

[54] OBSTETRICAL INSTRUMENT

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128/323, 341, 352, 20

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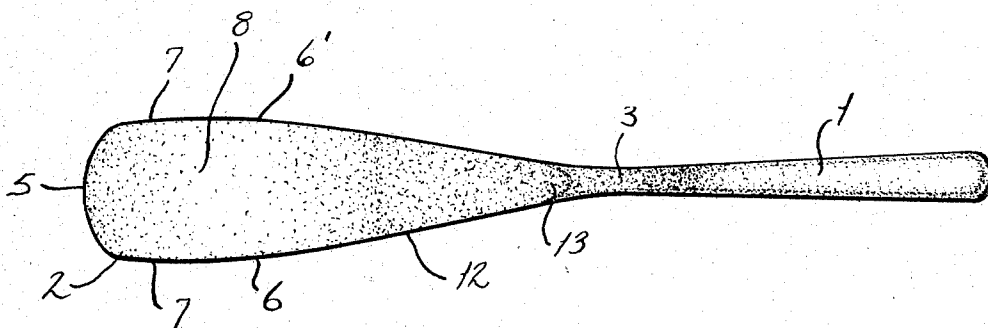
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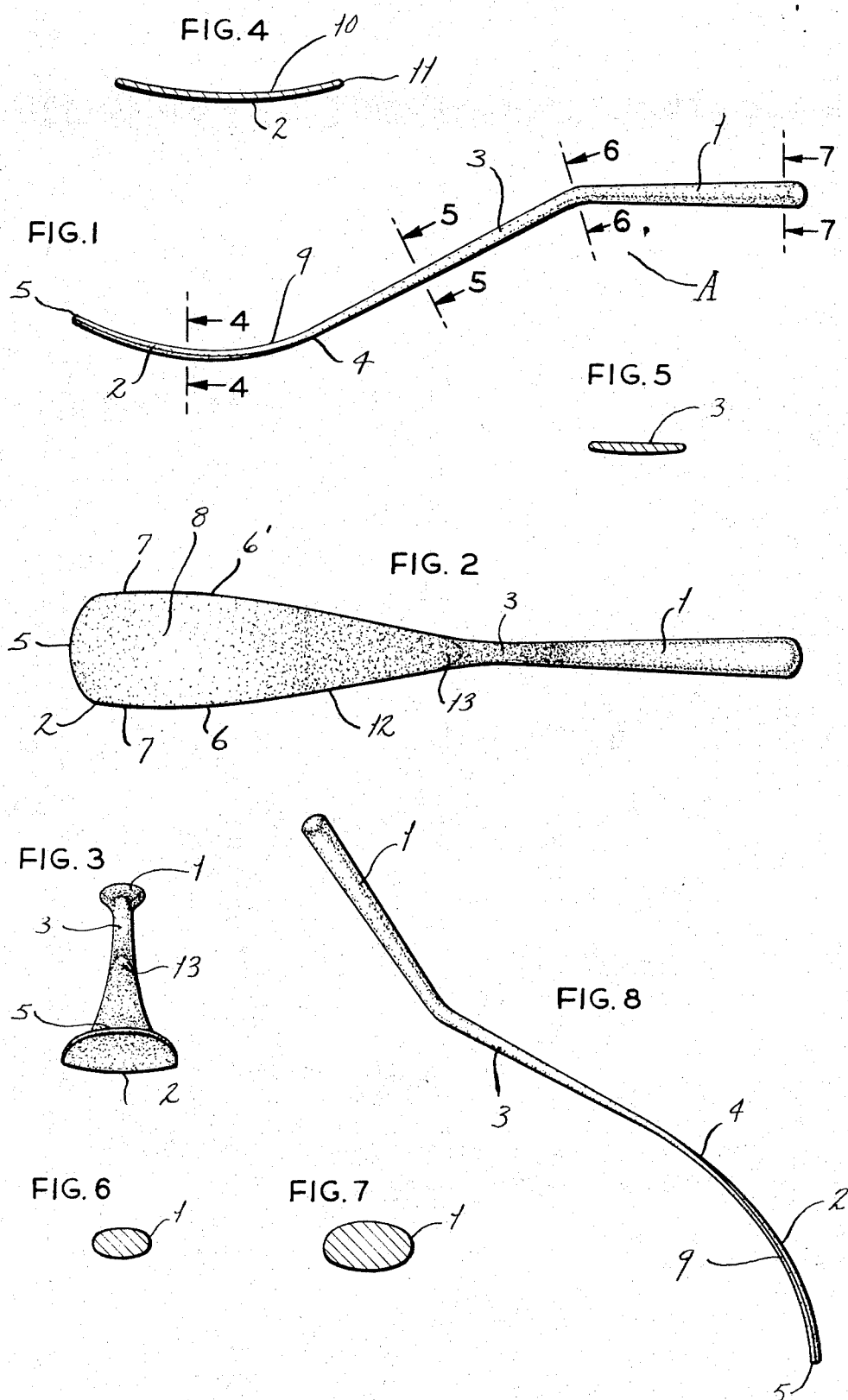
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[57] ABSTRACT

An instrument for obstetrical and surgical use being of general dipper form having a relatively short handle, a thin, rounded edge plate-like head and an intermediate narrow section between said head and said handle; said head being longitudinally arcuated and tapering rearwardly toward said intermediate section.

2 Claims, 8 Drawing Figures





OBSTETRICAL INSTRUMENT

BACKGROUND OF THE INVENTION

This invention relates generally to the field of medicine, and more particularly, to an instrument for use in obstetrics as well as a retractor for general surgical use. This application is a continuation-in-part of application Ser. No. 61,229 filed Aug. 5, 1970, upon Obstetrical Instrument, now abandoned.

Heretofore, numerous efforts have been expended to develop obstetric instruments for facilitating parturition so as to reduce insult to the perineum. The rapid expulsion of the fetal head through the vulva is desired in order to reduce the second stage of labor and prevent injury to the perineum caused by delays or retardation in such expulsion. Most primipara have resistant perineum which impede the exit of the fetal head and such most frequently results in laceration of the perineum by the ultimate expulsion of the fetal head which injury normally involves the sphincters of the recto-vaginal spectrum. One expedient practiced widely at the present time for the purpose of ameliorating such perineum insult has been episiotomy to effect an enlargement of the vaginal canal outlet through incision which may vary as to depth and length depending upon the particular anatomical characteristics of the mother.

Furthermore, in conditions wherein resistant perineum is encountered so that a relatively long and difficult labor develops, quite often the same might cause the facial features of the fetus to be traumatized.

Accordingly, the present invention provides an unique instrument for conducting to relatively rapid parturition with minimal, if any, insult to the perineum, substantially decreasing the need for episiotomy, as well as reducing the extent thereof if requisite; and decreasing incident of brain trauma.

Additionally, in the general field of surgery, as well as obstetrics, there has been the need to provide a retractor, which while causing required exposure, avoids traumatizing surrounding tissues.

SUMMARY OF THE INVENTION

It is an object of the present invention to provide an instrument which is adapted for obstetric use to promote the withdrawal of a fetus from the vaginal canal while simultaneously protecting the perineum against insult.

It is another object of the present invention to provide an instrument of the character stated which does not effect positive engagement with the fetus so as to prevent any untoward injurious contact therewith.

It is a further object of the present invention to provide an instrument of the character stated which uniquely coacts with the obstetrical forces of the mother for effecting relatively rapid expulsion from the vaginal canal of the fetal head.

It is a still further object of the present invention to provide an instrument as above stated which substantially eliminates the need for episiotomy as well as being useful in breech extractions and Caesarean sections.

It is a further object of the present invention to provide an instrument having wide application in the general field of surgery for retraction purposes; the use of which avoids trauma to surrounding tissues.

It is another object of the present invention to provide an instrument which may be most economically

produced; which is most reliable and durable in usage; and the use of which may be easily mastered by surgeons and obstetricians.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a side view of a medical instrument constructed in accordance with and embodying the present invention.

FIG. 2 is a top plan view.

FIG. 3 is a front end view.

FIG. 4 is a transverse sectional view taken on the line 4—4 of FIG. 1.

FIG. 5 is a transverse sectional view taken on the line 5—5 of FIG. 1.

FIG. 6 is a transverse sectional view taken on the line 6—6 of FIG. 1.

FIG. 7 is a transverse sectional view taken on the line 7—7 of FIG. 1.

FIG. 8 is a side elevational view of the instrument in inverted position.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring now by reference characters to the drawings which illustrate the preferred embodiment of the present invention, A generally designates a medical instrument for obstetrical and surgical usage and comprising a relatively short handle 1 of adequate length for gripping by the user, a head 2 and an intermediate section 3 disposed between said handle and said head; said instrument being of general dipper-like shape and being integrally formed by well-known techniques from suitable rigid, durable material, preferably stainless steel. Head 2 is of relatively thin, plate-like character, having a thickness within the range of one-sixteenth to two-sixteenth of an inch throughout its major extent, but with such thickness slightly increasing in the zone immediate to, and merging with, intermediate section 3, as at 4. In plan head 2 is provided with a leading front end edge 5, which is formed on a shallow arc, being endwise convex, and with the side edges 6,6' of said head being limitedly laterally outwardly rounded in their portions, as at 7,7', respectively, to define a maximum transverse extent, as at 8, and thence tapering, covergingly rearwardly. Said head is longitudinally curved, as at 9, merging into intermediate section 3, the axis of which latter, is substantially tangential to the longitudinal arc of head 2. As may best be seen in FIGS. 5 and 8, the axis of handle 1 forms an angle in the order of 135° with the axis of intermediate section 3 so that handle 1 may be gripped to present head 2 in an upwardly concave disposition (see FIG. 1). With instrument A in such attitude the lowermost portion of the longitudinal arc of head 2 is within a plane substantially parallel to that of handle 1.

As may best be seen in FIG. 4, head 2 is provided with a constant shallow transverse curvature, as at 10, when instrument A is in the attitude illustrated in FIG. 1 is upwardly concave. The edges of head 2 are rounded, as at 11, for purposes presently appearing.

In practice, it has been found that the length of head 2 is desirably within the range of 13 cm and with the point of maximum width, as at 8, being approximately 4 cm, but with the taper being relatively gradual so that head 2 would have a width in the order of 2 cm, or substantially one-half the maximum width at a point approximately four-fifths the distance from leading edge

5, as at 12, to the point of merger, as at 13, of intermediate section 3.

Intermediate section 3 and head 2 are conjointly formed for conformance to the longitudinal axis of the pelvis so that the longitudinal arcuation of head 2, together with the angularity of intermediate section 3 with respect to handle 1 establishes a finite portion for firm disposition upon, and complementary to, the curvature of the vaginal canal so that the same may easily rest thereupon for assisting parturition with the handle being comfortably gripped by the physician whose hand will thus be disposed for ease of instrument manipulation. It will be seen that handle 1 constitutes a minor portion of instrument A so that the major portion thereof is useful in performing the requisite techniques.

Instrument A is relatively light having a weight of approximately 7 ounces so that the same may be easily handled while yet through inherent strength may be fully reliable for the intended purpose.

In obstetrical usage, head 2 of instrument A is inserted into the vaginal canal during the onset of the second stage of labor with the convex side thereof resting on the floor of the canal with head 2 interposed between the fetal head and the said canal, whereby instrument A in one aspect of its use serves to protect the perineum. The fetal head is received upon the now upwardly directed, concave face of head 2 which presents thereto a substantially frictionless surface along which the fetal head may be rapidly moved through the obstetrical forces of the mother and with such movement being further promoted by the lubricating effect of the natural vaginal juices and secretions developed at the second stage of labor. Any posterior directed force exerted by the fetal head upon instrument A will be dispersed over a relatively wide area by head 2 so as to thereby prevent the incidence of damaging force to any specific portion of the perineum.

In view of the foregoing, it will be seen that instrument A, in effect, provides a protective, sliding surface which conduces to the rapid expulsion of the fetal head so that the second stage of labor is substantially reduced, thereby inhibiting injury to the perineum, which has been an accepted result heretofore. Furthermore, usage of instrument A may eliminate entirely, or materially reduce, the need for episiotomy and has been proven most useful in cases where pudendal block types of anesthesia are used. Through hastening the secondary labor stage, the utilization of the instrument of the present invention thus conduces to shortening the period of anesthesia and reducing any blood loss.

For obstetrical usage, instrument A constitutes a marked advance over the malleable, flat ribbon type retractors and heretofore known Deaver retractors by

reason of its taper-like form, its non-traumatic rounded edges, lightness in weight and unique head curvature, both longitudinal and transverse; as well as the cooperation between head 2 and intermediate section 3 for conformance to the canal curvature. Said instrument A is also useful in breech extractions, and Caesarean sections.

In addition to having wide application in the obstetrical field, instrument A through its unusual formation, has proved to have broad application in the surgical field as a retractor. In FIG. 8, instrument A is illustrated in operative position for retractor utilization, that is, for maintaining in a removed state, muscles, tissues, and the like for exposing other areas or organs for surgical attention. Instrument A has been found to be useful in exposing the broad, round and sacral ligaments; and gives adequate gall bladder, liver, and stomach exposure, and can be used vaginally as a posterior, anterior, and lateral retractor. The rounded edges have relative lightness minimizing the possibility of any trauma to surrounding tissues. Also, in orthopedic surgery, instrument A has been successful in retracting muscles and protecting vital vessels when indicated. Thus, in almost any phase of surgery where retraction is required, instrument A has demonstrated high efficacy. Its unusual dimensional relationships permit of usage in relatively narrow, close, or restricted areas with the exertion of minimal force so that prolonged or protracted surgical procedures can be effected with substantial elimination of fatigue.

Having thus described my invention, what I claim and desire to obtain Letters Patent for is:

1. An instrument for obstetrical and surgical usage comprising a handle, a plate-like head, an intermediate section disposed between and interconnecting said handle and said head, said head being disposed downwardly of said handle when the latter is in horizontal disposition and being arcuated along its longitudinal axis to present a convex face displaced from the axis of said handle, said head having a relatively shallow transverse curvature which is normally upwardly concave, said head having a leading edge formed on a shallow arc causing said head to be endwise convex, said head having its maximum cross section in the zone immediately proximate its said leading edge, said head tapering lengthwise from said maximum cross sectional zone convergently toward said intermediate section, said head being relatively thin, having a thickness within the range of one-sixteenth inch to two-sixteenth inch throughout its major extent.

2. An instrument for obstetrical and surgical usage as defined in claim 1 and further characterized by said instrument having a weight in the order of 7 ounces.

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