

(No Model.)

W. S. HOW.
ADJUSTABLE BRACKET.

No. 316,548.

Patented Apr. 28, 1885.

Fig. 1,

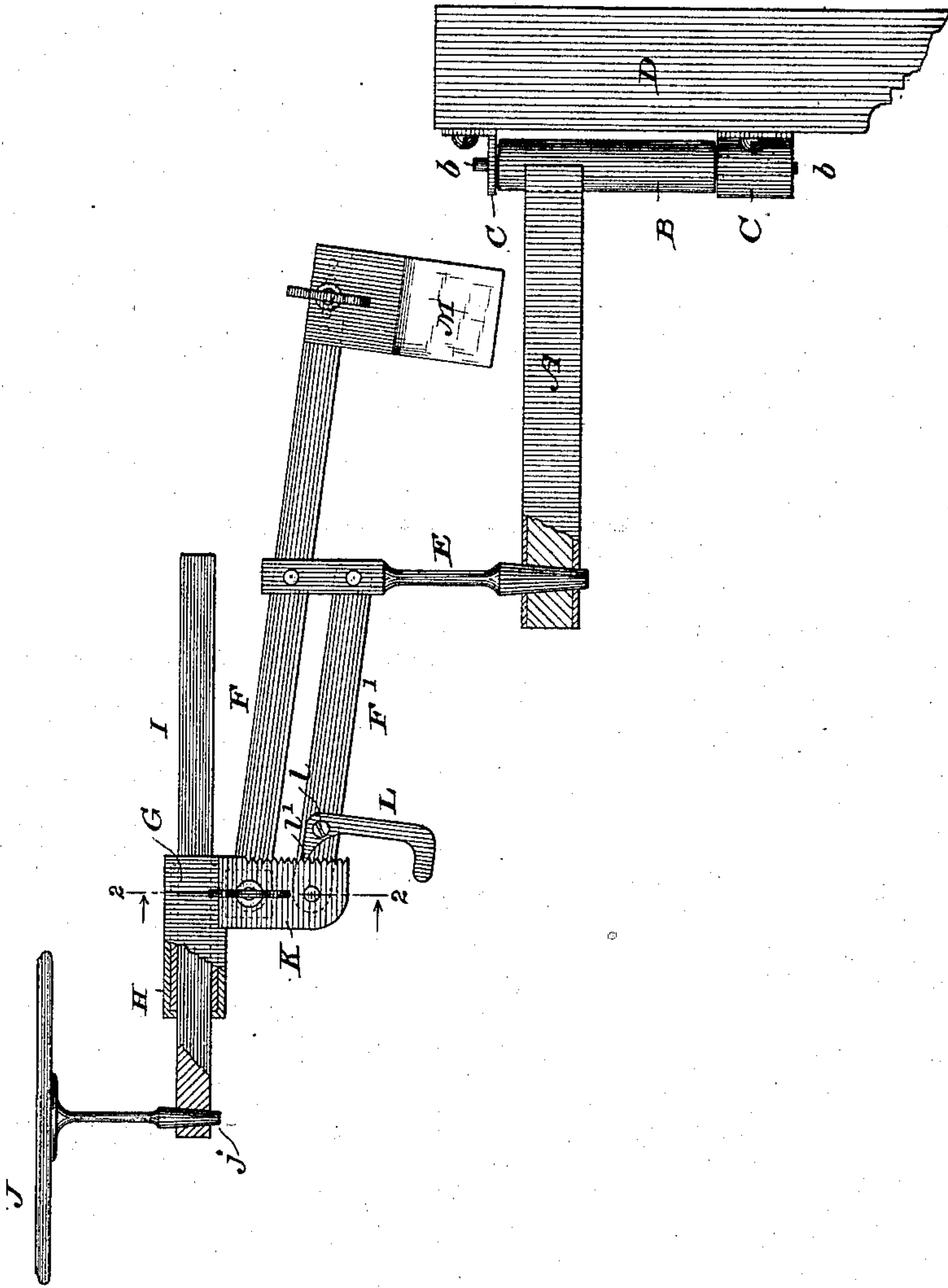
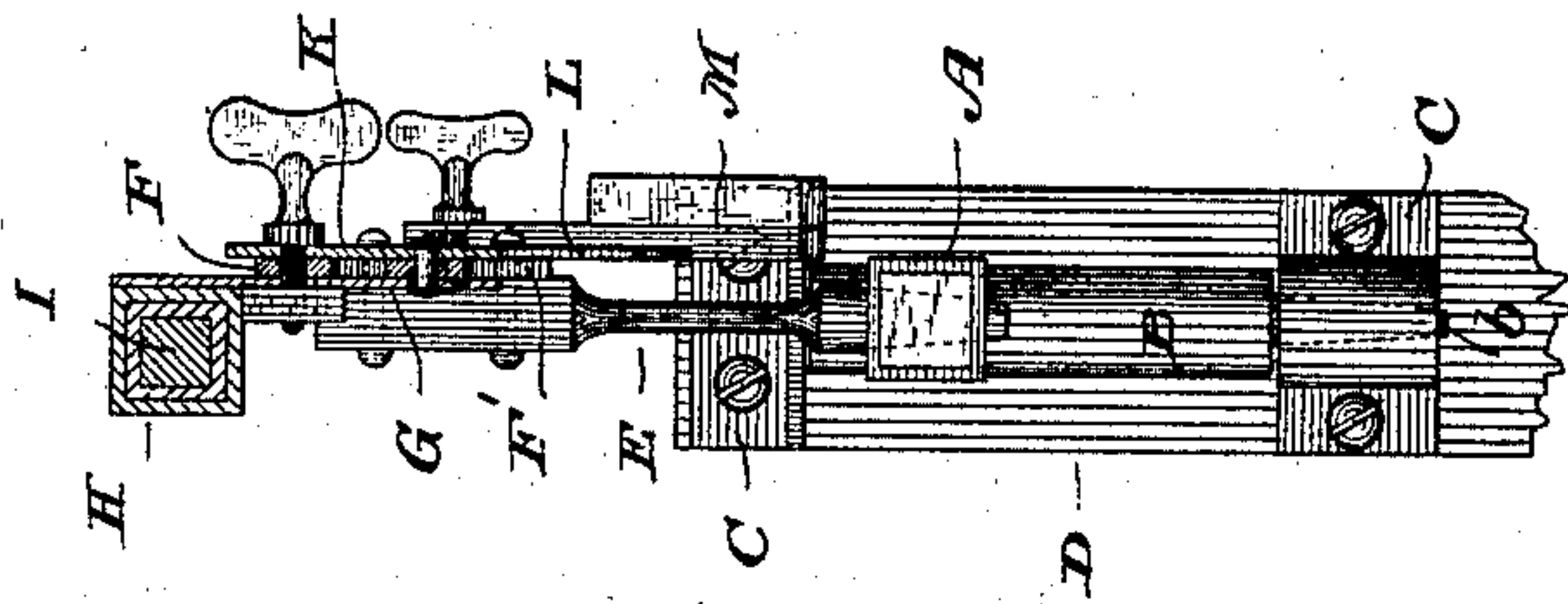


Fig. 2,



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ADJUSTABLE BRACKET.

SPECIFICATION forming part of Letters Patent No. 316,548, dated April 28, 1885.

Application filed December 4, 1882. (No model.)

To all whom it may concern:

Be it known that I, WOODBURY S. HOW, of Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Adjustable Brackets, of which the following is a specification, this application being a division and continuation of my original application, filed December 31, 1878.

My invention relates to adjustable brackets more especially designed for the use of dentists, and carrying a table or tray for the reception of the tools and implements used by the dentist in his operations.

The objects of my present improvements are, generally, to provide an improved bracket, and more particularly, first, to facilitate the adjustment of the bracket to various positions which may be required so as to bring the table or tray to the proper place; second, to provide an improved organization whereby the table or tray may be adjusted vertically and equipoised or counterbalanced at any point in its range of vertical movement; third, to provide an improved automatic locking device whereby the table or tray may be automatically locked at any point in its vertical range of adjustment; and, fourth, to improve the manner of mounting the usual longitudinally-sliding extension-arm which carries the table or tray at its outer end, so as to enable said extension-arm to be readily moved endwise in its bearings without binding or "sticking," which binding action has heretofore been a great annoyance to the operator, and is incidental to the construction of brackets provided with such arms as heretofore employed.

The subject-matter claimed herein is first fully described, and then particularly pointed out at the close of the specification.

In the accompanying drawings, Figure 1 represents a view in elevation, partly in section, of a bracket embodying my present improvements, and Fig. 2 is a vertical section therethrough on the line 2 2 of Fig. 1.

A horizontal arm, A, is fixed to a turning post or crane-plate, B, the pivots *b* of which find bearings in suitable socketed plates, C,

fastened to the wall or other suitable support, D, in any improved manner—for instance, by means of screws. A post, E, is mounted, by a cone-pivot preferably, in the outer end of the arm A so as to be capable of turning thereon. A cone-pivot is preferred because the post will be held from turning in its conical seat in the arm A until positively turned, this being due to its enlarged frictional surface.

At the upper end of the post E are pivoted the inner ends of two parallel arms, F F', the outer ends of said parallel arms being pivoted to a frame-plate, G, which constitutes what I will call a "horizontal frame," because when moved or adjusted up and down it is always maintained in the same horizontal position. This horizontal frame G carries a box-casing or socketed portion, H, lined internally with a non-metallic packing—such as dry wood or leather, for example—and in the bushing thus formed is mounted the usual extension-arm, I, which is fitted to slide freely endwise in the box H. Endwise movement of the arm I in the box H is thus facilitated by the non-metallic packing, which packing prevents any binding or cramping of the arm I in the box, which would be the tendency if the packing were omitted and the arm fitted to slide in a metallic box, as heretofore has been the custom in brackets of this description. The table or tray J, which in this instance is shown as a plain table, is mounted at the outer end of the arm I by means of, preferably, a cone pivotal connection, *j*, the object of the cone-pivot being the same as that before stated in connection with the turning post E.

The cone-pivots, in addition to their functions as before recited, always afford a close-fitting pivotal joint.

Fitted to the sides of the parallel arms F F', at their ends opposite to the horizontal frame G, is a clamping-plate, K. The pivots which unite the outer ends of the arms F F' to the frame-plate G also pass through the clamping-plate K, so that the whole is united together by one set of pivots. The pivot which passes through the outer end of the arm F, through the frame-plate G, and clamping-

plate K, is in this instance in the form of a set-screw, whereby by tightening said screw the plate G and plate K are firmly clamped up against the sides of the arm F, and firmly
 5 lock the bracket in the position to which it may have been adjusted. In addition to this positive clamp-lock, to be manipulated by the thumb and finger, I have provided an automatic locking device which will automatic-
 10 ally maintain the bracket in its vertically-adjusted position. This automatic locking device preferably consists of a pawl, L, pivoted at l upon the lower parallel arm, F', and provided with a point, l', adapted to engage
 15 with one of a series of teeth formed in the inner edge of the clamping-plate K, as clearly shown in Fig. 1. The lower end of the pawl is extended and weighted, and constitutes a handle, and its tendency is to normally main-
 20 tain the locking-point of the pawl in contact with the toothed edge of the clamping-plate K. When, however, the bracket is to be adjusted, the lower weighted handled end of the pawl is rocked outward, and thereby disen-
 25 gages the locking-point of the pawl from the toothed edge, which permits the bracket to be readily adjusted vertically by reason of the arms F F' turning, by their pivotal connec-
 30 tions, on the post E, and by reason of the pivotal connections of the arms F F' at their outer ends with the horizontal frame G and clamping-plate K. When, however, the bracket has been adjusted to the desired altitude, the weighted handled end of the locking-pawl
 35 is released, which causes it to swing downward and thereby engage the locking-point of the pawl with a tooth in the edge of the plate K, and firmly lock the bracket in the position desired.

40 The automatic locking device which I have described will be sufficient in most cases for maintaining the vertical adjustment of the bracket; but I have shown in addition the positive clamp-lock, before described, by
 45 which, if desired, the bracket may be positively locked in its adjusted position. This may be necessary or desirable in some instances.

50 The inner end of the parallel arm F is extended rearwardly, and is provided with a series of holes, in this instance to form an adjustable connection for a weight, M, which counterpoises or counterbalances the weight of the bracket and table beyond the post E.
 55 This equipoise is a very desirable feature, as it enables the operator to readily adjust the bracket vertically without having to lift the weight of the table and outer parts of the bracket. This counterpoise feature, however,
 60 I do not broadly claim in this application, as it forms part of the subject-matter of my original application, before mentioned.

65 The weight is given an adjustability endwise on the arm F for the purpose of compensating variations in the load which the table may carry.

It will thus be seen that I have provided an improved bracket easily adjusted and capable of a wide range of movement. The arm A may be swung to and from the wall or support D by means of its pivotal connection therewith, and thereby give an extensible as well as a horizontal movement to the bracket. Likewise the post E may be turned relatively to the arm A, both for horizontal ad-
 75 justment and extensibility, while the rod I may likewise be moved in its box on the horizontal frame for extension purposes. The construction of the bracket at the same time enables it to be compactly folded back against
 80 the wall when its use is not desired.

The weight of the outer parts of the bracket being equipoised or counterbalanced throughout its range of vertical movement, such movement, it will be seen, may be effected with
 85 great facility, while the vertical adjustment may be maintained by means either of the automatic lock, or, if a positive lock is desired, by means of the positive locking device I have described.

90 Before reciting what I claim it may be better to reiterate that this application is a division of my aforesaid application filed December 31, 1878, and is in continuation thereof, and is aimed to cover certain features of
 95 my invention not claimed in my said original application. I therefore disclaim herein in favor of my said original application any and all subject-matter not particularly recited in
 100 the following claims and comprehended as the subject-matter of this present application.

What I claim herein as my invention is—

1. The combination, substantially as hereinbefore set forth, of the jointed parallel arms, the horizontal frame carried at the outer ends
 105 of said arms, the turning connection at the inner ends of said arms, and the adjustable equipoise-weight mounted upon a rearward extension of one of said parallel arms.

2. The combination of the jointed parallel
 110 arms, the horizontal frame at the outer ends of said arms, the weighted and loosely-suspended handled pawl jointed to one of said arms, and a series of teeth with which the locking-point of said pawl normally engages,
 115 substantially as described.

3. The combination, with a box or casing having a lining or bushing, of an extensible bracket-arm fitted to move endwise in said
 120 casing, substantially as described.

4. The combination of the box or casing, the non-metallic lining or bushing thereof, and the extensible bracket-arm fitted to slide endwise in said casing, substantially as de-
 125 scribed.

In testimony whereof I have hereunto subscribed my name this 30th day of November, A. D. 1882.

WOODBURY S. HOW.

Witnesses:

A. W. McCORMICK,
 ALLEN COLLIER.