Jan. 9, 1951 J. R. JOHNSON 2,537,674

OBSTETRICAL DEVICE

Filed Dec. 8, 1949

Fig 1.

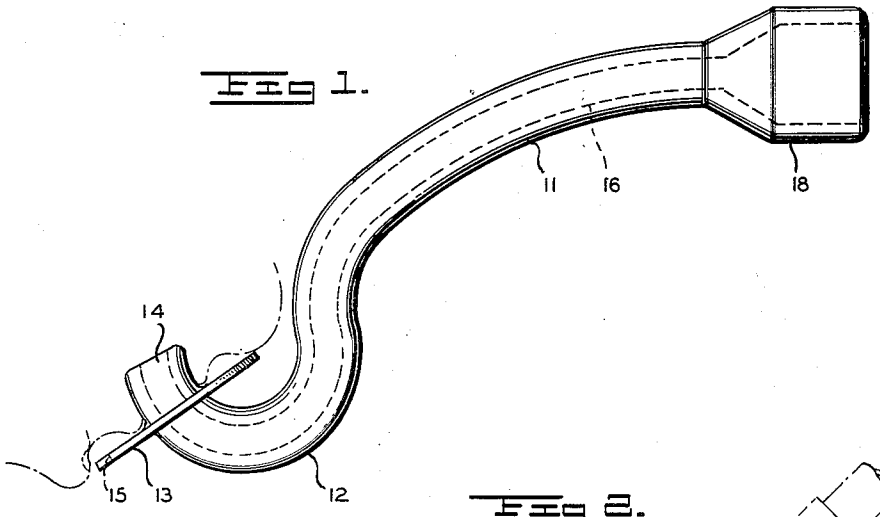


Fig 2.

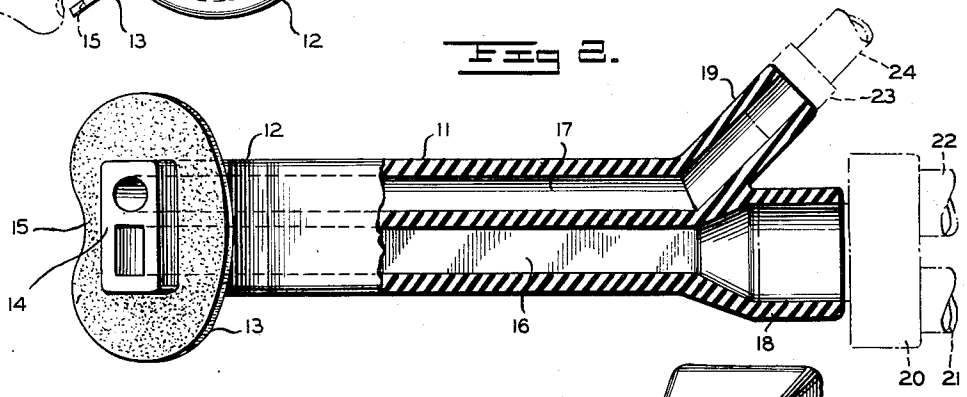
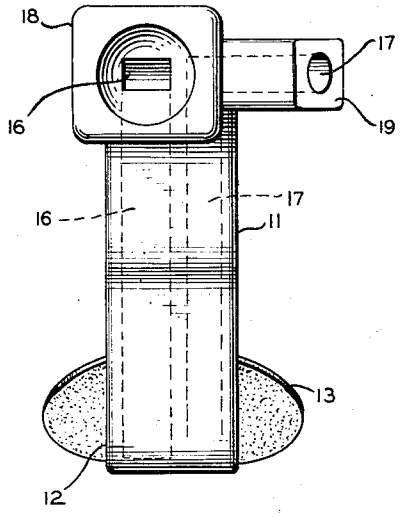


Fig 3.



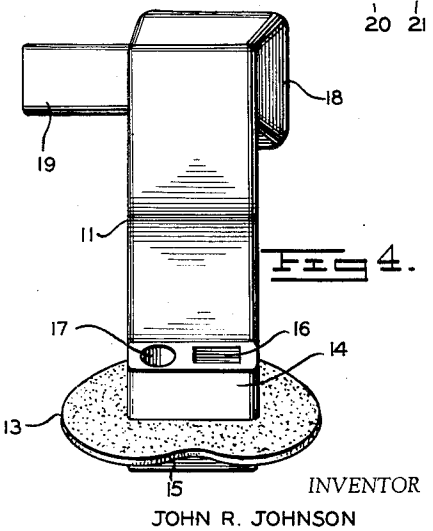


Fig 4.

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OBSTETRICAL DEVICE

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5 Claims. (Cl. 128—208)

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This invention relates to the science of obstetrics, particularly to a device adapted to prevent asphyxiation of infants in cases of breech (foot first) birth.

In cases of birth by breech presentation, the head is the last part of the child to be engaged in the pelvis, and often great difficulty is encountered in getting the head to pass out of the mother. If considerable force is applied to pull the head out, serious risk of injury to the spinal column of the infant is presented. On the other hand, if the child's head is not delivered within a very short time, of the order of five minutes, great danger exists that the infant will smother for lack of oxygen. The latter circumstance is due primarily to the fact that after the breech is born as far as the umbilicus, the umbilical cord is exposed to a considerable degree of compression between the head and the pelvic brim, which pressure impedes or terminates uteroplacental circulation. Occasionally, if delivery is not effected promptly after the head is passed into the lower part of the birth canal, the partially emptied uterus retracts to a sufficient extent to separate the placenta from its walls, and uteroplacental circulation is terminated in this manner.

It is an object of the present invention, accordingly, to provide an obstetrical device adapted to induce, permit and assist pulmonary respiration in an infant being born by breech presentation, before the head of the infant has been delivered, whereby the danger of asphyxiation may be obviated and time is afforded for the head of the child to mold itself to shape and be born without injury.

It is a further object of the present invention to provide an obstetrical device to facilitate pulmonary respiration in infants being born by breech presentation, including means for removing mucus and other impediments to respiration from the child's mouth and breathing passages.

Another object of the invention is to provide an obstetrical device to obviate asphyxiation of infants in breech births, adapted for employment with conventional resuscitator and aspirator apparatus.

Further objects of the invention will be in part obvious and in part pointed out hereinafter.

The invention and the novel features thereof may best be made clear from the following description and the accompanying drawings, in which:

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Figure 1 is a side elevational view of a preferred embodiment of the present invention;

Figure 2 is a top plan view of the device of Figure 1, partly in section to show the interior construction thereof;

Figure 3 is an end elevational view of the device, looking toward the right-hand end of Figure 1, and

Figure 4 is an end elevational view of the device, looking toward the left-hand end of Figure 1.

Referring to the drawings, the device is desirably integrally molded or otherwise formed of flexible, resilient material such as rubber or suitable synthetic organic plastic material, for example polyethylene, adapted for routine sterilization. The device comprises an elongated tubular body member 11 of flattened cross-sectional shape, preferably oval or rectangular as shown. One end portion 12 of the body member is curved into gooseneck form, and an encircling flange 13 extends radially therefrom, the flange being positioned adjacent the curved end of the body portion whereby the mouthpiece 14 is demarcated. The flange may be integral with the body member and is similarly flexible, and is preferably oval in outline, as shown, a recess 15 being provided in the outer edge thereof laterally of the transverse axis of end portion 12 of the body member and outwardly of its curvature.

Two distinct passages 16 and 17 extending longitudinally entirely through the body member. Opposite end portion 12 thereof, the body member is bifurcate, and formed into branches 18 and 19, which include, respectively, passages 16 and 17. As shown, branch 18 and the portion of passage 16 extending therethrough are enlarged and adapted for ready connection thereto of the outlet adapter 20 (see Figure 2) of conventional resuscitator apparatus, having the usual flexible tubes 21 and 22 leading thereinto. Branch 19 may be of square cross-sectional shape, and is adapted for convenient connection thereto of an adapter 23, by means of which the passage 17 may be connected through flexible tube 24 to conventional aspirator means.

The device is utilized in the following manner. In the case of breech birth, when the body of the child has been substantially completely delivered except for the head and danger of asphyxiation exists for the reasons outlined above, end portion 12 of the device may be inserted into the body of the mother, between the child and the vaginal wall, and the mouthpiece 14 of the

device positioned in the child's mouth, as indicated in Figure 1. The flattened cross-sectional shape of the body member, it will be recognized, is adapted to facilitate insertion thereof and restrain the device from rotation, and the goose-necked end portion is adapted to fit about the chin of the infant and properly dispose the mouthpiece for insertion and retention in the child's mouth. Flange 13 limits the entry of the mouthpiece, and additionally functions as a seal about the lips of the infant, the recess 15 being provided to fit under the nose.

When the device has been properly positioned, oxygen or a mixture of oxygen and carbon dioxide may be delivered to the infant in controlled manner, as by means of resuscitator apparatus connected to the branch 18, whereby pulmonary respiration in the infant may be induced. Branches 18 and 19, it will be understood, remain outside the mother's body. Once induced, use of the resuscitator apparatus through passage 16 may be continued to assist the breathing of the infant, if required, or the outlet adapter 20 may be disconnected from branch 18 and the child permitted to breathe without assistance.

By means of flexible tube 24 and adapter 23, suitable aspirator apparatus may be connected to branch 19 and passage 17 of the device, whereby mucus and other impediments to breathing may be removed from the infant's mouth. Since distinct passages are provided therefor, aspiration and resuscitation may be carried out successively, alternately or simultaneously, as circumstances may dictate. The passage 17 may also be utilized for the escape of gases, which may also be conveniently controlled by means of a petcock (not shown) associated with tube 24. In the manner described, pulmonary respiration may be induced in the infant and maintained until delivery of the head is effected, and the danger of asphyxia inherent in breech births averted.

It will thus be seen that there has been provided by this invention a structure in which the various objects hereinbefore set forth, together with many practical advantages, are successfully achieved. As various possible embodiments may be made of the mechanical features of the above invention, all without departing from the scope thereof, it is to be understood that all matter hereinbefore set forth or shown in the accompanying drawings is to be interpreted as illustrative, and not in a limiting sense.

I claim:

1. An obstetrical device comprising a tubular elongated body member having a pair of distinct longitudinal passages extending therethrough, one end of said body member being curved into gooseneck form, and a flange extending radially from said body member adjacent the curved end thereof.

2. An obstetrical device comprising a tubular elongated body member having a pair of distinct longitudinal passages extending therethrough, one end of said body member being curved into gooseneck form; and a flexible flange extending radially from said body member adjacent the curved end thereof, the other end of said body member being adapted for connection of resuscitator apparatus to one of said passages and for connection of aspirator apparatus to the other of said passages.

3. An obstetrical device comprising a tubular elongated body member of flattened cross-sectional shape having a pair of distinct longitudinal passages extending therethrough, said body member being constructed of resilient material, one end of said body member being curved into gooseneck form, and an integral flange of generally oval shape extending radially from said body member adjacent the curved end thereof.

4. An obstetrical device comprising a tubular elongated body member having a pair of distinct longitudinal passages therethrough, one end of said body member being curved into gooseneck form, the other end of said body member being bifurcated, the end of one branch of said bifurcated end being adapted for connection of resuscitator apparatus to one of said passages and the end of the other branch being adapted for connection of aspirator apparatus to the other of said passages.

5. An obstetrical device comprising a tubular elongated body member of flattened cross-sectional shape having a pair of distinct longitudinal passages extending therethrough, said body member being constructed of resilient material, one end of said body member being curved into gooseneck form, the other end of said body member being bifurcated, one of said bifurcated end branches containing one of said passages and being adapted for connection of resuscitator apparatus thereto, the other of said bifurcated end branches containing the other of said passages and being adapted for connection of aspirator apparatus thereto, and an integral flange of generally oval shape extending radially from said body member adjacent the curved end thereof.

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No references cited.