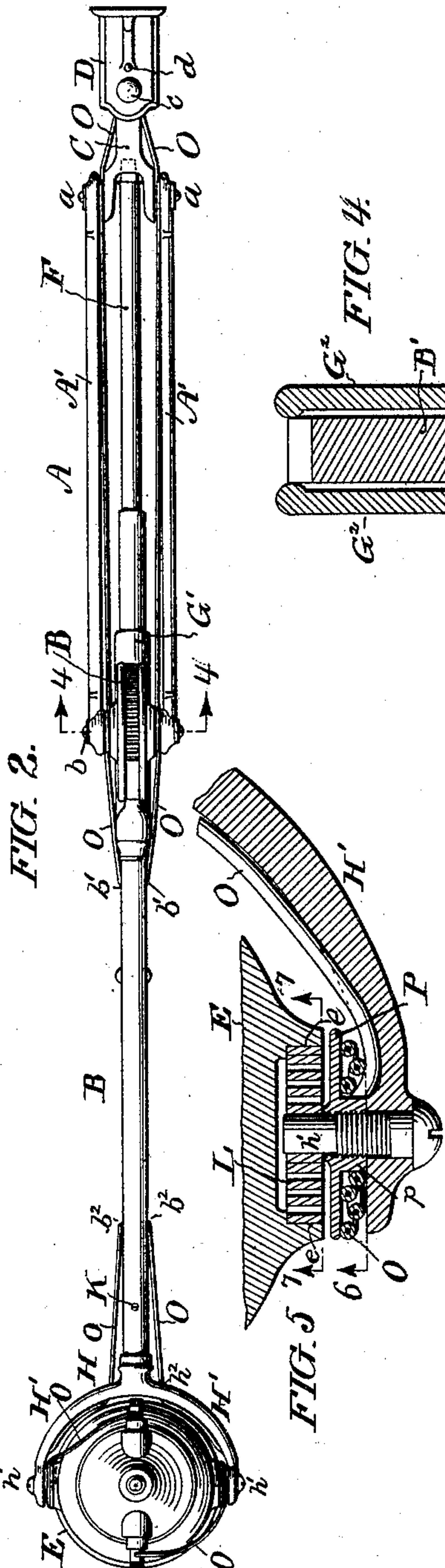
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(No Model.)

2 Sheets—Sheet 2.



WITNESSES:

J. A. S. S. S.
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FIG. 4.

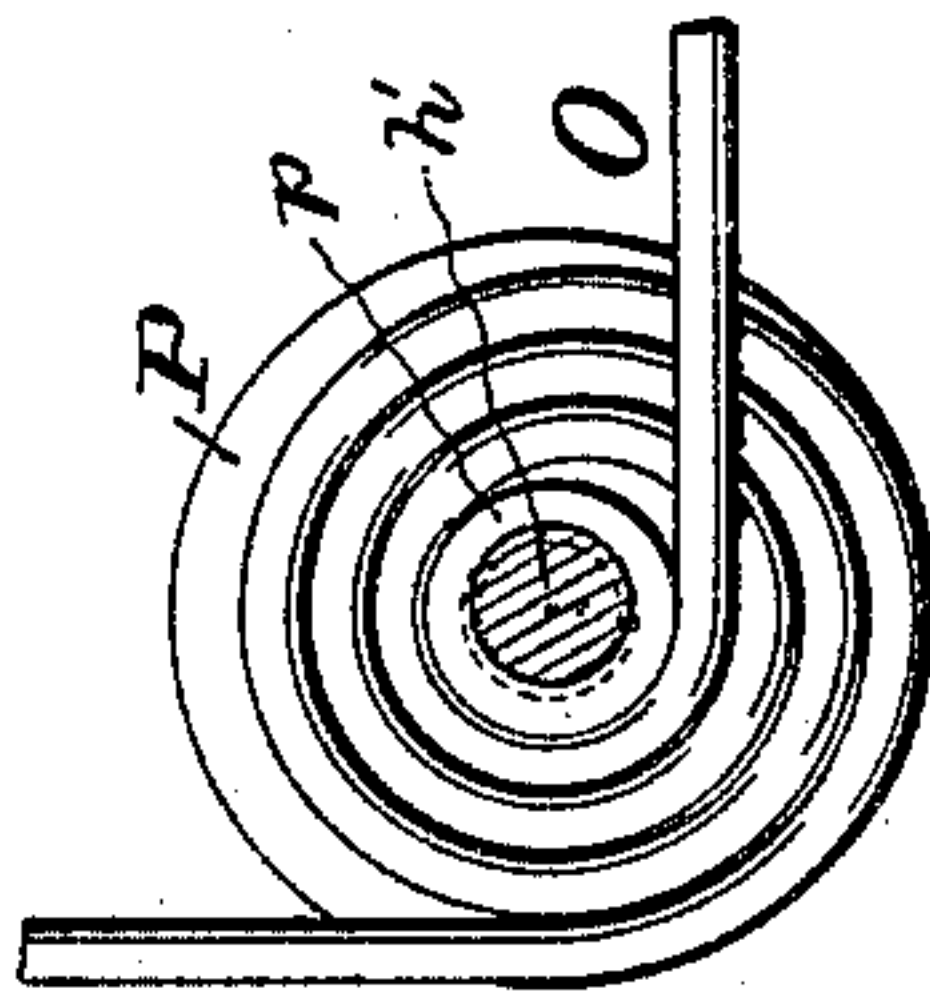
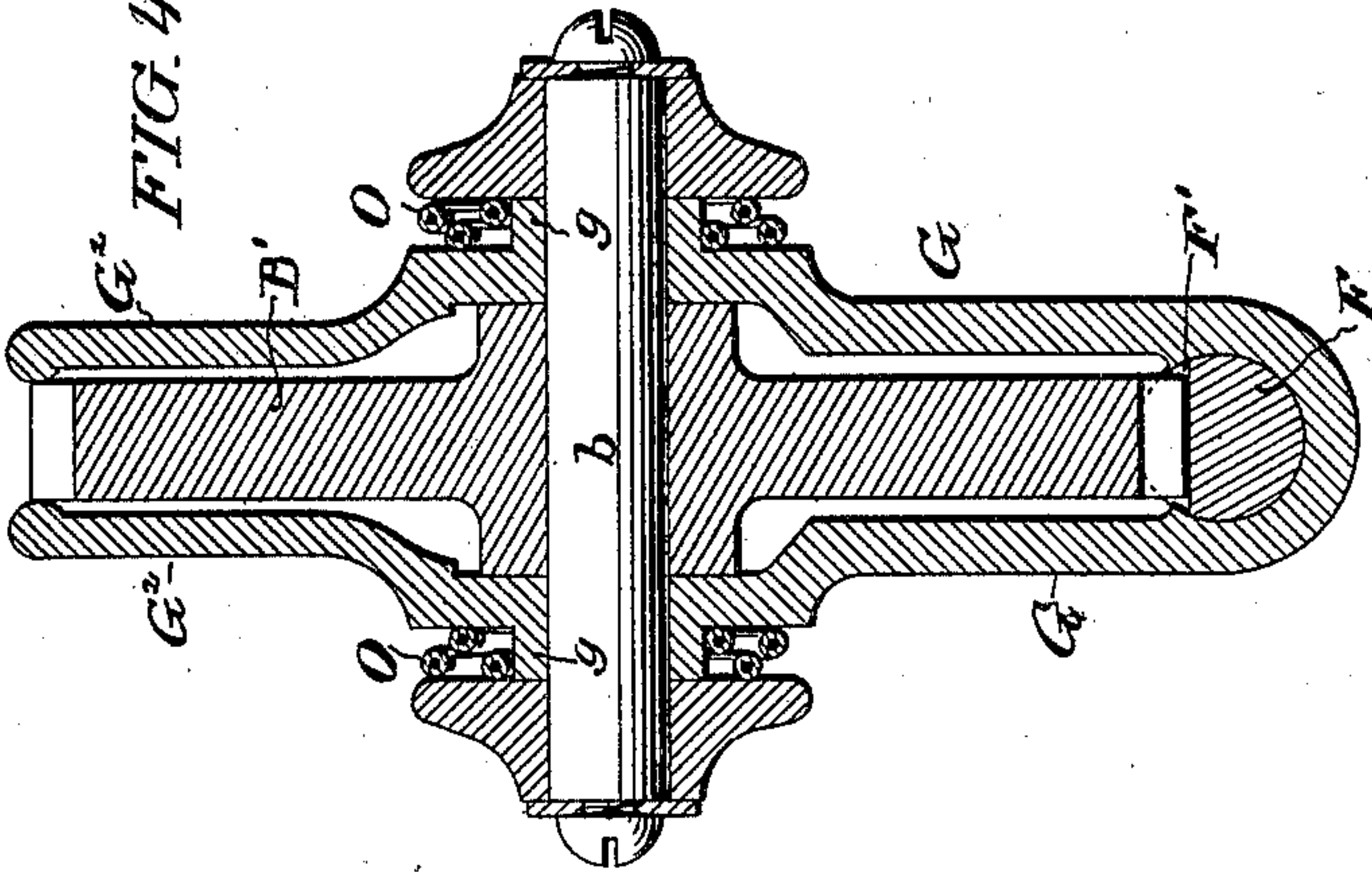


FIG. 6.

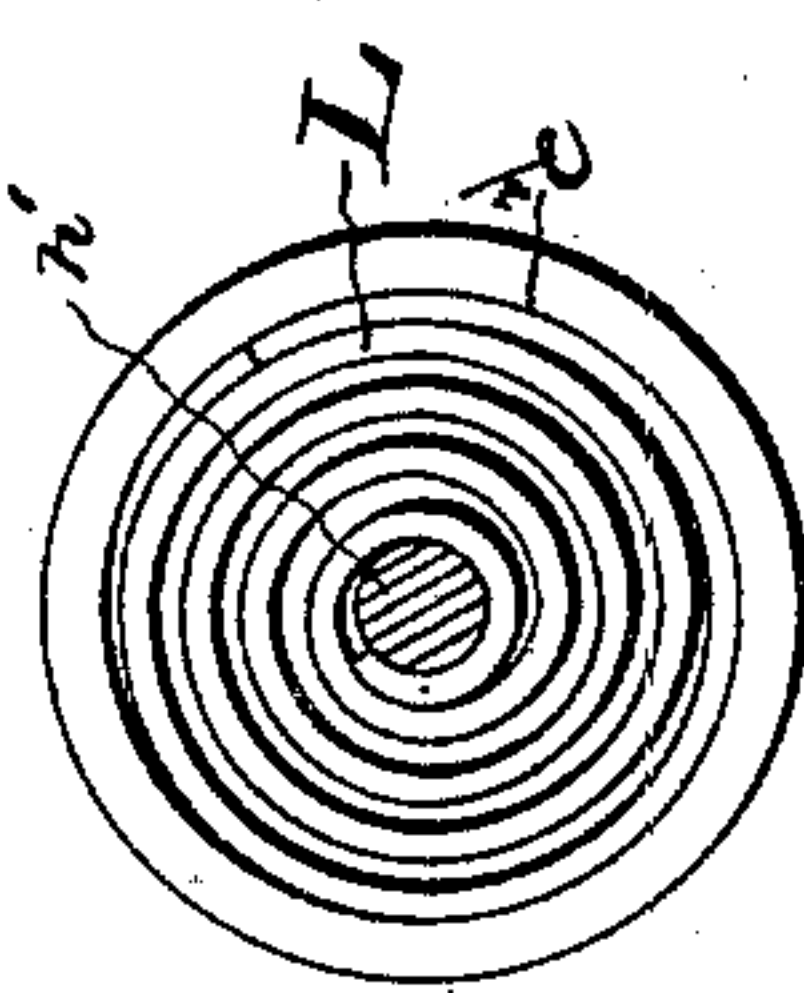


FIG. 7.

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UNITED STATES PATENT OFFICE.

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DENTAL-ENGINE WALL-BRACKET.

SPECIFICATION forming part of Letters Patent No. 696,545, dated April 1, 1902.

Application filed July 1, 1901. Serial No. 66,646. (No model.)

To all whom it may concern:

Be it known that I, ARTHUR W. BROWNE, a citizen of the United States, residing at Princebay, in the county of Richmond and State of New York, have invented certain new and useful Improvements in Dental-Engine Wall-Brackets; 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 certain improvements in folding or adjustable wall-brackets particularly designed for supporting a dental-engine motor and arm in an operative position out or away from a wall and capable of being moved into an inoperative position close to the wall, where it will be out of the way.

The object of my invention is the production of a bracket capable of supporting a dental-engine motor and arm in this manner without the use of either springs or weights to counterbalance the weight of the bracket and the motor, &c., supported thereby.

My improvements, which will be hereinafter claimed, are embodied in the bracket illustrated in the accompanying drawings, of which—

Figure 1 is a view in side elevation, the full lines showing the bracket extended and the dotted lines folded; Fig. 2, a top or plan view. Fig. 3 is a central vertical sectional view, on a larger scale than Figs. 1 and 2, of the outer extremity of the forearm of the bracket. Fig. 4 is a vertical sectional view through the pivot connecting the main and fore arms of the bracket on the line 4 4 of Fig. 2. Fig. 5 is a horizontal sectional view of the connection between one arm of the forked motor-carrier and the motor. Fig. 6 is a vertical sectional view on the line 6 of Fig. 5, and Fig. 7 is a similar view on the line 7 7 of said Fig. 5.

The bracket-arm consists of a main section A and a forearm-section B, the former preferably being composed of two parallel rods A' A', arranged side by side. The main section is connected by horizontal pivots *a a* to

a bracket-plate C, whereby said section is capable of being swung in a vertical plane, and said bracket-plate is connected to a stationary wall-plate D by vertical pivots *c c*, whereby the entire bracket may be swung horizontally. The forearm B is pivoted at *b* to the main arm and at its outer extremity supports an electric motor E. At its inner end the forearm is provided with a toothed disk or gear B', the center of which is the pivot *b*. A rod F, pivoted at *f* to the bracket-plates C beneath the pivots *a*, is provided at its front portion with a rack F', which meshes with the gear B', said rod being supported by and adapted to reciprocate in a tubular bearing G', formed in a plate or hanger G, depending from the pivot *b*. The sides of the hanger G are extended to form guards G² G² for inclosing the gear B'.

The bracket is shown in its extended position in full lines, Fig. 1, in which the motor E is supported in operative position out or away from the wall. The bracket may be folded and the motor brought close to the wall, as shown in dotted lines, Fig. 1, by simply moving the motor inwardly or toward the wall. As the motor is thus moved inwardly the forearm rocks upwardly, turning about the pivot *b*, and this turns the gear B', which, acting through the rod F, causes the main section A to rock downwardly about the pivots *a a*. This movement continues until the main section, the forearm, and the rod F are all in a vertical position and are parallel with each other and with the wall.

The preferred manner of connecting the motor to the bracket-arm is as follows: The electric motor E is hung on horizontal trunnions *h' h'* between the arms H' H' of a forked carrier H, connected to the outer extremity of the forearm B, the spindle H² of said carrier having swiveling connection with said forearm. For this purpose a journal-bearing I (see Fig. 3) is fitted in the outer portion of the tubular forearm B, which, together with balls J and cones *h h* on the spindle H², provide a ball-bearing for said spindle. The journal-bearing I is detachably held in place within the forearm by means of a screw K.

Coiled-spring bearings L L (see Figs. 5 and 7) may be interposed between the trunnions h' h' and the trunnion-sockets e e of the motor for the purpose of absorbing the vibration of the motor. Connected to the motor-shaft is a dental-engine arm consisting of the usual flexible cable M and handpiece, the latter not being shown. A motor suspended in this manner is capable of being freely moved as desired, as it rocks freely about the trunnions h' h' and swivels horizontally on the spindle H².

The conducting cords or wires O O, leading to and from the motor, are shown as passing through an opening d in one of the arms of the wall-plate D and are then led one along each of the rods A' of the main arm, then loosely coiled around bosses g g of the hanger G, said bosses surrounding the pivot b , from which they enter openings b' b' near the rear end of the forearm and pass out through openings b^2 b^2 near the front end of said forearm, then passing through openings h^2 h^2 in the carrier-arms H' H' the wires are loosely coiled around the motor-trunnions h' h' and thence pass to the binding-posts of the motor. In order to prevent the wires from becoming entangled with the spring-bearings L L, shields P P are provided on the trunnions h' h' , the wires being coiled around the hubs p p of said shields. The object of coiling the conducting-wires around the pivots and trunnions is to avoid interfering with the free movements of the parts at these points.

A bracket constructed in accordance with my invention is not only comparatively simple in construction, but it supports the motor in convenient operative position and enables it to be easily moved into an inoperative position against the wall, where it will be out of the way. The adjustment of the motor in causing it to assume either its operative or its inoperative position is easily effected, it only being necessary to move the motor back and forth as desired. No springs or weights are employed to counterbalance the weight of the bracket or motor, thus simplifying the construction of the bracket, rendering it more compact, and improving its appearance as compared to other brackets of a similar type.

The bracket herein illustrated and described is but one exemplification of how my improvements may be carried into effect, my invention not being limited to the particular details of construction herein indicated.

While my improved adjustable wall-bracket is particularly designed for supporting a dental engine, it is obviously susceptible of supporting objects other than a dental engine.

I claim as my invention—

1. In a folding dental-engine wall-bracket, the combination of a main arm pivoted to swing vertically, a forearm pivoted to the outer end of said main arm, a gear on the in-

ner end of said forearm and a pivoted rod provided with a rack meshing with the gear of said forearm, substantially as and for the purpose described.

2. In a folding dental-engine wall-bracket, the combination of a main arm pivoted to swing vertically, a forearm pivoted to the outer end of said main arm, and adapted to support a motor at its outer extremity, a gear on the inner end of said forearm concentric with the pivot connecting said arms, and a pivoted rod provided with a rack meshing with the gear of said forearm, substantially as and for the purpose described.

3. In a folding dental-engine wall-bracket, the combination of a stationary wall-plate, a bracket-plate having horizontal turning connection with said wall-plate, a main arm pivoted to said bracket-plate to swing in a vertical plane, a forearm pivoted to the outer end of said main arm and capable of swinging in the same plane with the main arm, a gear on the inner end of said forearm concentric with the pivot connecting said arms, and a rod pivoted to said bracket-plate below the pivotal connection of said main arm with said bracket-plate, said rod having a rack which meshes with said gear, substantially as and for the purpose described.

4. In a folding dental-engine wall-bracket, the combination of a main arm pivoted to swing vertically, a forearm pivoted to the outer end of said main arm, a gear on the inner end of said forearm, a rod pivoted at its inner end and provided with a rack meshing with said gear, and a hanger depending from the pivot connecting the main and fore arms, said hanger having a bearing for maintaining the rack of said rod in engagement with said gear, substantially as and for the purpose described.

5. In a folding dental-engine wall-bracket, the combination of a bracket-arm provided with a tubular or socketed outer extremity, a forked carrier having swiveling connection with said bracket-arm by means of its spindle fitted to turn in the socket of said arm, and a motor suspended between the forks of said carrier by horizontal trunnions, substantially as and for the purpose described.

6. In a folding dental-engine wall-bracket, the combination of a bracket-arm, a forked carrier at its outer extremity, a motor suspended between the forks of said carrier, horizontal trunnions between said forks and said motor, and coiled springs interposed between said trunnions and said motor for the purpose of absorbing the vibration of the motor, substantially as described.

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

ARTHUR W. BROWNE.

Witnesses:

GEO. D. HECK,
SEYMOUR CASE.