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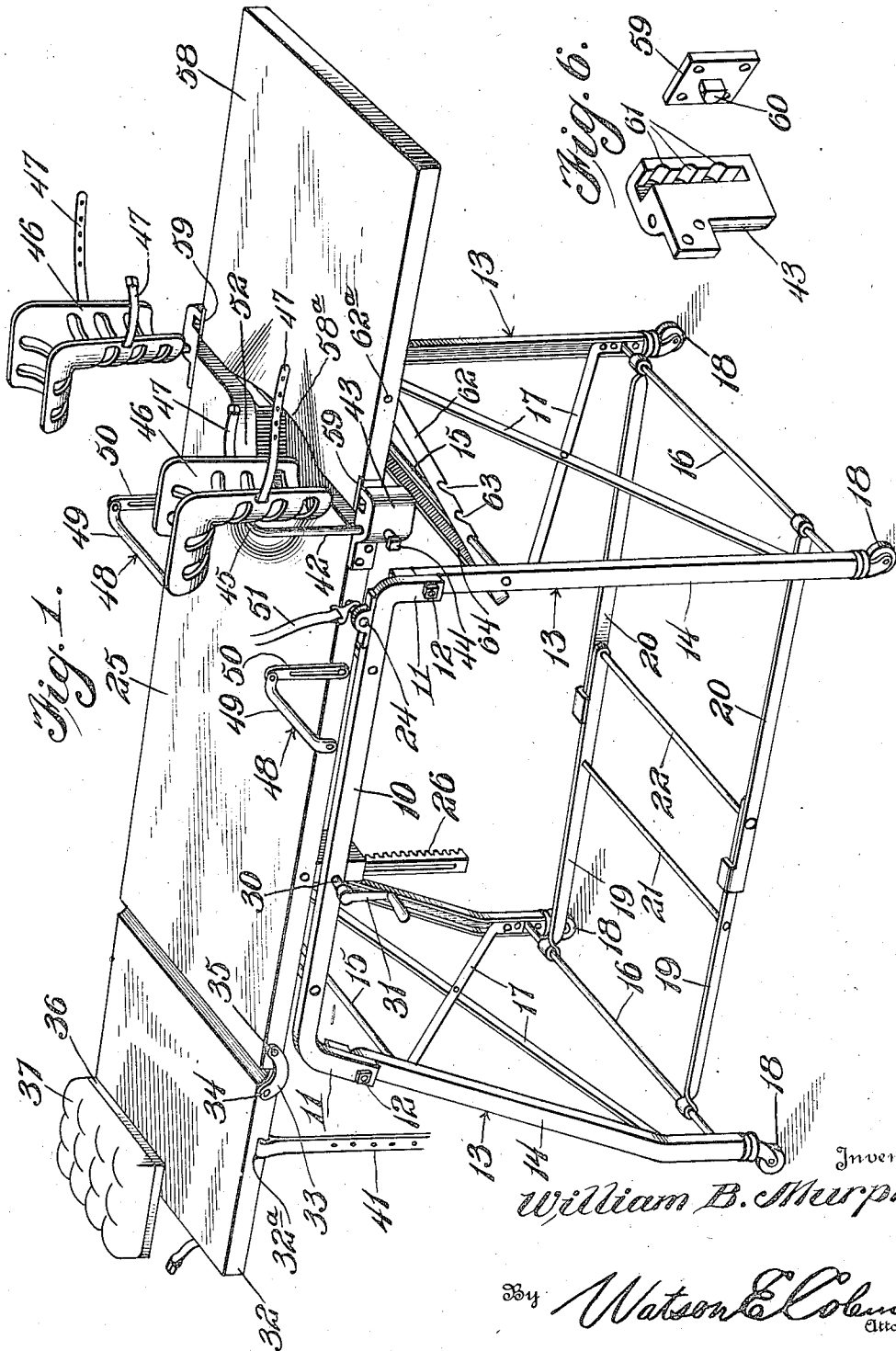
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W. B. MURPHY

OBSTETRIC TABLE

Filed Nov. 4, 1924

3 Sheets-Sheet 1



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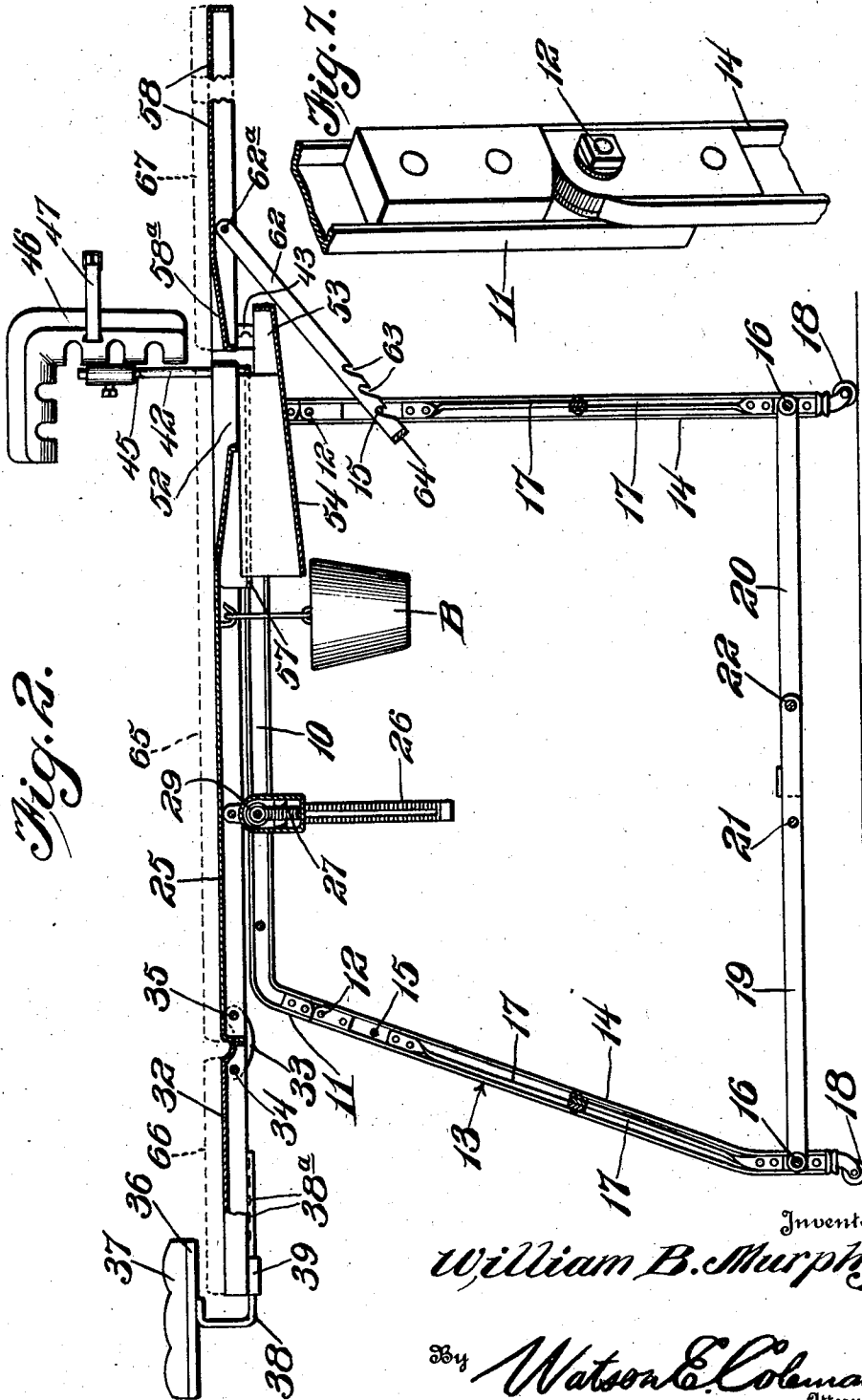
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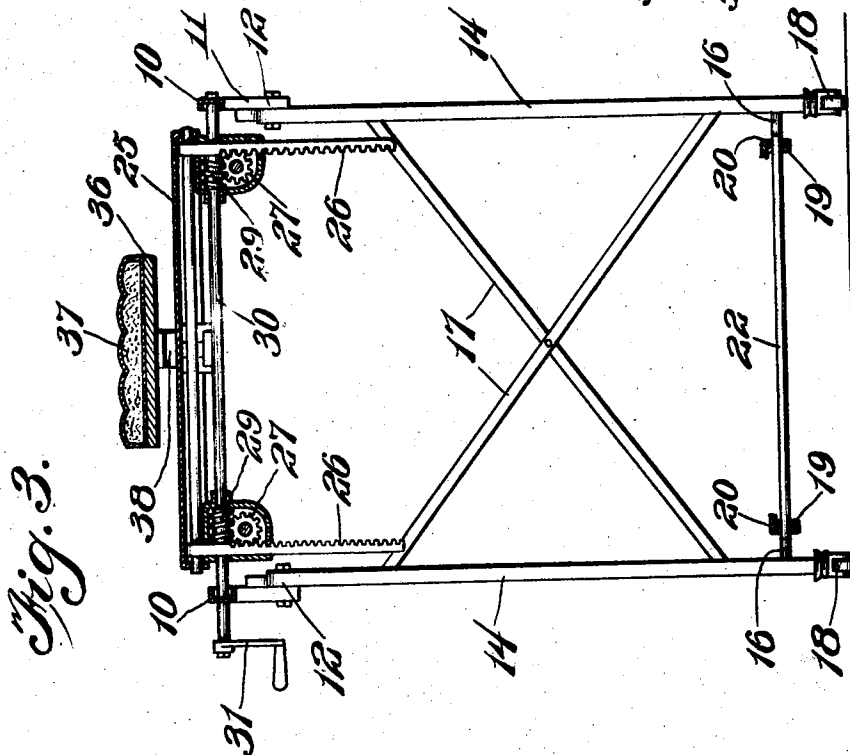
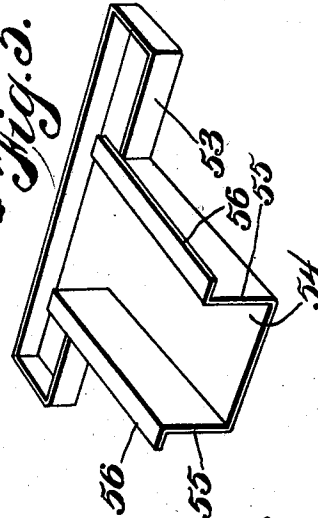
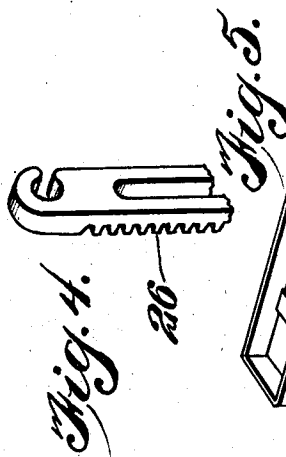
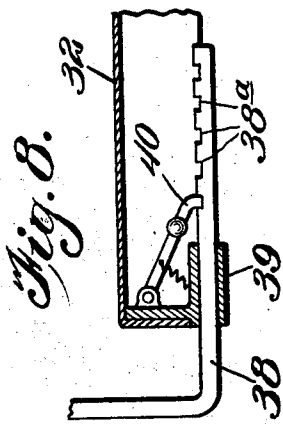
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OBSTETRIC TABLE.

Application filed November 4, 1924. Serial No. 747,824.

This invention relates to surgical appliances and has for its object the provision of a collapsible and portable combined table and bed adapted particularly for use in obstetrical cases, the construction and arrangement being such that the device may be easily carried about by the practitioner and be set up in private homes or other places where its use is desired.

An important object is the provision of a device of this character which is adjustable so as to have an inclination whereby gravity will assist in the delivery of the fetal child, a portion of the main supporting element being, moreover, cut away to avoid interference with the foetal head or body so that upon delivery it may pass onto an adjustable support forming a portion of the apparatus.

Still another object is the provision of a table of this character provided with an adjustable head rest and equipped with removable cushions of impervious material, the device not only serving as a table during delivery but additionally serving as a bed upon which the patient may lie comfortably prior to as well as during or even after labor.

A further object is the provision of a structure for this purpose equipped with means for holding the patient against falling in case of violent movements during pain or when partially anesthetized, the device being further equipped with novel means for holding the legs elevated and separated to permit the physician to have necessary access, particularly in case of instrumental delivery.

A still further object is the provision of a drain device positioned below the above mentioned cut-away portion of the main support for catching and conducting to a receptacle all waste fluids, the device being thereby kept in a comparatively clean and satisfactory condition during use.

The invention further contemplates the provision of foldable pulling handles and detachable straps adapted to be grasped by the patient for assisting in the proper muscular effort involved in and necessary to normal delivery.

With the above and other objects and advantages in view, such as comparative simplicity, cheapness, efficiency, durability, and a general improvement in the art, the in-

vention consists in the details of construction and arrangement of parts to be hereinafter more fully described and claimed, and illustrated in the accompanying drawings in which:

Figure 1 is a perspective view of the complete device.

Figure 2 is a longitudinal section.

Figure 3 is a cross section.

Figure 4 is a detail section showing the adjustment feature for the main support.

Figure 5 is a perspective view of the drain trough.

Figure 6 is a view in perspective of a socket member and a coacting bracket separated and unapplied.

Figure 7 is a fragmentary perspective view of one of the leg joints; and

Figure 8 is a fragmentary longitudinal section through the head portion of the table showing the manner in which the head rest support is mounted and adjusted.

Referring more particularly to the drawings, I have shown the device as comprising a pair of upper horizontal bars 10 spaced apart and formed at their ends with depending angularly extending portions 11 upon which are hinged or pivoted, at 12, end frames designated broadly by the numeral 13. These connections are made and reinforced as shown, and are of a more or less rule-joint nature. Each end frame includes legs 14 connected by upper and lower rods 15 and 16, respectively, and reinforced by diagonal braces 17 secured in crossed relation, the ends of the braces being angled and suitably secured to the legs. At their lower ends the legs 14 are preferably equipped with casters 18 which facilitate moving the device about when in set-up position.

For holding the end frames 13 in set-up position and preventing accidental folding, I provide bars 19 and 20 pivoted upon the cross rods 16 and connected by cross rods 21 and 22, respectively, welded or otherwise secured thereto. Both sets of bars 19 and 20 are pivoted upon the cross rod 22 and the ends of the bars 20 overlap the ends of the bars 19 and are formed with lateral extensions 23 overlying the bars 19. Obviously, by moving the bars 19 and 20 upwardly the joints may be broken to permit folding of the end frames 13 upon the hinges 12 so that they will lie compactly against the bars 10.

Extending across the bars 10 near one end thereof, is a rod 24 upon which is pivoted the main section 25 of the table. Depending from the section 25 are pivotally mounted
 5 slotted racks 26 with which mesh gears 27 engaged by worms 29 on a shaft 30 which is straddled by the slots in the racks and rotatably mounted through the bars 10 and which is equipped with a crank handle 31.
 10 By turning the crank handle it is evident that the rotation of the gearing will cause movement of the racks which will operate to tilt the support 25 upon the pivot rod 24 so that the angular position of the support
 15 may be varied to meet different conditions.

Mounted at the end of the support 25 most remote from its pivot 24, is a head section 32 carrying links 33 at its sides which are pivoted to the head section 32 of the
 20 table by a rod 34 and which are also pivoted to the support 25 by a similar rod 35 passing therethrough. Normally, the head section 32 lies in the same plane with the main support 25, this position being maintained
 25 by the abutment of the edge of the extension against the adjacent edge or end of the support 25. However, it will be observed that when desired, the extension may be swung over to lie upon the main support.

The numeral 36 designates the head rest which is padded, as indicated at 37, and has an angular shank 38 adjustably slidably engaged within a guide 39 on the outer end of the extension 32, the position being main-
 35 tained by a pivoted latch device 40 cooperating with notches 38^a in the shank (see Figure 8).

In order that the patient may not fall off the device during pain or under the effects
 40 of an anesthetic, I provide adjustable shoulder straps 41 suitably mounted on the extension 32, as by engaging them through slots 32^a.

At the lower corners of the main support
 45 25 I provide limb holding devices which are somewhat similar to the well known Bierhoff crutch. Each of these devices includes a rod 42 adjustably mounted through a suitable socket member 43 at each lower corner
 50 of the table and adapted to be held in adjusted position by a set screw 44 or the like. At their upper ends the rods 42 are formed with laterally extended portions 45 and pivoted thereto are angular supports 46 of a
 55 length to reach to the heel of the patient's foot and to extend above the knee so as to provide adequate support at all times. A suitable adjustable strap 47 is provided for positively securing the leg upon the crutch device. These members are preferably of fenestrated metallic construction so as to be strong and rigid while light in weight, and the outer sides are higher than the inner.

Suitably mounted at opposite sides of the
 65 support 25 are pulling handles 48 formed of

hingedly connected sections 49 and 50 where-
 by they may be collapsed and folded down onto or against the side edges of the support 25 when collapsing of the entire device is
 70 desired or when use of the handles is not necessary. Another feature is the provision of elongated pulling straps 51 which may be of canvas or the like and which are equipped with snap hooks or other equivalent devices whereby they may be adjustably
 75 engaged upon the pivot rod 24 outwardly of the support 25. The function of the pulling handles and pulling straps has been set forth in the objects and a repetition is unnecessary, especially inasmuch as the
 80 utility of the apparatus is apparent to one skilled in the art.

When the patient is in proper position upon the table the perineum is of course adjacent the lower end of the support 25 and
 85 to preclude any possibility of interference of the end of the table with the ejection of the foetal head, this lower end of the support is cut away along a curve, as indicated at 52, this cut-away portion being of addi-
 90 tional advantage in permitting the physician to have absolutely unobstructed access to the parts for permitting any necessary manipulation or the insertion of forceps or
 95 other instruments.

In order that all waste fluids may be caught and disposed of, I provide a trough structure including a main portion 53 which inclines downwardly from its ends toward
 100 its center and which leads into a trough portion 54 extending longitudinally of the support 25. This portion 54 inclines downwardly from the portion 53 and has its sides
 55 provided at their upper edges with out-turned flanges 56 slidably engaging in
 105 guides 57 on the underside of the support 25 whereby the entire trough structure may be slid forwardly to bring the portion 53 at the lower end of the support 25 to catch all waste materials. When the use of the
 110 trough is not desired it may be slid back under the table. Any suitable suspension device is provided for supporting a bucket B or other similar receptacle into which this trough device discharges. A portion of the
 115 support 25 adjacent the cut-out 52 is concaved to conduct all waste fluids to the trough.

In some instances, especially when the device is used as a bed, it is desirable to have
 120 a foot section for the table which will support the patient's limbs and receive the baby when it is delivered. In carrying out this feature I provide a table section 58 provided at two corners with brackets 59 hav-
 125 ing outwardly extending semi-cylindrical lugs or trunnions 60 thereon adapted to be engaged within sockets 61 in the outer edges of the members 43. By this means the foot
 130 section 58 is pivoted with respect to the sec-

tion 25. In order that the angular position may be changed as desired, I provide a U-shaped member including arms 62 which are pivoted upon a rod 62^a extending transversely through the extension 58 and which are formed with notches 63 selectively engageable upon the uppermost cross rod 15 at the adjacent end of the frame. The right portion 64 of the U-shaped member connects the arms 62 so that they may be adjusted in unison. The extension 58 may, if desired, be used as a support onto which the new born infant may pass and be supported immediately after birth, and the edge nearest the support 25 is centrally depressed or concaved, as shown at 58^a to facilitate draining of liquids into the trough.

In my construction it is not intended that the foot section 58 shall fold over upon the section 25 as does the head section 32 but the foot section is detachable and vertically and angularly adjustable. This detachability and adjustability is of great importance in a table of this kind. The section 58 may be readily detached by raising the trunnions 60 out of the slots 61 in the supports 43. This foot section can be raised or lowered into several planes and in addition to this foot section occupying any one of a number of planes, it is adjustable to any desired angle with reference to the table section 25. Some of the advantages of being able to place this foot section 58 in several planes are that during the early stages of labor when the patient requires a straight, full length, comfortable bed to recline upon, the section 58 is placed in the same plane as the table 25, but as labor progresses and the baby's head causes the perinæum to bulge or when the head or shoulders and body begin to emerge, it is of the greatest assistance and benefit to the patient, shortening the labor and reducing her pain to have all obstruction and interference removed. In the ordinary felt, feather or mattress bed, the bed and bed clothes will, in spite of all the physician can do, bulge up between the thighs and against the perinæum, making it much harder for the patient to complete her labor. The table section 58 removes all this difficulty and trouble, as it may be placed in a lower plane as labor progresses and thus the baby arrives nicely without meeting any external resistance. A table section of this character, therefore, spares the woman a great deal of hard pain, supports and relieves the baby's head of long and hard pressure and spares the obstetrician much hard work, anxiety and time. Furthermore, it receives the new-born infant when he arrives.

Disposed on the various supports 25, 32 and 58 are removable pads or cushions 65, 66 and 67, respectively, which in actual practice are constructed of some impervious ma-

terial such for instance, as rubber stuffed with padding. Obviously, when the device is used as a bed ordinary bed linen may be disposed over these pads although this is a detail which is not illustrated. It is to be particularly noted that the upper section or head section 32 and the table section 25 are so connected to each other that they practically form a rigid unit in the use of this device, the head section 32 being only folded over upon the table section 25 when the whole table is collapsed and folded for carriage, and the head section 32 is not intended to be adjustable, though the head rest 37 is adjustable. The two sections 25 and 32, therefore, form a rigid unit and by means of the elevating racks 26, the table is turned upon its pivot 24 and carried upward, the head of the table describing a circle. The other end of the table section 25 remains stationary, as far as any vertical movement is concerned, on the pivot 24. This carries the patient's head and body up together, while her hips and perinæum remain stationary at the lower end of the table section 25 where the same is cut away just over the pivot. This is very important, as it brings gravity into play and assisting the expulsive efforts of labor. The table section 58 being either lowered or entirely removed and the fact that the table section 25 is cut away at 52, there is nothing to impede the progress of a normal labor. The patient is in perfect position for ideal work on the part of the obstetrician. Elevating or lowering the patient's body as provided for in this table cannot operate to his inconvenience or disadvantage, but is always for his advantage and assistance, the patient being placed almost instantly in any position he desires. The patient is now reclining comfortably on those portions of the bed 65 and 66, her head comfortable on the head rest 37, her hips at the lower end of 25 over the pivot 24, her perinæum over the cut-away place in 25, her legs strapped to the leg holders, her shoulders secured by straps 41, the table now elevated to any desired angle the obstetrician has before him the very best positions and conditions for ideal work. These advantages and benefits are for mother, infant and obstetrician. The latter can now sterilize the woman's parts easily, he can examine her easily and thoroughly, thus ascertaining what conditions confront him, and he can meet the needs of the case in the best possible manner, whether it be a normal or abnormal case, whether he must use instruments or pass his arm into the woman's womb and perform version and extract, whether it is the prevention of injuries and infection to the woman, or the repairing of tears in the perinæum or the cervix. These tears frequently are left unrepaired as the obstetri-

cian cannot get to them and the woman generally goes through life suffering from the effects, whether it is the management of dangerous placenta praevia, post-partum hemorrhage, or sparing the woman the exhaustion of a prolonged, hard labor. It protects the baby from the pressure effects of a prolonged and hard birth, e. g. head injuries or death. It prevents him inspiring some of the water, blood, etc., discharged from the womb and ponded up on the ordinary bed just where baby's face and mouth must pass. It spares the obstetrician much time, anxiety and taxing effort. The woman cannot fall or get off of the table, e. g. when in great pain or partially anesthetized, as the shoulder and leg straps hold her.

When the use of the device is not desired, the extension 58 is detached from the remainder of the table or the table proper and the brace arms 62 swung flat against its underside, the racks 26 are detached at their upper ends from the transverse rod 24 which is secured by providing a split or hook-shaped bearing in the upper end of the rack 26 to engage the rod 24, the rack 26 and the housing of the pinion 27 and the screw 29 all swinging in a vertical plane on an axis constituted by the shaft 30. The head-rest 36 is detached, the extension 32 is folded over onto the support 25, the crutch devices are removed from their sockets 43, the handles 48 are folded down or collapsed, the pulling straps are detached from the rod 24, the braces 19 and 20 are broken at the joint and folded, and the end frames 13 are folded against the bottom of the bars 10. The device is then in very compact form and may be stored within a suitable carrying case of relatively small size so that the device is well adapted for use by general practitioners and others who must perform the work in private homes or other places where hospital facilities are not available. Ample provision has been made for all necessary adjustments to meet the requirements of different individual patients and to meet various conditions which may be found to exist in certain cases. The material employed throughout is light and yet of such a nature as to insure proper strength and rigidity of the parts so that the device should have a long and satisfactory life.

My obstetric bed table has the following qualities: Light, most of its frame being of small steel for strength; the table top of polished aluminum, thin sheet; there are no useless or unnecessary parts that could add weight. It is simple, easily sterilized, strong, secure, foldable, collapsible, portable, convenient, comfortable and adjustable. It shortens labor, reduces suffering, anxiety, exhaustion and possible death of mother or baby. It enables the obstetrician to employ

so much greater skill in his work. He can better protect the woman against tears of the perinaeum or cervix, but if such should happen he can promptly repair same. This is important, as many women are not repaired because the obstetrician cannot get to the parts and the women go through life suffering as a result. He can use forceps or other instruments ideally or introduce his arm into the vagina and womb to perform version, turning of the baby, the better handling of bleeding cases, placenta praevia, retained placenta, practice asepsis and protect the woman against infection. The baby is better protected against head injuries, from prolonged hard labor, suffocation and occasional death. The obstetrician is spared much time, hard work and anxiety.

While I have shown and described the preferred embodiment of my invention, it is of course to be understood that I reserve the right to make such changes in the form, construction and arrangement of parts as will not depart from the spirit of the invention or the scope of the subjoined claims. Having now described my invention, what I claim is:

1. In an obstetric table, a frame structure including upper side bars, end frames hinged upon the side bars for movement into or out of parallel relation to said side bars, brace members, each pivotally connected to one of the end frames and normally holding the latter in spaced upright relation, said brace members being foldable to permit folding of the end frames against the under sides of said upper side bars, a main table section pivotally mounted adjacent its foot end to said side bars for movement into a horizontal position or into angular relation to the side bars, leg supporting crutch members adjustably mounted at the foot end of the main table section beyond the pivotal axis of said section, a table member mounted upon that end of the main table section adjacent which it is pivoted for angular adjustment with reference to the main table section or for adjustment in a plane at right angles to the face thereof, the main table section being cut away at its lower end, the cut away portion opening upon the end of the main table section, and a pan disposed beneath this cut away portion.

2. In an obstetric table, a frame structure including a pair of upper side bars, end frames hinged upon the side bars, braces normally holding said end frames in a vertical position but permitting the end frames to be folded into parallel relation to the side bars, a main table section pivoted near one end between said side bars, leg supporting crutch members mounted upon said main table section forward of the pivotal end thereof, said crutch members being vertically adjustable and having swinging move-

ment, a head section hingedly mounted upon the opposite end of the main table section but capable of being folded over onto the top of the main table section, and an auxiliary table section detachably engaged with the foot end of the main table section and being angularly adjustable with relation to the same and adjustable in a plane at right angles to the plane of the main table section, said auxiliary table section having a pivoted brace engageable with the adjacent end frame for maintaining the auxiliary table section in any angularly adjusted position.

3. An obstetric table including a main, flat table section pivotally supported at one end and a table supported at the pivotal end of the main section for movement into or out of angular relation thereto and for bodily movement at right angles to the surface of the main section toward or from the main section.

4. An obstetric table comprising a main, flat table section, a frame extending parallel to and supporting the main section, forward and rear pairs of legs, foldable braces bracing each pair of legs from each other, means for adjustably raising or lowering the head end of the main table section including a transverse rod supported by the table section, a transverse shaft, rack bars slidably and rotatably engaged with said shaft and detachably engaged with the first named rod, means for manually rotating said shaft, and means for transmitting power from the shaft to said rack bars including pinions engaging the rack bars, the pinions being mounted for rotation with the rack bars around said shaft.

5. An obstetric table including a supporting frame having legs, a main table section pivoted adjacent its foot end to said frame, means for vertically shifting the head end of the main table section including a transverse rod on the table section, a transverse shaft mounted upon the frame and having worms at its opposite ends, rack bars having hooked ends detachably engaged with the ends of the transverse rod and longitudinally slotted to permit the passage of said shaft, supports through which the rack bars pass and oscillatable upon the transverse shaft, and pinions engaged by the worms and engaging said rack bars and carried by said supports, the hooked ends of the rack bars being disengageable from said rod to thereby permit the rack bars, the housing, and the pinions to be turned into parallel relation to the under face of the table section.

6. An obstetric table including a supporting frame, a main table section pivotally mounted adjacent one end to the supporting frame whereby it may be turned into or out of a horizontal plane, an auxiliary table

section pivotally engaged with the pivotal end of the main table section and adjustable into angular relation thereto, the auxiliary table section being also adjustable bodily in a direction at right angles to the face of the main table to thereby adjust the inner end of the foot section toward or from the plane of the main section, the pivotal end of the main section being cut away and the upper face of the adjacent end of the foot section being depressed, and means for supporting a pan beneath the cut-away portions of the main section and beneath the joint between the main section and the foot section.

7. An obstetric table including a main section, a supporting frame therefor to which the main section is pivoted at one end, supporting members mounted upon the pivotal end of the main section on each side thereof and each having a vertically disposed recess opening upon the inside face of the member and at the top thereof, one wall of said recess having a plurality of depressions, an auxiliary table section having laterally disposed trunnions engageable in the recesses of said brackets and with said depressions to hold the table section in the same plane as the main section, said trunnions being vertically adjustable within said sockets to carry the auxiliary table section into or out of the same plane as the table section, and a brace adjustably supporting said foot section but permitting it to be shifted in a vertical plane or to be turned upon its trunnions into angular relation to the main section.

8. An obstetric table including a main section, a supporting frame therefor to which the main section is pivoted at one end, supporting members mounted upon the pivotal end of the main section on each side thereof and each having a vertically disposed recess opening upon the inside face of the member and at the top thereof, one wall of said recess having a plurality of depressions, an auxiliary table section having laterally disposed trunnions engageable in the recesses of said brackets and with said depressions to hold the table section in the same plane as the main section, said trunnions being vertically adjustable within said sockets to carry the foot section into or out of the same plane as the table section, a brace adjustably supporting said foot section but permitting it to be shifted in a vertical plane or to be turned upon its trunnions into angular relation to the main section, said brackets having vertically disposed sockets, rods having shanks engageable in said sockets and rotatably adjustable therein, the rods being angularly bent, and transversely concave, angular supports carried by said rods and adjustable thereon.

9. In an obstetric table, a main table section, a support therefor having legs which

- are foldable into or out of parallel relation to the main table section, a head section which is foldable over upon the main table section, a detachable auxiliary section, hand grips mounted upon said main table section at each side thereof, each hand grip including a member pivoted to the side edge of the table and extending upward and forward, and a member pivoted to the upper end of said first named member and engaged with the side edge of the table for vertical movement whereby said hand grips may be normally depressed to permit the compact folding of the table.
10. In an obstetric table, a support, a main table section pivotally mounted at one end upon said support, a head section hingedly mounted upon the main table section for movement into the same plane therewith or into parallel position on top of the main table section, a head rest, a rod supporting the head rest and extending downward therefrom and then extending beneath the head section, a bar having notches, a guide through which the notched portion of said bar passes, and a pawl engageable with said notches to thereby hold the head rest in adjusted position.
- In testimony whereof I hereunto affix my signature.
- WILLIAM B. MURPHY.