Dec. 8, 1942. W. S. EDMANDS 2,304,682

SURGICAL BAKER

Filed June 12, 1941 2 Sheets-Sheet 1

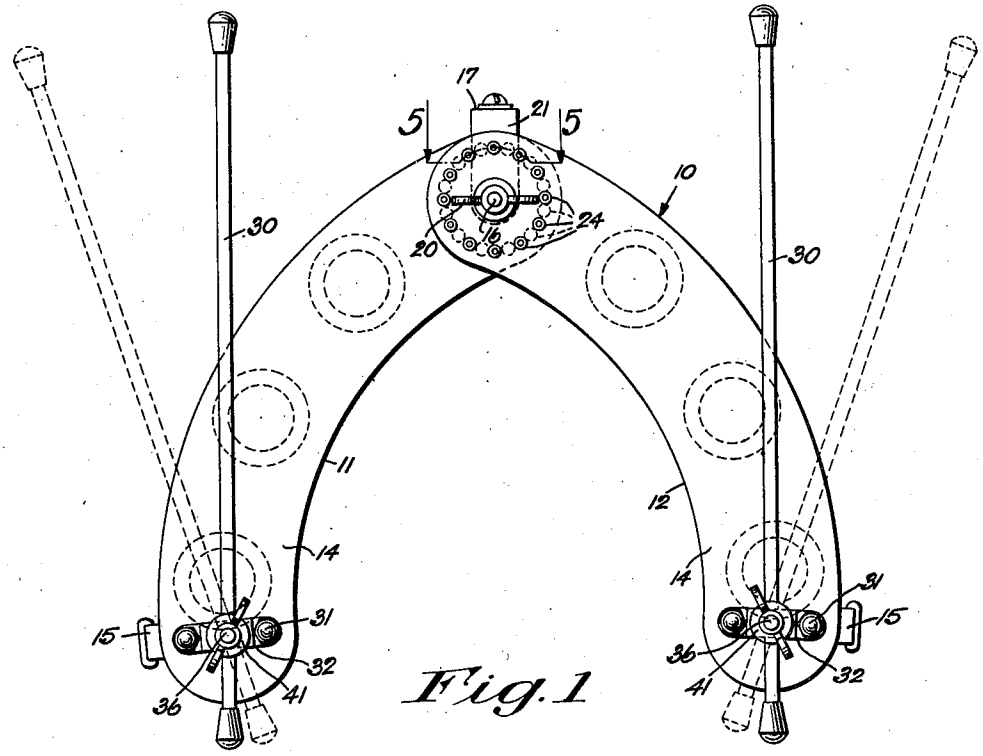

Fig. 1

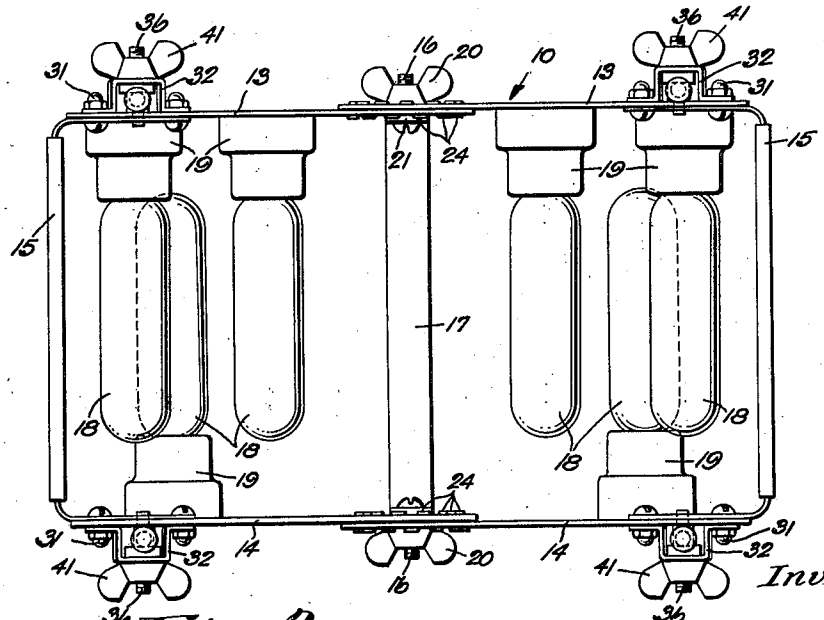

Fig. 2

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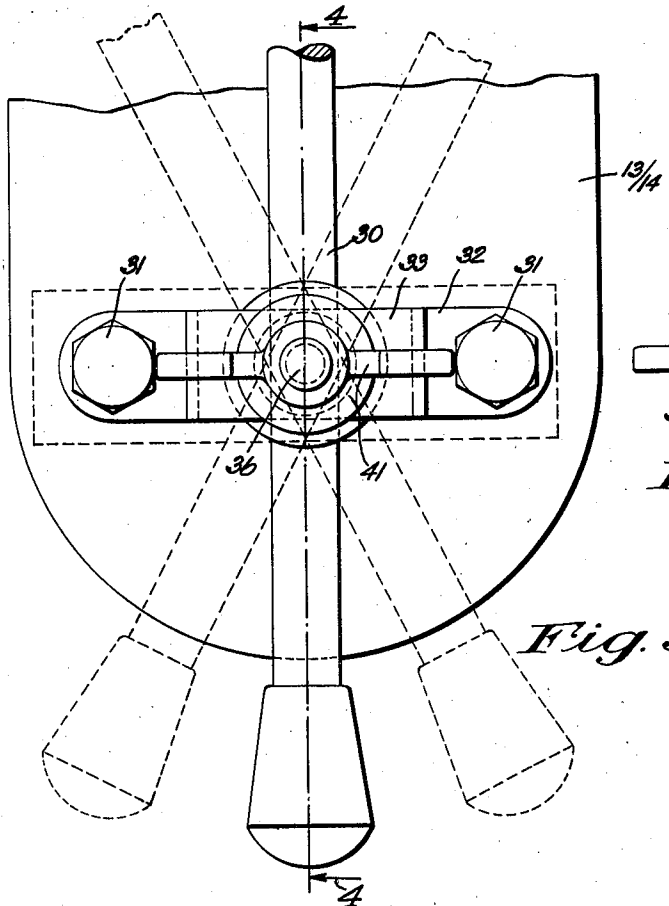

Fig. 3

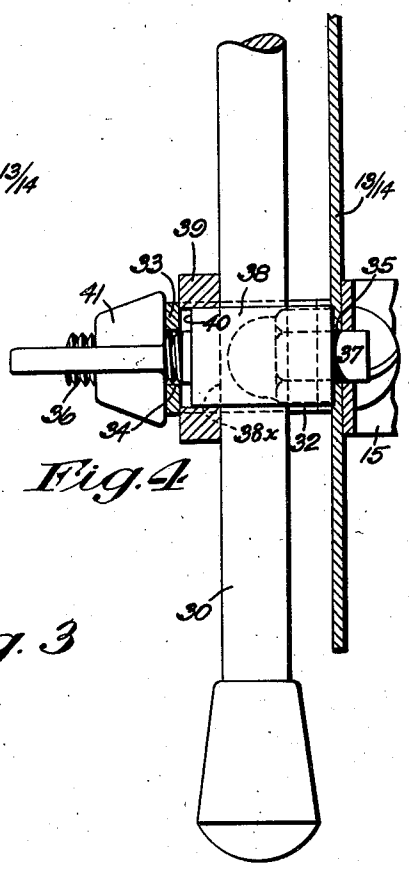

Fig. 4

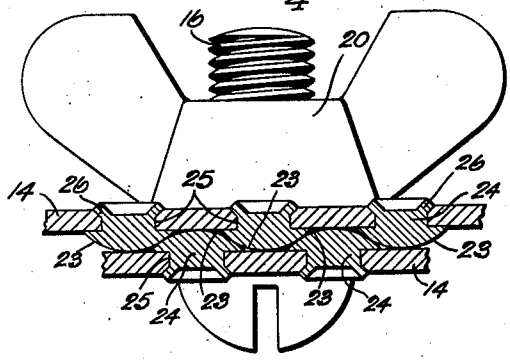

Fig. 5

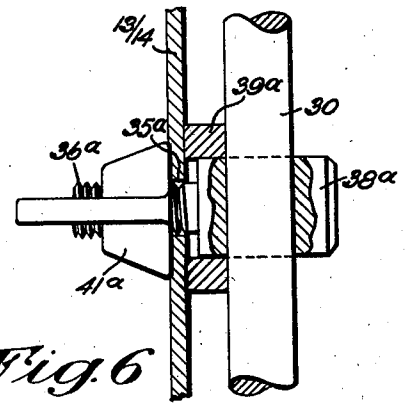

Fig. 6

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UNITED STATES PATENT OFFICE

2,304,682

SURGICAL BAKER

Walter S. Edmands, Boston, Mass.

Application June 12, 1941, Serial No. 397,756

2 Claims. (Cl. 287—3)

This invention relates to surgical bakers and more particularly to bakers of the type which straddle the body of the patient or any part thereof to be treated.

Surgical bakers of that type customarily consist of two pivotally connected frames which carry the heating elements and may be angularly adjusted to varying degrees of spread according to the size of the body or limb to be treated. To further adapt these bakers for application at varying height without interfering with their adjusted spread, they are usually provided with lengthwise, as well as angularly, adjustable legs. To accomplish these adjustments, the legs were heretofore longitudinally slotted to receive clamping screws on the frames of the bakers. However, the longitudinal slotting of the legs proved to be a costly operation and little conducive to mass production of the bakers.

It is the primary aim and object of the present invention to provide for an inexpensive and quick adjustment, both longitudinal and angular, for each non-slotted leg of a surgical baker.

It is also customary to clamp the pivotally connected heater frames of a surgical baker in any angularly adjusted relative position and to rely on the static friction therebetween to hold them in that position. Hence, unless the heater frames are clamped together with a considerable force, they may collapse when the patient moves advertently or inadvertently and their heating elements may burn the patient. On the other hand, tightly clamped heater frames do not readily permit corrective adjustment of their spread, as is so frequently necessary after initial or rough adjustment in order to bring the body or limb to be treated into the most beneficial proximity to the heating elements of the baker.

It is another object of the present invention to provide for the secure angular adjustment of the pivoted heater frames of a surgical baker which requires little force, yet permits safe corrective adjustment of these frames to most any extent.

Before explaining in detail the present invention it is to be understood that the invention is not limited in its application to the details of construction and arrangement of parts illustrated in the accompanying drawings, since the invention is capable of other embodiments and of being practiced or carried out in various ways. Also it is to be understood that the phraseology or terminology employed herein is for the purpose of description and not of limitation, and it is not intended to limit the invention claimed herein beyond the requirements of the prior art.

In the drawings:

Fig. 1 is a side elevation of a surgical baker embodying the present invention.

Fig. 2 is a bottom view of the surgical baker.

Fig. 3 is an enlarged, fragmentary view of a portion of the baker.

Fig. 4 is a fragmentary section taken on the line 4—4 of Fig. 3.

Fig. 5 is an enlarged, fragmentary section taken on the line 5—5 of Fig. 1.

Fig. 6 is a fragmentary section through a modified part of the baker.

Referring to the drawings and particularly to Figs. 1 and 2 thereof, the reference numeral 10 designates a surgical baker having two heater frames 11 and 12, each of which consists of spaced, segmental end members or plates 13 and 14 and a cross tie 15 at one end of said end plates. The end plates 13, 13 and 14, 14 of the heater frames are at their other end pivotally connected as at 16 and there further braced by a cross tie 17 which is secured in place in a manner to be described hereinafter. The heating elements are shown as consisting of electric lamps 18 which are fitted into sockets 19, attached to the segmental end plates 13 and 14 and suitably wired up and provided with switch connections in a well known manner. Since the present invention does not reside in the wiring or the switch connections, it is not deemed necessary to show the same. The parts thus far described are substantially as shown in my former Patent No. 1,667,775, May 1, 1928. If desired, the present baker may also be provided with light reflectors and protective guards such as shown in my mentioned prior Patent No. 1,667,775.

The pivots 16 are in the form of screws which extend through aligned holes in the adjacent end plates 13, 13 and 14, 14 of the heater frames and receive wing nuts 20 to clamp the latter in angularly adjusted relative position. The cross tie 17 is held in place by mounting its inwardly bent ends 21 on the screws 16. In order to lock the heater frames 11 and 12 in angularly adjusted relative position by means other than mere static friction between the clamped end plates 13, 13 and 14, 14, the latter are provided with relatively low, cam-shaped projections 23 (Fig. 5) which are arranged concentrically of the screws 16 at a substantially uniform radial distance therefrom (Fig. 1). These cam-shaped projections 23 are in the present instance formed by the convex heads of rivets 24 which are received in holes 25 in the end plates 13, 13 and 14, 14 and have their ends spun over in the fashion shown at

26 in Fig. 5. The rivets 24 are furthermore so angularly spaced from each other that the convex head of each rivet on each end plate 13 or 14 rests between, and is in cooperative engagement with, the convex heads of two adjacent, consecutive rivets 24 on the adjacent end plate in each angularly adjusted relative position of the heater frames, thus assuring a definite lock for the heater frames in every possible adjusted relative position. For a major or initial adjustment of the spread of the heater frames 11 and 12, the wing nuts 20 may be loosened in order to remove the clamping pressure from the heads of the rivets 24. However, the wing nuts 20 need not be loosened, or only very slightly, in order to undertake a relatively small, corrective adjustment of the spread of the heater frames, since the end plates 13, 13 and 14, 14 are made of relatively thin steel and, hence, are sufficiently springy to permit such corrective adjustment which will take place with a snap action as will be readily understood. Moreover, the rivets 24 are so radially spaced from the clamping means 16, 20 (Fig. 1) that they permit corrective angular adjustment of the heater frames on exertion of a comparatively small force, yet lock the latter in any adjusted relative position sufficiently securely to prevent the collapse of the heater frames under the advertent or inadvertent motions of the patient being treated, for instance.

The surgical baker also provides novel devices for longitudinally and angularly adjustably securing supporting legs 30 to the heater frames 11 and 12. Since these devices are all alike, only one will be described with particular reference to Figs. 3 and 4. Mounted by screws 31 on each end plate 13/14 is a generally U-shaped bracket 32 (see also Fig. 2) whose yoke 33 is provided with a hole 34 (Fig. 4) which is in axial alinement with a hole 35 in the adjacent end plate. Received in these holes 34 and 35 are a threaded shank 36 and a blank shank 37, respectively, of a stud 38 which is provided with a transverse bore 38*x* to longitudinally slidably receive a leg 30. A spacer 39 is interposed between the leg 30 and the yoke 33 of the bracket 32. The thickness of this washer 39 is larger than the distance between the annular shoulder 40 of the stud 39 and the nearest wall portion of the transverse bore 38*x*. Threadedly received by the shank 36 of the stud 38 is a wing nut 41 which, on being tightened, draws said stud to the left as shown in Fig. 4 and, hence, forces the leg 30 against the washer 39 and the latter against the yoke 33. In this manner is the leg 30 in any longitudinally and/or angularly adjusted position securely clamped to the bracket 32 through intermediation of the washer 39. To adjust the leg 30 either longitudinally or angularly, or both, it is merely necessary to loosen the wing nut 41.

In the modified arrangement in Fig. 6, the threaded shank 36*a* of the leg-receiving stud 38*a* extends through a hole 35*a* in the end plate 13/14, and the wing nut 41*a* solely holds all the parts 30, 38*a* and 39*a* in place. This construction permits the elimination of the U-shaped bracket 32 in Figs. 1 to 4. It is, however, preferable to use the construction shown in Figs. 3 and 4 with the U-shaped bracket 32 so that the leg-receiving stud 38 will be held in place when the wing nut 41 is loosened or even removed.

I claim:

1. In combination with a bored frame and a leg therefor, means for longitudinally and angularly adjustably securing said leg to said frame comprising a U-shaped bracket secured to the frame with the yoke of the U spaced therefrom and said yoke having a bore in alignment with the bore in the frame, a pivot member having a transverse hole in which said leg is longitudinally slidable and cylindrical ends slidable in said aligned bores, respectively, one of said ends extending beyond said yoke and being threaded, a spacer between said leg and yoke, and a nut over said threaded end for clamping said leg and washer to said bracket.

2. In combination with a bored frame and a leg therefor, means for longitudinally and angularly adjustably securing said leg to said frame comprising a projecting lug on said frame having a bore spaced from, and in axial alignment with, the bore in the frame, a pivot member having a transverse hole in which said leg is longitudinally slidable and cylindrical ends slidable in said bores, respectively, one of said ends extending beyond its respective bore and being threaded, a spacer between said leg and lug, and a nut over said threaded end for clamping said leg and spacer to said lug.

WALTER S. EDMANDS.