R. B. SAVIN & W. C. HARVEY.

ADJUSTABLE WALL BRACKET.

APPLICATION FILED JULY 31, 1908.

919,777. Patented Apr. 27, 1909.

Fig. 1.

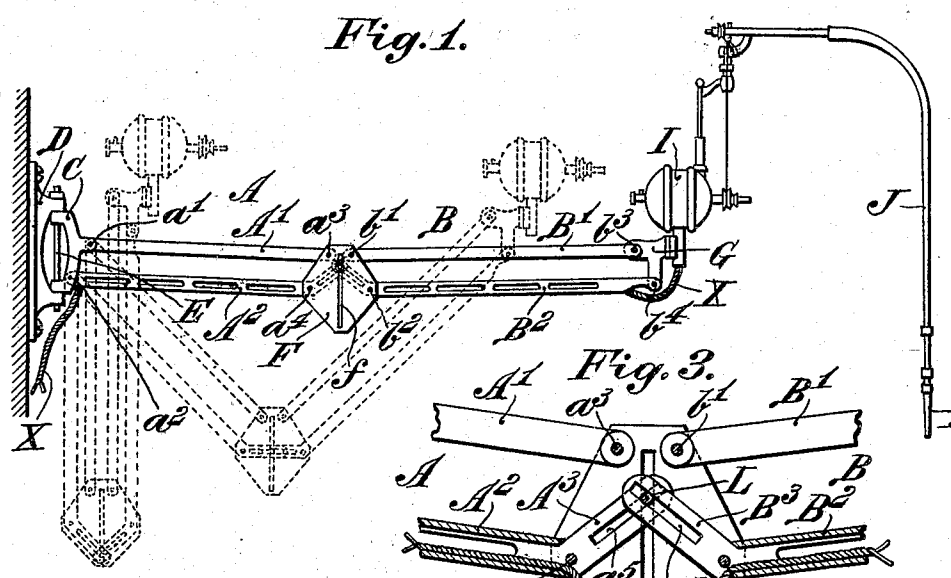


Fig. 3.

Fig. 2.

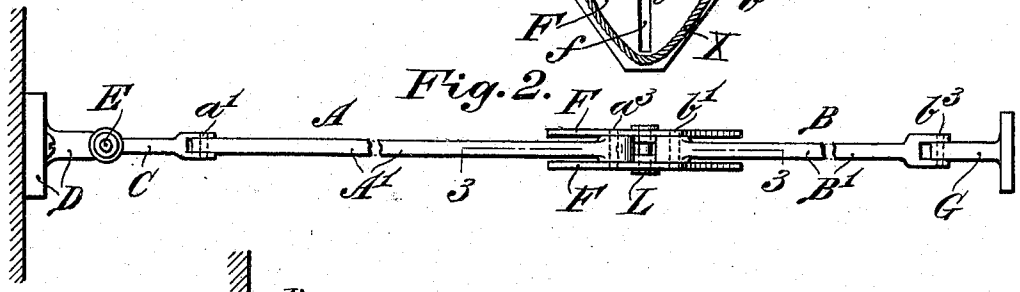


Fig. 4.

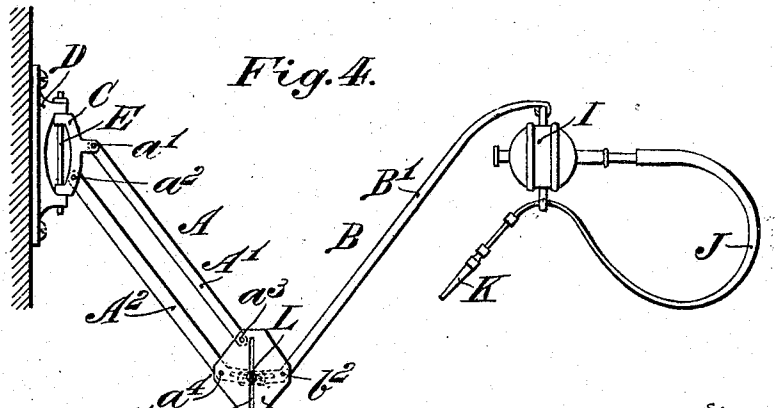
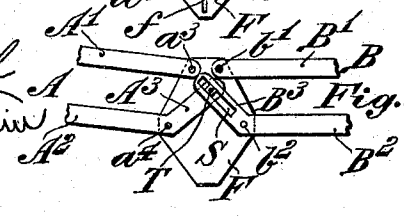


Fig. 5.



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ADJUSTABLE WALL-BRACKET.

No. 919,777. Specification of Letters Patent. Patented April 27, 1909.

Application filed July 31, 1908. Serial No. 446,252.

To all whom it may concern:

Be it known that we, RALPH B. SAVIN and WILLIAM C. HARVEY, citizens of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Adjustable Wall-Brackets; and we 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.

Our invention relates to folding or adjustable wall-brackets for so supporting objects that they may be moved in a substantially horizontal plane into various positions nearer to or farther away from the wall and also be moved into an inoperative position close to or against the wall where they will be out of the way.

The object of our invention is to simplify and improve the bracket forming the subject matter of Letters Patent No. 717,121, granted December 30, 1902, to the assignee of Charles H. Richardson. This bracket consists of a main section having vertical rocking connection with a wall, a forearm section adapted to support an object or load at its outer extremity, connections between the two sections which enable the forearm-section to rock vertically toward and away from the main section, and means for causing said sections, when the object or load is moved or placed in different positions, to move in unison toward and away from each other and maintain corresponding angular relations with respect to a vertical line drawn centrally between said sections. By this construction the weight of the object or load serves to poise the bracket as well as the object itself, by virtue of which the object may be freely moved toward and away from the wall and remain inert in whatever position it is placed, thus securing a practically perfect equipoise of the bracket and its load without the use of springs or weights other than the load itself. In the patented bracket the means for causing the bracket sections to move in unison is shown as consisting of gearing.

Our improvement consists in substituting a sliding connection for said gearing.

The invention as applied to a dental bracket is illustrated in the accompanying drawings, in which similar reference characters refer to corresponding parts throughout the several views; is fully described in the following specification, and claimed at the conclusion thereof.

In said drawings:—Figure 1 is a view in side elevation showing the bracket extended in full lines and folded and partly folded in dotted lines. Fig. 2 is a top or plan view on an enlarged scale as compared with Fig. 1. Fig. 3 is a central vertical sectional view on the line 3—3 of Fig. 2. Fig. 4 is a view in side elevation of a modified form of bracket. Fig. 5 is a view similar to Fig. 3 of a modified form of sliding connection.

The bracket indicated in Figs. 1, 2 and 3 consists of a main section A and a forearm section B, each section being composed in this particular embodiment of two parallel members A′ and A^2 and B′ and B^2 respectively. At their inner ends the members A′ and A^2 are connected by pivots a' and a^2 to a bracket plate C, having horizontal turning connection with a stationary wall-plate D, a pintle E connecting the bracket and wall plates. At their outer ends said members A′ and A^2 are pivoted at a^3 and a^4 to a connecting-plate or plates F, corresponding to the so-called link-plates E, of the beforementioned Richardson patent No. 717,121. The members B′ and B^2 of the forearm section are pivoted at their inner ends at b' and b^2 to said connecting plate F, and at their outer ends are pivoted at b^3 and b^4 to an end piece or attaching plate G, to which the object supported by the bracket may be attached. In order to preserve the horizontality or verticality of the object supported by the bracket the distance between the pivots a' and a^2 must be the same as that between the pivots a^3 and a^4 and the distance between the pivots b' and b^2 must be the same as that between the pivots b^3 and b^4.

For the purpose of causing the bracket sections to move in the manner herein specified and thus accomplish the object of our

invention without the use of gearing, the lower members A^2 and B^2 are extended beyond their pivotal connections a^4 and b^2 respectively, with the connection plate F. These extensions A^3 and B^3 are disposed angularly to their respective members and are united by a sliding connection. In this instance each extension is provided with a guide slot, as a^5 and b^5 and a bolt L passing through said slots and also through a vertical guide slot f in the connecting-plate F serves to connect the members A^2 and B^2 and causes the bracket sections to move in unison.

In Fig. 5 we have indicated a modified form of sliding connection for uniting the members of the bracket sections. But one of the extensions is slotted at S and the bolt T which travels in said slot S in the extension B^3 is fixed to the other extension A^3. There is no necessity in this case for the guide slot in the connecting plate.

In cases where it is not necessary or desirable to maintain the horizontality or verticality of the object supported by the bracket, one of the members of the forearm section may be omitted, as indicated in Fig. 4. The omission of one of these members in nowise affects the action of the bracket except that the horizontality or verticality of the object supported by the bracket is not maintained. When the forearm consists of only one member the attaching plate or end piece G is not required.

The embodiments of our invention herein shown and described are so constructed that the bracket folds downwardly when the object is moved toward the wall. It is possible by reversing some of the parts to cause the bracket to fold upwardly when the object is moved toward the wall. When the object supported by the bracket, which for example is herein indicated as consisting of an electric dental engine motor I, flexible shaft J and handpiece K, is moved from its extreme outer position (see full lines Fig. 1) to a position near to or against the wall (see dotted lines Fig. 1) and vice versa, it moves in a practically horizontal plane; the bracket folding downwardly or upwardly, as above indicated, when the object is moved inwardly and straightening out when the object is moved outwardly. The weight of the object or load nicely poises itself and the bracket, and the main and forearm sections move in unison toward or away from each other, whereby each section at any given point always bears the same angular relation to a vertical line drawn centrally between the sections as does the other section. Therefore the object is always equipoised and may be freely moved back and forth within the limits of the bracket and remain in whatever position it may be placed until positively moved therefrom. In other words the object will remain inert when placed in either of its extreme inner or outer positions and also when placed in any intermediate position.

It should be explained that as a matter of fact the object does not move in an absolutely horizontal plane, because in order to secure perfect equipoise of said object, the forearm section of the bracket is made larger than the main section. The difference in length between the two sections varies according to the weight of the object supported. This difference in length causes the object to move in a slightly inclined plane, but for all practical purposes it may be said to move in a substantially horizontal plane. By means of the pivotal connection between the bracket plate C and the wall plate D the bracket and object supported thereby may be swung horizontally. Also, by locating the pivots of the upper member of the main section in advance of the pivots of the lower member of said section, the sections of the bracket may assume a vertical position close together when folded. When thus folded the bracket may be swung horizontally to lie flat against the wall, whereby the bracket is compactly folded and occupies a minimum amount of space. The lower member of each section is shown as hollow in order that the motor conductor X may pass through said members.

We claim as our invention:—

1. In a folding or adjustable wall bracket, the combination of a wall plate, a main section composed of parallel members pivoted to said wall plate so as to move vertically, a forearm section adapted to support an object at its outer extremity, a connecting plate to which said sections are pivoted, one member of the main section and the forearm section being extended beyond their pivotal connections with the connecting-plate, said extensions being disposed angularly to each other, and a sliding connection between said extensions.

2. In a folding or adjustable wall bracket, the combination of a wall plate, a main section composed of parallel members pivoted to said wall plate so as to move vertically, a forearm section adapted to support an object at its outer extremity, a connecting plate or plates to which said sections are pivoted, one member of the main section and the forearm section being extended beyond their pivotal connections with the connecting-plate, a guide slot in each of said extensions, a guide slot in said connecting-plate, said slots being disposed angularly to each other, and a bolt passing through said slots.

3. In a folding or adjustable wall bracket, the combination of a wall plate, a main sec-

tion composed of parallel members pivoted to said wall plate so as to move vertically, a forearm section also composed of parallel members, an attaching plate to which the outer ends of the members of the forearm section are pivoted, a connecting-plate or plates to which the members of both of said sections are pivoted, one member of each section being extended beyond its pivotal connection with the connecting-plate, a guide slot in each of said extensions, a guide slot in said connecting-plate, said slots being disposed angularly to each other, and a bolt passing through said slots.

In testimony whereof we affix our signatures in presence of two witnesses.

RALPH B. SAVIN.
WM. C. HARVEY.

Witnesses:
MARY M'CALLA,
STEPHEN F. BEALE.