

Aug. 25, 1942.

H. M. KIRSCHBAUM

2,293,984

OBSTETRICAL FORCEPS

Filed April 21, 1941

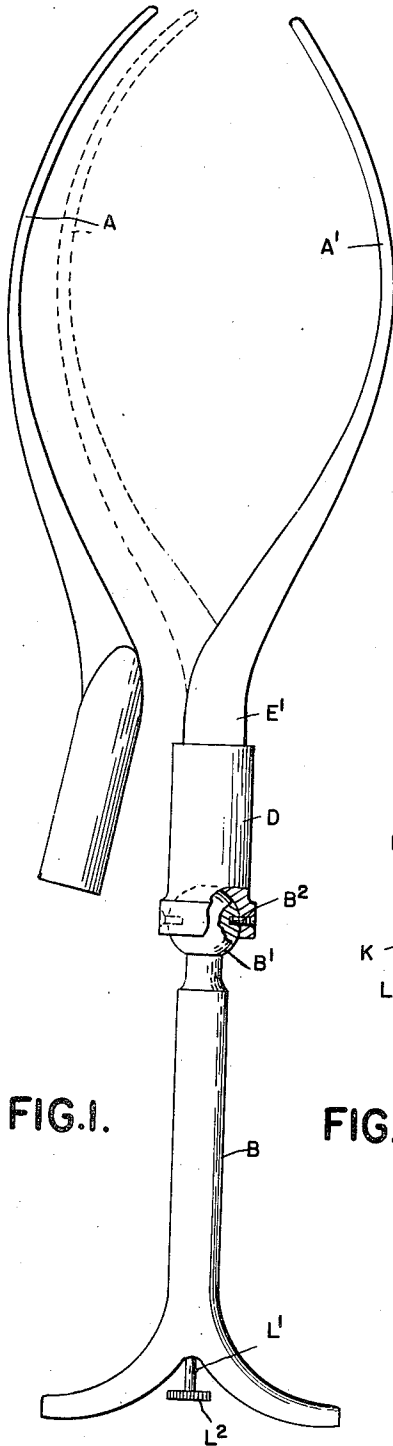


FIG. 1.

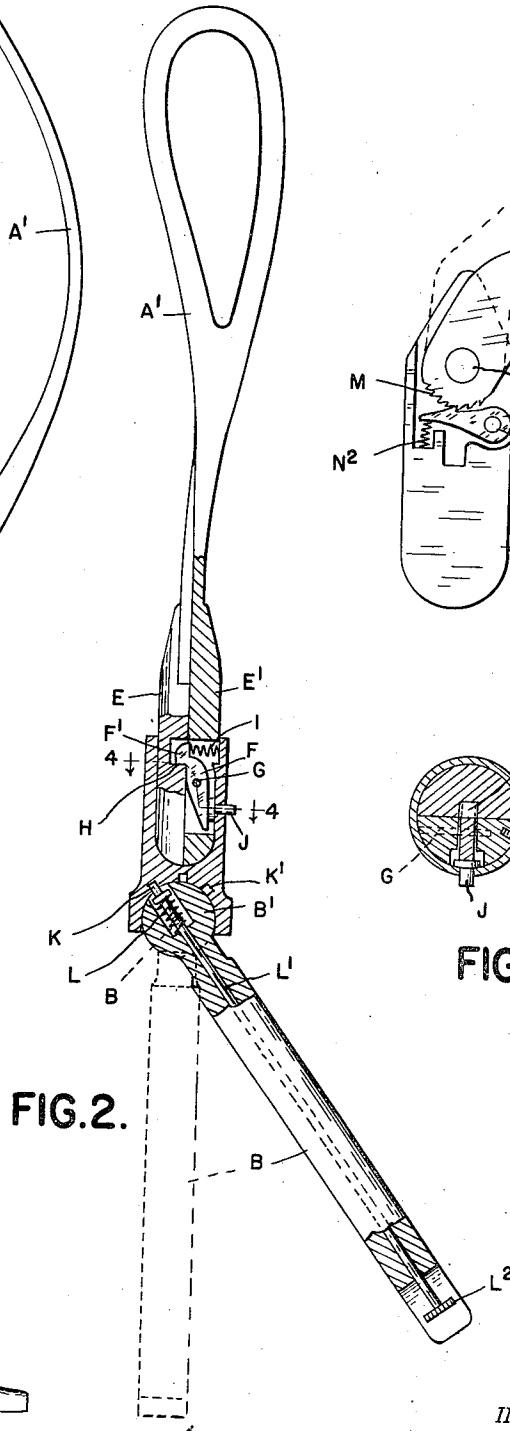


FIG. 2.

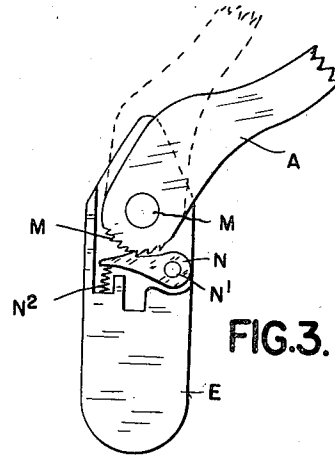


FIG. 3.

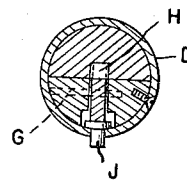


FIG. 4.

INVENTOR
HARRY M. KIRSCHBAUM
BY *Whittemore Hulbert & Belknap*
ATTORNEYS

UNITED STATES PATENT OFFICE

2,293,984

OBSTETRICAL FORCEPS

Harry M. Kirschbaum, Detroit, Mich.

Application April 21, 1941, Serial No. 389,692

3 Claims. (Cl. 128—323)

The invention relates to obstetrical forceps and has for its object the obtaining of a construction which, while possessing a high degree of flexibility for manipulation, is at the same time of simple and smooth contour.

It is a further object to obtain a construction which is free from lateral projections or obstructions.

Still further, it is an object to obtain a construction in which the handle is normally in symmetrical rigid alignment with the jaws or blades, but is capable of adjustment into an angular position so as to form, in effect, a crank, facilitating the rotation or other manipulation of the instrument.

With these objects in view, the invention consists in the construction as hereinafter set forth.

In the drawing:

Fig. 1 is a side elevation of the instrument, showing in full lines one of the jaws detached and in dotted lines this jaw in operative relation to the cooperating jaw and handle;

Fig. 2 is an elevation, viewed at right angles to Fig. 1, and partly in section;

Fig. 3 is an elevation of a modified construction of detachable jaw or blade, viewed from the inner side thereof; and

Fig. 4 is a cross section substantially on line 4—4 of Fig. 2.

The jaws or blades A and A' are of the usual semi-elliptical contour and normally are in symmetric relation to a handle B. This handle has the usual pull grip C at its outer end, this also being normally symmetric with respect to the jaws. Intermediate the handle B and the jaws is a cylindrical socket member D which engages short shank members E and E' secured to their respective jaws. These shank members are semi-cylindrical in cross section so as to fit within the socket D adjacent to each other and to hold the jaws symmetrical with respect to the axis of this socket. One of the shanks E' is permanently secured within the socket D, while the other shank E has a telescopic engagement with the socket which permits quickly attaching or detaching the same. When engaged with its socket, the shank member E is automatically locked therein by a latch member F which is pivotally secured at G in a slot in the shank member E' and is provided with a detent F' for engaging a shouldered recess H in the shank member E. A spring I yieldably presses the detent into engagement with the shoulder H, and a headed pin or button J extending outward through an aperture in the socket forms a means of disengaging the

latch when the shank E and its jaw member A are to be removed.

As has been stated, the handle B is normally symmetrically aligned with the jaw members A and A'. It is, however, advantageous at times to adjust this handle to extend obliquely, as illustrated in Fig. 2. This is accomplished by providing the inner end of the handle with a spherical portion B' fitting within a corresponding recess in the outer end of the socket member D and pivotally attached thereto as by the pins B². K is a locking bolt located within a recess in the spherical portion B' and adapted to engage alternatively with a plurality of keeper recesses K' in the socket member D. The bolt is yieldably pressed outward by a spring L and may be retracted by a shank member L' extending through an axial recess in the handle B and provided with an actuating button or knob L² at its outer end which is between furcations of the pull grip C.

With the construction as thus far described, in use the jaw member A is detached, and the jaw member A' is first manipulated by the handle B. The jaw member A may then be separately placed in position on the opposite side of the head of the fetus, after which the shank E may be inserted in the socket D and automatically locked therein by the latch member F. This will attach both of the jaw members to the handle B so that they may be simultaneously manipulated by this handle. During this manipulation it may be advantageous to adjust the handle into an angular position, which may be accomplished by pulling on the knob L² to disengage the bolt K from its keeper recess, adjusting to the desired position, and relocking. When in this angular position, the handle forms, in effect, a crank handle which facilitates the rotation or other manipulation of the jaws.

In Fig. 3 I have shown a modified construction adapted to space the jaws A and A' in different relations to each other. For this purpose, I preferably attach the jaw member A to its shank E by a pivot M and also provide a segmental series of ratchet teeth M' on the jaw concentric with this pivot. These teeth are engaged by a dog N pivoted at N' and yieldably pressed into engagement with the teeth M' by a spring N². The arrangement is such that the jaw A is free to be moved inward or toward the jaw A', the ratchet teeth successively engaging the dog N, but the jaw is locked against outward movement by this dog. Thus, after the jaws are

properly positioned in engagement with the head, they are substantially rigid with the handle.

It will be observed that the instrument is of a simple, smooth contour, with no lateral projections to obstruct its manipulation.

What I claim as my invention is:

1. Obstetrical forceps comprising a pair of divergent jaw members, each provided with a relatively short shank, said shanks having a common longitudinal axis extending between said divergent jaws, a cylindrical socket in which said shanks are secured, a handle connected to the outer end of said socket extending rearward therefrom and to be adjustable into a plurality of angular positions relative thereto, and means for locking said handle to be rigid with said socket in each position of adjustment.

2. Obstetrical forceps comprising a pair of divergent jaw members, each provided with a relatively short shank semi-cylindrical in cross section arranged on opposite sides of a common axis, a cylindrical socket member with which said shanks are engaged, one being permanently at-

tached thereto and the other detachable, a latch member for automatically locking said detachable shank member in its socket, and a handle extending outward from said socket provided with a pull grip at its outer end.

3. Obstetrical forceps comprising a pair of divergent jaw members, each provided with a relatively short shank semi-cylindrical in cross section arranged on opposite sides of a common axis, a cylindrical socket member with which said shanks are engaged, one being permanently secured and the other telescopically attachable and detachable, a handle pivotally attached to the outer end of said socket to extend rearward therefrom and to be adjustable in different angular positions relative thereto, locking means for holding said handle rigid with said socket in each of its adjusted positions, a bifurcated pull grip at the outer end of said handle, and means for disengaging said locking means located between the furcations of said pull grip.

HARRY M. KIRSCHBAUM.