Jan. 22, 1924. 1,481,257

W. S. EDMANDS

HINGE

Filed Feb. 11, 1922

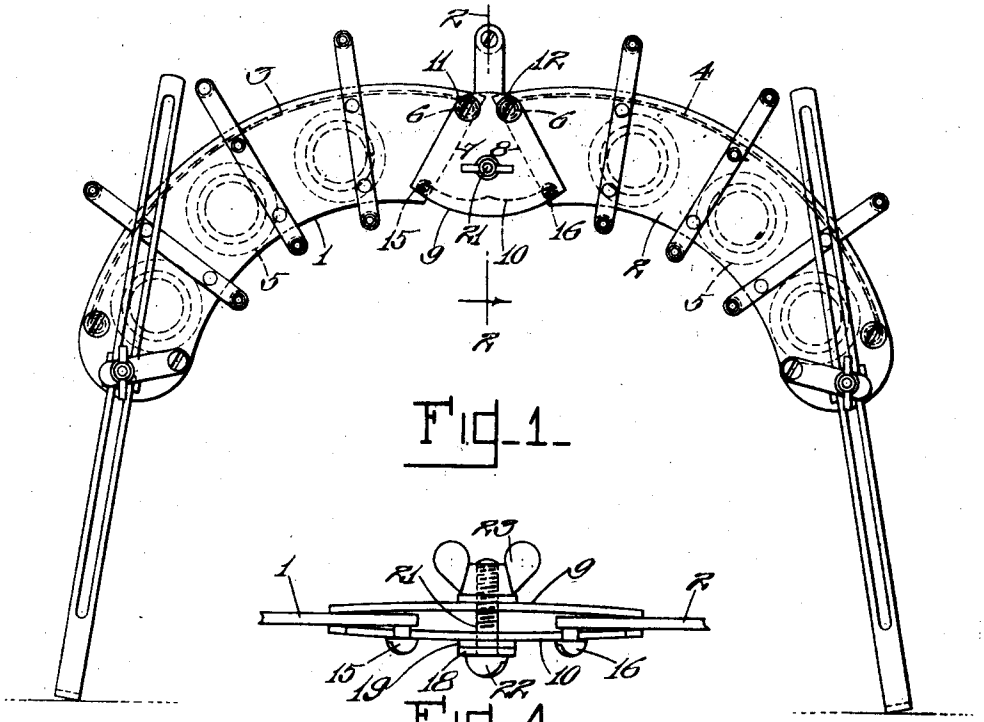


Fig. 1.

Fig. 4.

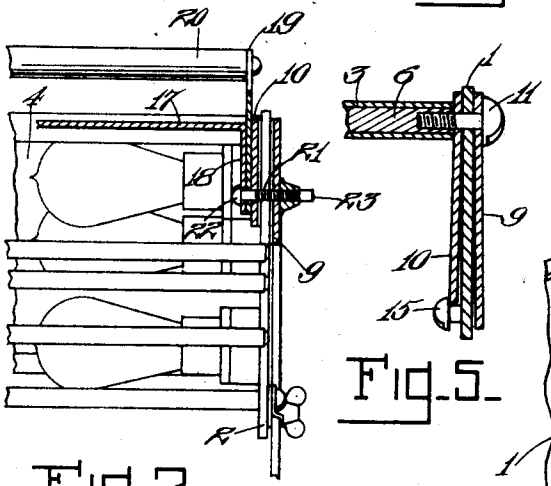


Fig. 2.

Fig. 5.

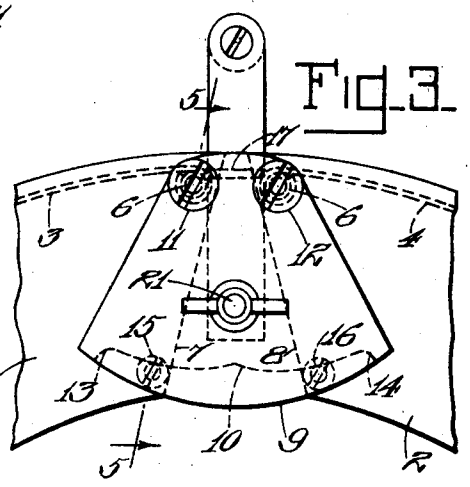


Fig. 3.

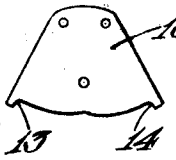


Fig. 6.

INVENTOR:
Walter S. Edmands
by Macleod, Calver, Copeland & Dike
Attys.

Patented Jan. 22, 1924. 1,481,257

UNITED STATES PATENT OFFICE.

WALTER S. EDMANDS, OF BOSTON, MASSACHUSETTS.

HINGE.

Application filed February 11, 1922. Serial No. 535,909.

To all whom it may concern:

Be it known that I, WALTER S. EDMANDS, a citizen of the United States, residing at Boston, county of Suffolk, State of Massachusetts, have invented a certain new and useful Improvement in Hinges, of which the following is a specification, reference being had therein to the accompanying drawings.

The invention relates to a new and useful improvement in hinges. It is especially intended for use in forming hinge connection between two members which it is desired to adjust to varying degrees of opening or spread, and to maintain them in their adjusted positions. Further it is more particularly intended for application in hinging together two segmental portions of a surgical baker although not limited to such application.

In surgical bakers of the character referred to and as shown in an application for patent filed by me January 28, 1922, Serial No. 532,461, each segmental member has a frame comprising two arc-shaped end plates and a concave reflector mounted on said side plates. One object of the invention is to form a hinge connection between the adjacent ends of each pair of side plates in such manner that when the outer ends of the two segmental members are spread apart, the gap between the adjacent ends formed by the spreading will be covered over. Another object is to provide means for positively limiting the extent of opening or spread of the two segmental members. Another object is to provide tension means for holding the members in any adjusted intermediate position between the fully open and fully closed.

The invention will be fully understood from the following description when taken in connection with the accompanying drawings, and the novel features thereof will be pointed out and clearly defined in the claims at the close of this specification.

In the drawings, Fig. 1 is a side elevation of a surgical baker equipped with hinges embodying the invention.

Fig. 2 is a section on line 2—2 of Fig. 1 partly broken away.

Fig. 3 is an enlarged view in elevation of the hinged portion and showing the segmental members partly opened out.

Fig. 4 is a bottom plan view of Fig. 3.

Fig. 5 is a section on line 5—5 of Fig. 3.

Fig. 6 is a detail view of the inner plate of the hinge member.

Referring now to the drawings, the supporting frame for the reflector, lighting and heating apparatus consists of two side plates 1, 2 at each side of the apparatus, the side plates for one side of the frame only being shown, the other pair of side plates being duplicates of those shown in Figure 1 only on the other side of the machine. A concave reflector 3 extends from one side plate 1 to the corresponding side plate, not shown, on the opposite side of the machine, and a similar reflector 4 extends from the outer periphery of the side plate 2 to the corresponding side plate on the opposite side of the machine. At 5 are indicated lamps which are mounted on the inner faces of the side plates to furnish light and heat for the baker. The upper edge of each reflector 3, 4 is bent around a stiffening rod 6.

The adjacent ends 7, 8 of each pair of side plates 1, 2 are very slightly spaced apart from each other at their upper edge and are formed so as to flare away from each other towards their lower edge, as shown in Figure 1, so as to allow for the adjustment. A sort of quadrant-shaped plate 9 overlies the adjacent ends of the two side plate members 1, 2 on their outer faces, and a quadrant-shaped plate 10 overlies the adjacent end of said plates on their inner faces. A pivot screw 11 passes through the outer quadrant plate 10 and the inner quadrant plate 9, as well as the interposed side member 1, and is screwed into the stiffening rod 6, said screw being threaded where it enters the rod 6 but preferably being smooth where it passes through the quadrant plates 10 and 9 and interposed side plate 1. A similar screw 12 passes through the quadrant plates 9, 10 and the interposed side plate 2 and is screwed into the stiffening rod at the inner upper edge of the reflector 4.

Two segment members each comprising two opposite side plates and connected reflector can thus easily be turned on their respective pivot screws 11 and 12 so as to move the said segment members and the reflectors connected therewith to spread them further apart or to draw them closer together. In order to limit the opening movement the

inner quadrant plate 10 is formed with shoulder portions 13, 14 near its opposite edges at its lower end, and stop pins 15, 16 are provided which project respectively from the inner face of the two side plates 1, 2 in position to be engaged with said shoulder portions 13, 14 when the segmental members are opened out to a predetermined position and limit the opening or spreading movement thereof.

Means are provided whereby the two segmental members may be held by a spring tension at any intermediate point between the fully open position and the closed position. The means provided are as follows:—

The two side plates 1, 2 as already stated, are embraced near their adjacent ends between the two quadrant plates 9, 10, and are somewhat spaced apart from each other at their adjacent ends. At least one of the quadrant plates is made of spring metal. Preferably this is the inner quadrant plate 10, if only one of them is made of spring metal. It is still more preferable to have them both of spring metal. The space over the top of the device between the adjacent ends of the two segmental members, is preferably closed by a cover strip 17 which extends crosswise of the machine over said open space and has a bent-down leg 18 at the end, which extends down on the inner side of the inner quadrant plate 10. Preferably also there is a handle 20 to which is attached a leg 19, said leg 19 extending down between the leg 18 and the inner face of the quadrant member 10. A screw 21 passes through the said legs 18—19 and through the quadrant plates 10, 9. The inner end of said screw is formed with a head 22 and on its outer end is screwed a wing nut 23 which may be set up to draw the head 22 of said screw outward and thereby bind the two quadrant plates 9, 10 tightly together, the spring plate 10 yielding, as shown in Figure 4, so as to give spring tension when the nut is set up.

By loosening the said nut 23 the tension may be relaxed so that the two segmental members may be adjusted to greater or less degree of opening, and when adjusted the nut 23 will be set up so as to bind the said members in adjusted position.

The cover strip 17 with its leg 18, and the handle with its leg 19, may both be omitted if desired, as they are not necessary parts of the hinge.

It is also to be understood that the application to the two members of a surgical baker is illustrative of one use to which the invention is adapted and that the invention is applicable to other devices.

What I claim is:

1. A hinge connection between two members, said hinge connection comprising two plates between which adjacent ends of the said two members are embraced, two pivots, one of which passes through both of said plates and through one only of the interposed members, the other of said pivots passing through both of said plates and through the other of said interposed members, and a clamping screw which passes through both of said plates and through a space between the adjacent ends of said members, said screw having a head on one end and means on the other end, whereby said two plates may be drawn toward each other and thereby frictionally bind the said two members together.

2. A hinge connection between two members, said hinge connection comprising two plates between which adjacent ends of the said two members are embraced, two pivots, one of which passes through both of said plates and through one only of the interposed members, the other of said pivots passing through both of said plates and through the other of said interposed members, and a clamping screw which passes through both of said plates and through a space between the adjacent ends of said members, said screw having a head on one end and means on the other end, whereby said two plates may be drawn toward each other and thereby frictionally bind the said two members together, at least one of said plates being composed of spring metal to produce a spring tension grip on said members.

3. In combination with two members to be hinged together at adjacent ends in such manner that the two members may be turned on the hinge to bring said adjacent ends into converging relation to each other, two plates between which the adjacent ends of said first two members are embraced, a pivot which passes through both of said plates and one of said embraced members, and another pivot which passes through both of said embracing plates and the member embraced between them, said two plates being of sufficient expanse to cover the space between the said two embraced members when they are opened out on the pivots.

In testimony whereof I affix my signature.

WALTER S. EDMANDS.