April 27, 1965 M. KOPEC 3,180,600

NURSING BOTTLE HOLDER

Filed Feb. 5, 1962 3 Sheets-Sheet 1

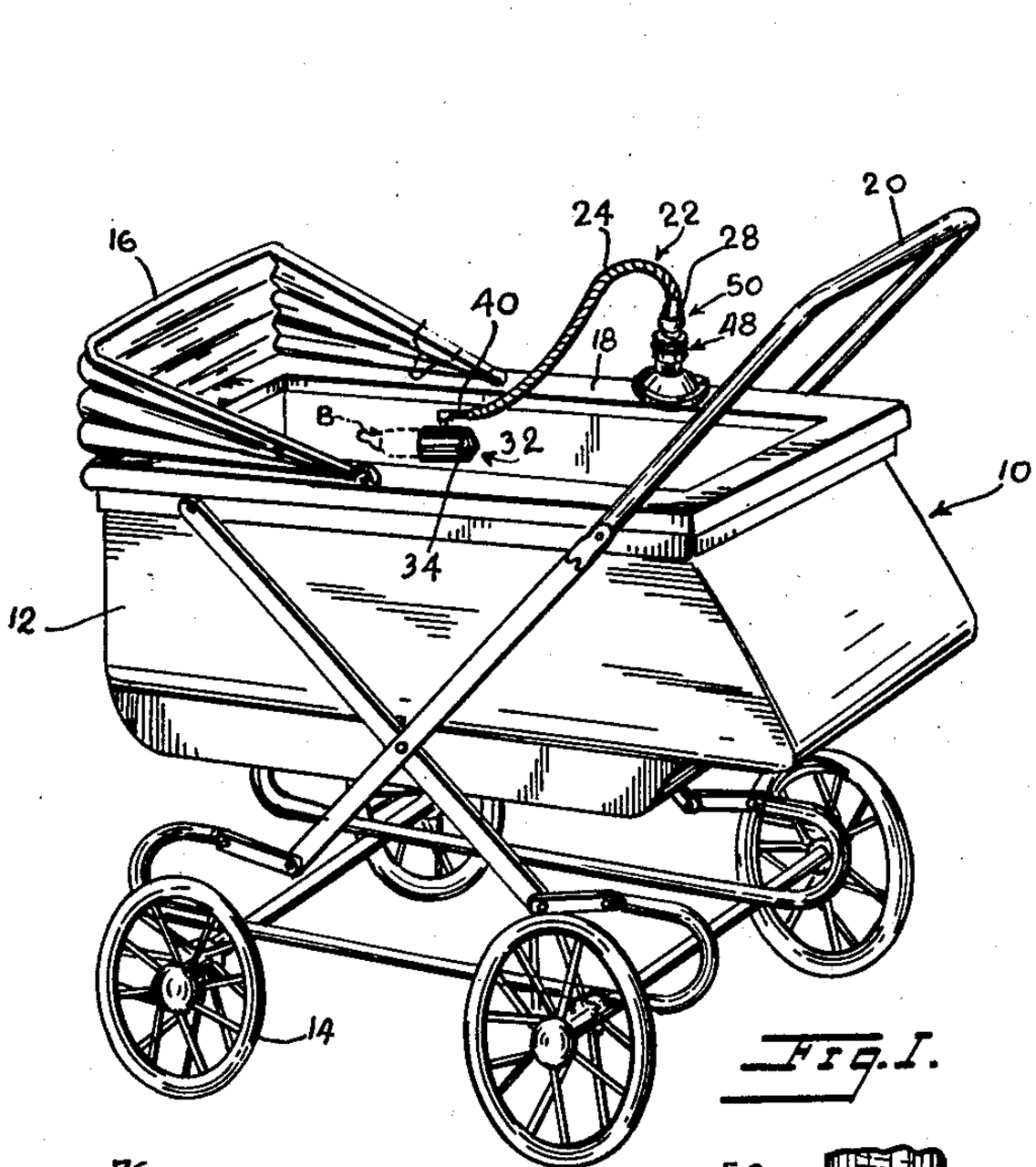

Fig. 1.

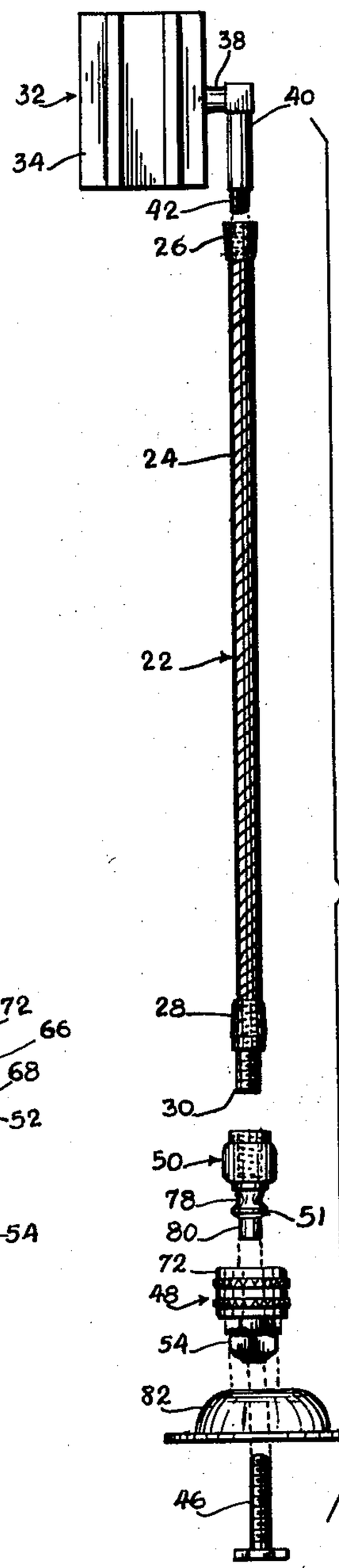

Fig. 2.

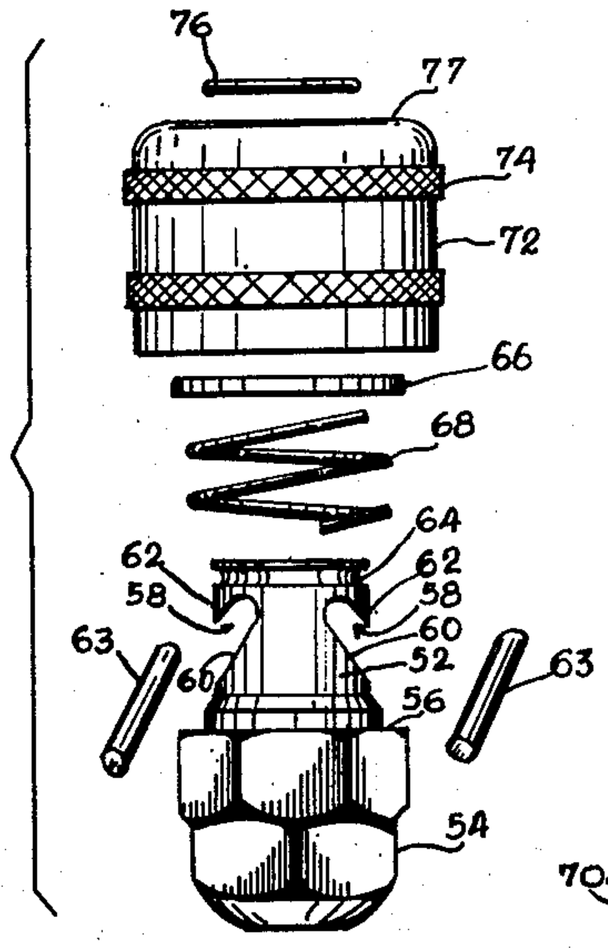

Fig. 7.

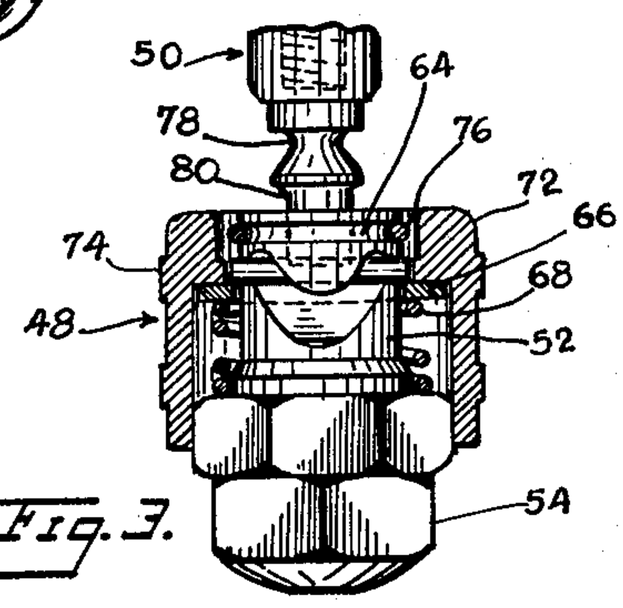

Fig. 3.

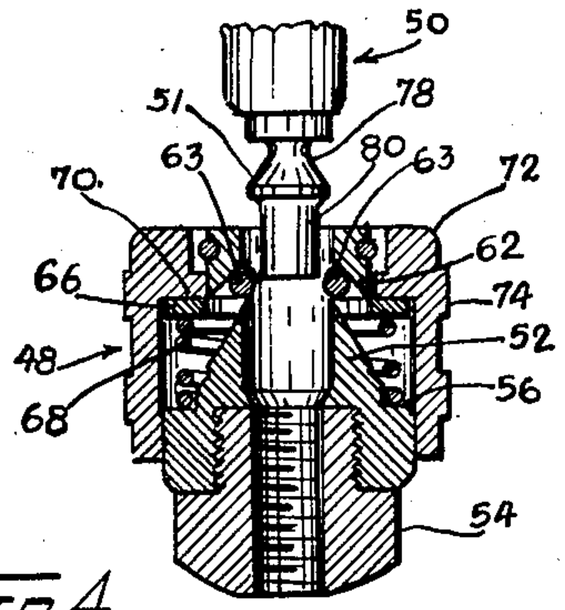

Fig. 4.

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April 27, 1965 M. KOPEC 3,180,600

NURSING BOTTLE HOLDER

Filed Feb. 5, 1962 3 Sheets-Sheet 2

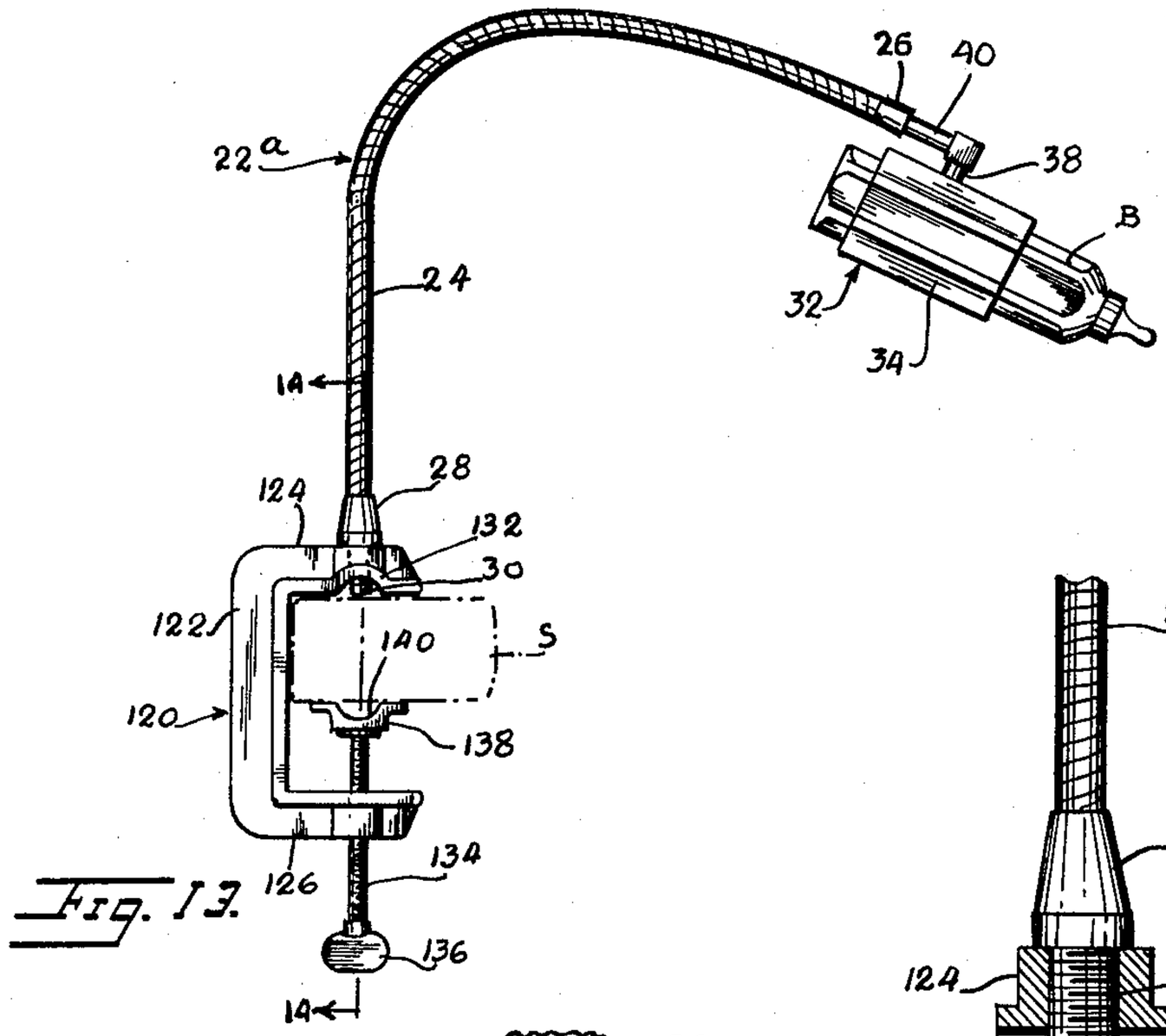

Fig. 13.

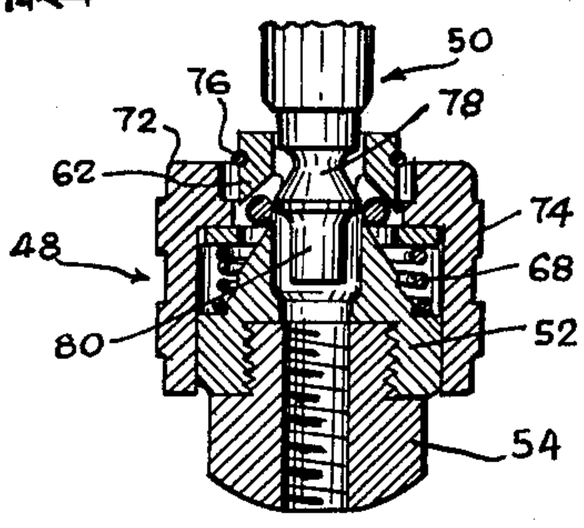

Fig. 5.

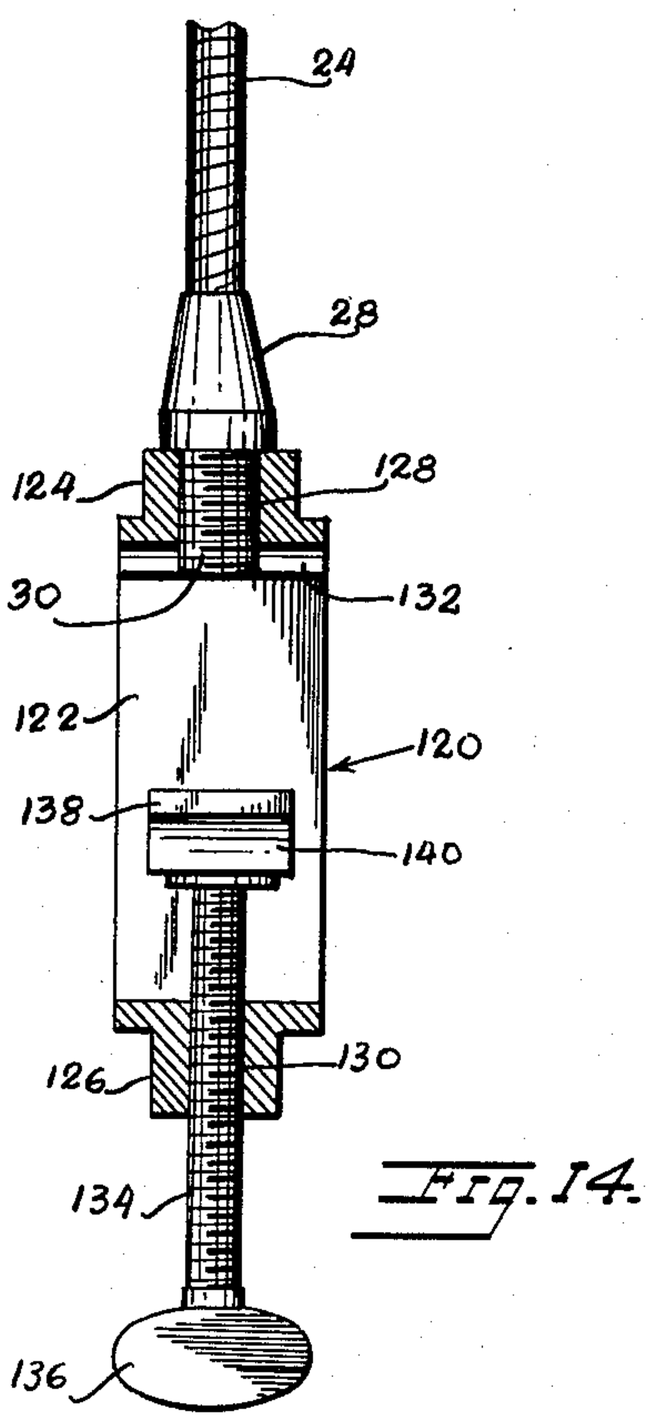

Fig. 14.

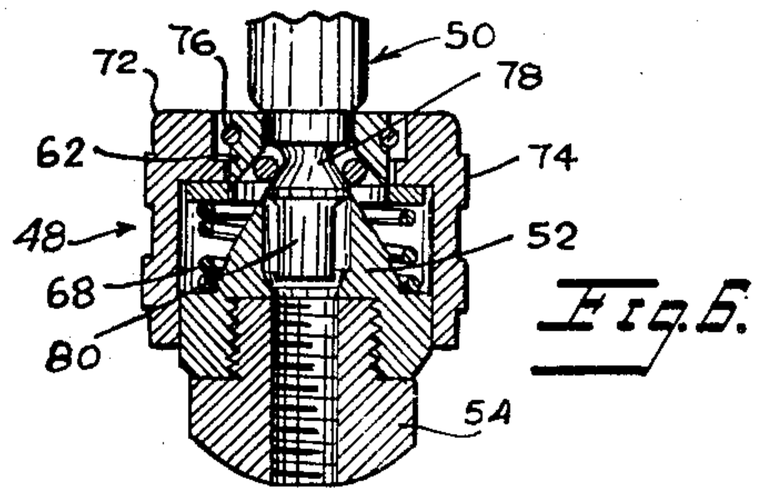

Fig. 6.

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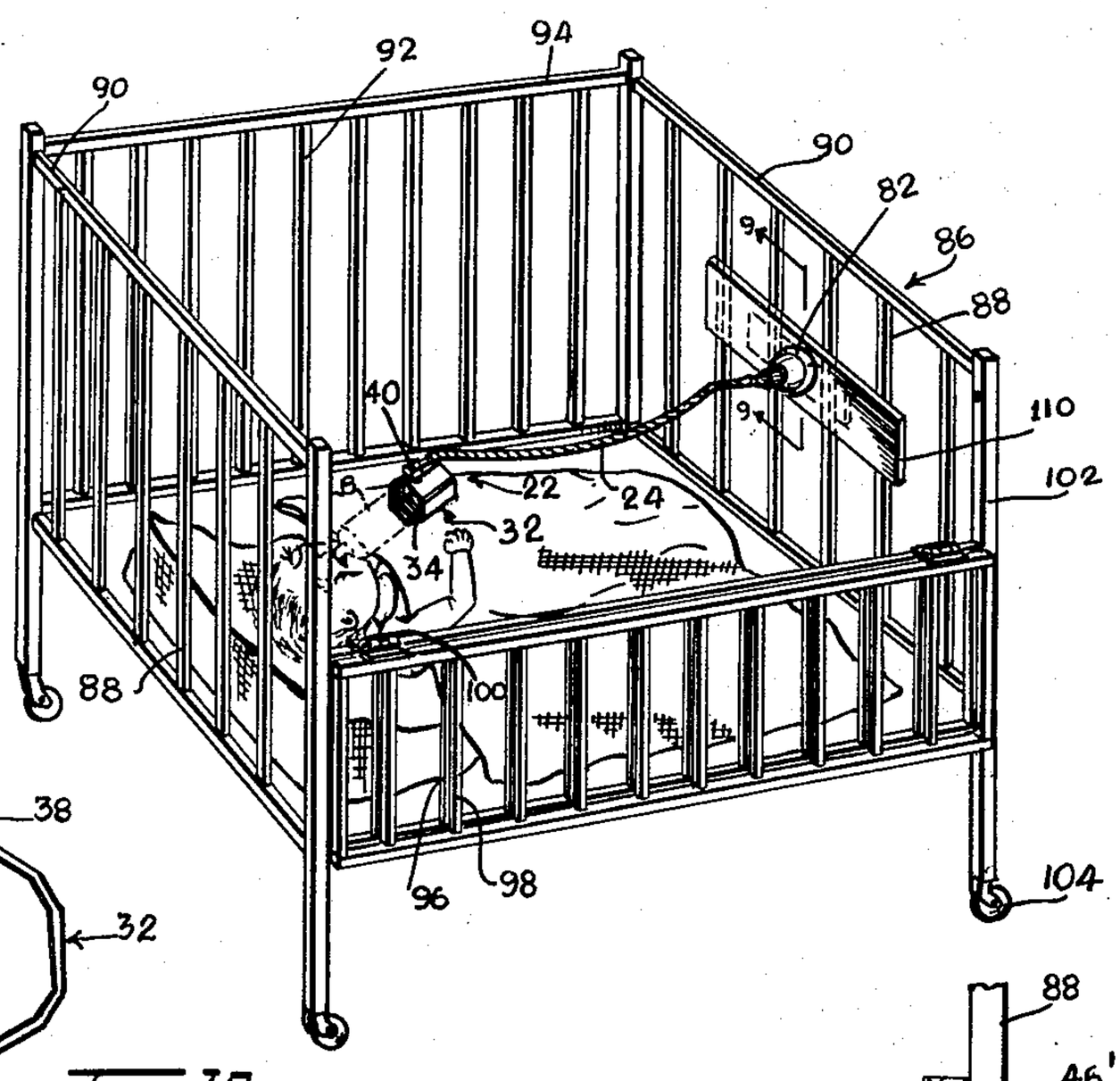
April 27, 1965 M. KOPEC 3,180,600

NURSING BOTTLE HOLDER

Filed Feb. 5, 1962 3 Sheets-Sheet 3

Fig. 8.



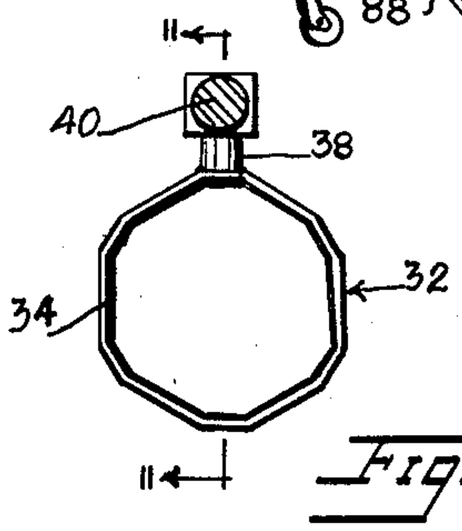


Fig. 10.

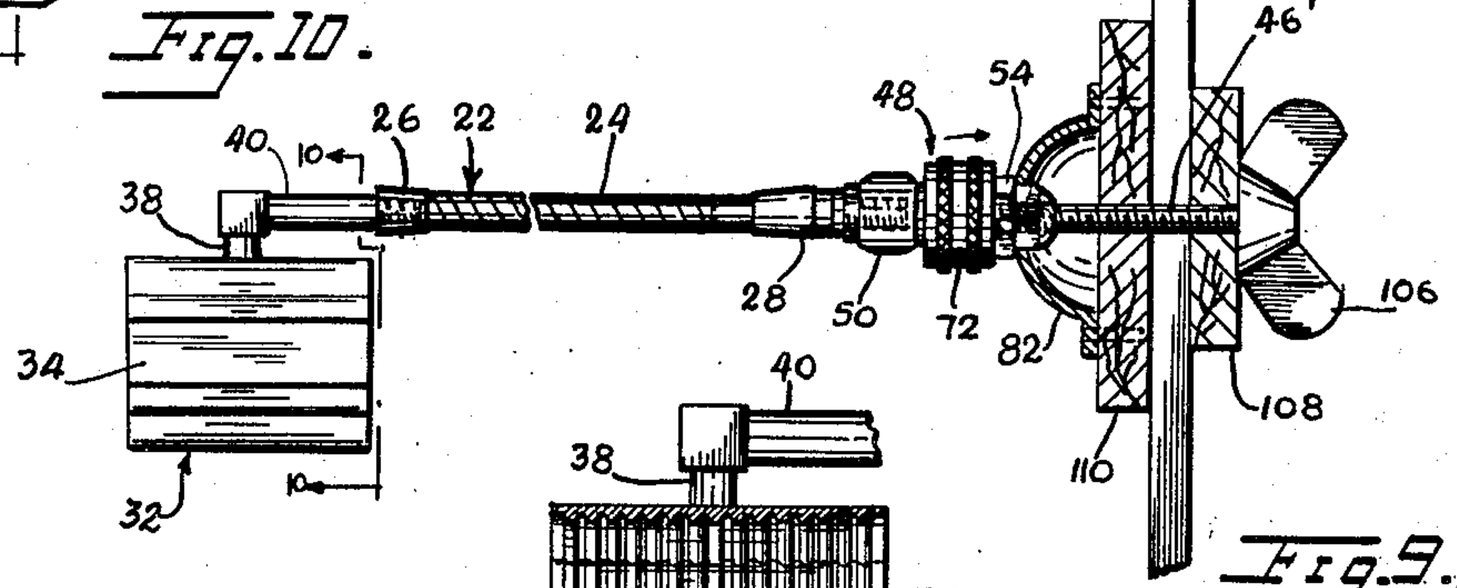


Fig. 9.

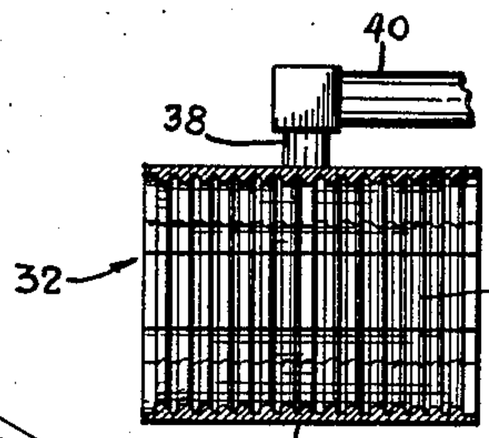
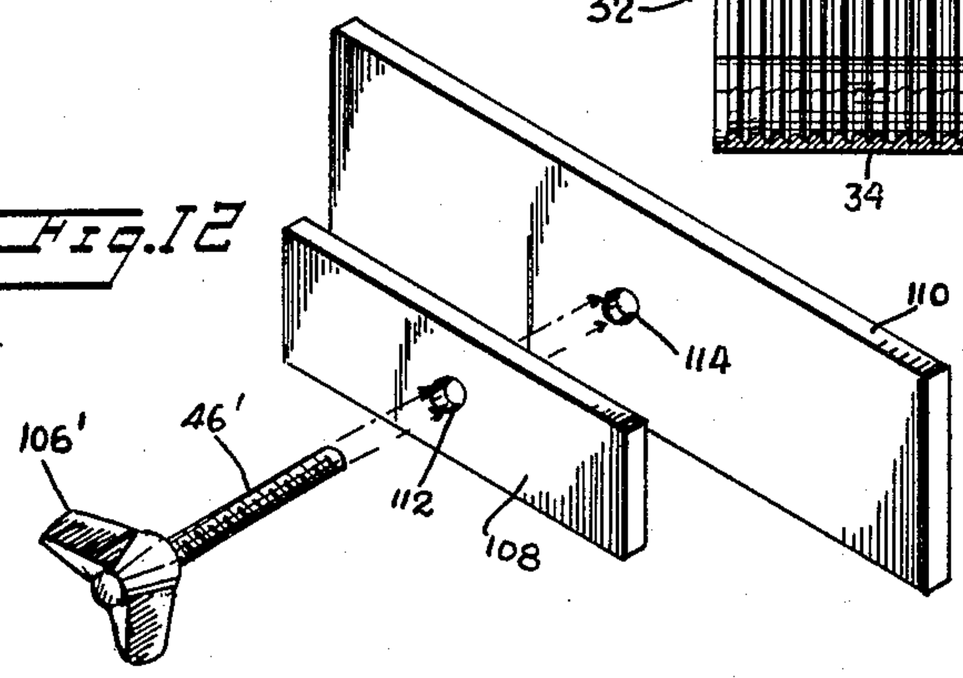


Fig. 11.

Fig. 12



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NURSING BOTTLE HOLDER

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Filed Feb. 5, 1962, Ser. No. 170,945
2 Claims. (Cl. 248—104)

This invention relates generally to bottle holders and more particularly to new and useful improvements in an extensible and flexible holder assembly for supporting an infant's nursing bottle from a baby carriage, crib or the like.

A principal object of the present invention is to provide an extensible and flexible bottle holder assembly adapted to be secured to a stationary part of a baby carriage, crib or the like and to reach to a point adjacent an infant in the carriage or crib, supporting a nursing bottle at a desired angle.

Another object of the invention is to provide such an extensible and flexible bottle holder assembly that can readily be swung away from the infant when not in use.

A further object is to provide novel means for readily mounting the bottle holder assembly on a stationary part of a baby carriage, crib or the like.

It is a further object of the invention to provide novel means for readily mounting the bottle holder assembly on a stationary part of a baby carriage, crib or the like, which means includes a rod coupling device including a socket for the rod with spaced cylindrical rods for holding the rod in clamped condition.

It is also an object of the invention to provide a flexible and extensible holder assembly for a nursing bottle that is simple in construction, inexpensive to manufacture, sanitary, convenient and practical in use.

For further comprehension of the invention, and of the objects and advantages thereof, reference will be had to the following description and accompanying drawings, and to the appended claims in which the various novel features of the invention are more particularly set forth.

In the accompanying drawings forming a material part of this disclosure:

FIG. 1 is a top perspective view of a baby carriage with a nursing bottle holder assembly embodying the invention applied thereto, a nursing bottle being shown in dot-dash lines.

FIG. 2 is an enlarged vertical elevational view of the bottle holder assembly in extended condition, parts being shown in disassembled condition.

FIG. 3 is a vertical sectional view through the center of the clutch device, parts being shown in elevation, the coupling sleeve being shown in position preparatory to entry thereinto.

FIG. 4 is a similar view looking from the right of FIG. 3, the coupling sleeve being shown partially entered.

FIG. 5 is a view similar to FIG. 4 but showing the coupling sleeve farther in the clutch device.

FIG. 6 is a similar view showing the coupling sleeve inserted to its final position in the clutch device.

FIG. 7 is a disassembled side elevational view of the clutch device of FIG. 3.

FIG. 8 is a top perspective view of a crib with the improved nursing bottle holder assembly applied thereto, a nursing bottle being shown in dot-dash lines.

FIG. 9 is an enlarged vertical sectional view taken on the line 9—9 of FIG. 8, parts being shown broken away.

FIG. 10 is a vertical sectional view taken on the line 10—10 of FIG. 9.

FIG. 11 is a vertical sectional view taken on the line 11—11 of FIG. 10.

FIG. 12 is a spread perspective view of the mounting unit shown in FIG. 9.

FIG. 13 is a side elevational view of a nursing bottle holder assembly embodying a modified form of clamping and mounting device, the support being shown in dot-dash lines, a supported nursing bottle being shown in full lines.

FIG. 14 is an enlarged vertical sectional view taken on the line 14—14 of FIG. 13.

Referring to the drawings in detail, in FIG. 1 a baby carriage 10 is shown having a body 12 mounted on wheels 14 and being open at the top. A closure for the open top in the form of a collapsible hood 16 is provided. An inwardly extending flange 18 is provided around the open top of the body. A handle 20 moves the carriage.

In carrying out the invention, an extensible and flexible nursing bottle holder assembly is mounted on the flange 18 adjacent the handle 20 and is indicated generally at 22. The bottle holder assembly 22 comprises an elongated round flexible metal cable 24 of tubular coiled formation adapted to flex and to bend in various directions and angles. At one end of the cable, an internally screw threaded tapered socket 26 is suitably fixed forming an extension of the cable. A sleeve 28 encircles the other end of the cable and is suitably fixed thereto. A solid screw threaded round extension 30 protrudes from the outer end of the sleeve forming an extension of the cable.

The nursing bottle holder proper is indicated generally at 32 and is adapted to be attached to the socketed end of the cable 24. This bottle holder includes an elongated multi-sided tubular sleeve 34 preferably formed of metal or other suitable material. The inner surface of the sleeve is roughened as indicated at 36. A round lug 38 extends from the outer surface of the sleeve midway its ends for supporting a round rod 40 extending parallel to but spaced from the sleeve. The free end of the rod is formed with a round screw threaded extension 42 extending slightly beyond the adjacent end of the sleeve. Extension 42 is threaded into the socket 26 on the end of cable 24.

The sleeved end of the cable 24 is adapted to be fixedly secured to a thin flat horizontal supporting surface such as the flange 18 of the carriage 10 by means of a headed screw 46, a gripping clutch device 48 fixed on the shank of the screw, and a coupling sleeve 50 operatively interposed between the clutch device and threaded extension 30 of the cable 24. The screw extends upwardly through a hole (not shown) in the flange 18 with its shank extending above the flange.

The clutch device 48 includes a cylindrical tubular body 52 formed with an enlarged internally screw threaded nut portion 54 at one end thereof. The body and nut portion define a shoulder 56. Adjacent its other end, the body is formed with opposed slots 58 with downwardly and outwardly inclined edge walls 60 and with hooked top walls 62. Short cylinder rollers 63 seat in the top ends of the slots 58 with their peripheries projecting inwardly of the bore of the body 52. Outwardly of the slots, the body is formed with an annular groove 64. A coiled compression spring 68 is sleeved around the body 52 with one end seated on the shoulder 56 and its other end impinging against a washer 66 seated against an inturned flange 70 on a shell 72 placed around the spring and body 52. The shell is formed with annular spaced knurled ring portions 74 to facilitate manipulation thereof. A split ring 76 seats in groove 64 of body 52 of the shell.

The coupling sleeve 50 is internally screw threaded and has one end threaded onto the threaded extension 30 of the cable 24. The other end of the coupling sleeve is formed with a reduced curved neck portion 78 which terminates in a round solid extension 80, of smaller diameter. The neck portion 78 and extension 80 are plugged into the grooved end of the body 52 of the clutch device 48, the rollers 63 snapping over the flange 51 between the neck 78 and extension 80, into the grooved neck portion

78, thereby tying the cable 24 and clutch device 48 to each other.

A perforated dome-shaped plate 82 may be placed around the juncture between the screw 46 and clutch device 48 and may be seated on the flange 18 in order to finish off and stabilize the mounting.

The shell 72 and washer 66 are normally urged to upward position as shown in FIGS. 1, 2 and 4 by means of the compressed spring 68 when the rollers or round bars 63 are seated in slots 58 and across washer 66, with portions of the rollers seated in the annular curved neck of the coupling sleeve 50 thereby holding the sleeve and connected clutch device 48 on the flange 18 of the carriage 10. By manually sliding the shell 72 with washer 66 downwardly along the body 52 as shown in FIGS. 4, 5 and 6, the rollers 63 fall by gravity downwardly along the slanting walls 62 of the slots 58 away from their seats in the curved neck 78 of the coupling sleeve to the position shown in FIG. 5, thereby uncoupling the sleeve from the clutch device permitting withdrawal of the cable 24 from the clutch device and carriage. When downward pressure is released from the shell, the spring 68 will retract the shell, washer and rollers to normal position.

It will be understood that the cable 24 may be swung to various positions according to the circumstances to assist in positioning the bottle B conveniently near the infant and to hold the bottle at the proper inclination or angle for the proper discharge of the milk. The bottle holder assembly thus enables the bottle to be properly held under various conditions and without the liability of the bottle becoming displaced.

In FIG. 8, a crib 86 of ordinary construction is shown with the nursing bottle holder assembly 22 mounted thereon in position to feed an infant in the crib. The crib is shown with upright spaced posts 88 at the sides, joined by top rails 90, upright spaced posts 92 at the rear joined by a top rail 94. The front of the crib has fixed bottom upright posts 96 and hinged upper upright posts 98 joined to the bottom posts by hinges 100. The corner posts 102 of the crib are supported on casters 104.

In mounting the bottle holder assembly 22 onto the crib, the headed screw 46 is replaced by a non-headed screw 46′ adapted to receive a wing nut 106′ on one end thereof. A short board 108 is placed across the outer surface of several of the center posts 88 at one side of the crib and a longer and wider board 110 across the inner surface of the same posts in alignment with the shorter board 108. One end of the shank of the screw 46′ is threaded through aligned holes 112 and 114, in the boards 108 and 110, respectively, and into the nut portion 54 of the clutch device 48. The wing nut 106′ is threaded onto the protruding outer end of the screw 46′ thereby clamping the bottle holder assembly 22 in position on the crib for supporting a nursing bottle B for feeding an infant in the crib.

In FIGS. 13 and 14, the nursing bottle holder assembly 22ª is shown with modified means for mounting the bottle holder assembly on a flat support S. In this form of bottle holder assembly, the clutch device 48 and coupling sleeve 50 are replaced with a clamping device 120. The clamping device has a C-shaped body including a bight portion 122 and radiating top and bottom leg portions 124 and 126, respectively, as viewed in FIG. 13. The top and bottom leg portions are formed with aligned threaded holes 128 and 130, respectively. The top leg 124 is formed with a groove 132 across its inner surface and across the hole 128. An elongated screw 134 is threaded through the hole 130 in the bottom leg portion 126 and is formed with a wing-shaped finger piece 136 on its outer protruding end and with a saddle 138 with a central cross groove 140 on its inner end, in line with the hole 128 in the top leg portion 124.

In assembling the cable 24 and clamping device 120, the threaded extension 30 of the sleeve 28 is threaded through the hole 128 in the top leg portion 124 as seen in FIG. 14.

In securing the bottle holder assembly 22ª to the flat support S, the C-shaped body of the clamping device 120 is placed around the side of the support S with its top leg portion 124 resting on the top surface of the support and with the saddle 138 in contact with the bottom surface of the support as shown in FIG. 13. By setting up on the screw 134, the support is clamped between the top leg portion 124 and the saddle 138 thereby securely fastening the bottle holder assembly 22ª on the support.

It is to be understood that the flexible member 24 and the various parts of the bottle holder may be made of plastic material, by moulding or any other manner.

While I have illustrated and described the preferred embodiments of my invention, it is to be understood that I do not limit myself to the precise constructions herein disclosed and that various changes and modifications may be made within the scope of the invention as defined in the appended claims.

Having thus described my invention, what I claim as new and desire to secure by United States Letters Patent is:

1. A nursing bottle holder assembly comprising an elongated flexible cable of coiled tubular formation having a socket at one end, a tubular bottle-support in the form of a sleeve detachably connected to the socket, a threaded extension on the other end of the cable, an elongated headed screw adapted to extend through an opening in a horizontal support, a clutch device having a cylindrical tubular body portion with opposed slots therein and with a nut portion at one end fastened to the end of the screw, a coupling sleeve having one end threaded onto the threaded extension on the cable and having a curved neck portion at its other end plugged into the other end of the body portion of the clutch device, movable rollers in the opposed slots in the tubular body portion of the clutch device adapted to engage the neck portion of the coupling sleeve for fastening the cable to the clutch device, a spring-pressed shell manually slidable over the tubular body portion of the clutch device, a washer seated against said shell and normally holding the rollers in the curved neck portion of the coupling sleeve, said rollers adapted to fall by gravity along the inclined walls of the slots away from the curved neck portion of the coupling sleeve upon downward movement of the shell whereby the coupling sleeve and cable are released from the clutch device, and a dome-shaped perforated plate covering the juncture between the end of the headed screw and the nut portion of the clutch device.

2. In combination with a crib having upstanding side posts, a nursing bottle holder assembly mounted on a plurality of said side posts, said bottle holder assembly comprising an elongated flexible cable of coiled tubular formation having a socket at one end, a tubular bottle-support in the form of a sleeve detachably connected to the socket, a threaded extension on the other end of the cable, a clutch device having a tubular body portion with a nut portion at one end of the body, said tubular body portion having opposed slots therein, a coupling sleeve having one end threaded onto the threaded extension of the cable and having a curved neck portion at its other end plugged into the other end of the tubular body portion of the clutch device, movable rollers in the opposed slots in the tubular body portion adapted to engage the neck portion of the coupling sleeve for fastening the cable to the clutch device, a spring pressed shell manually slidable over the tubular body portion of the clutch device, a washer seated against said shell and normally holding the rollers in the curved neck portion of the coupling sleeve, said rollers adapted to fall by gravity along the inclined walls of the slots away from the curved neck portion of the coupling sleeve upon downward movement of the shell, and means for mounting the bottle holder assembly on the side posts including boards disposed on

the outer and inner surfaces of said posts in alignment, said boards having aligned openings therein, a screw extending through the openings in said boards with one end threaded into the nut portion of the clutch device, and a wing nut on the other end of the screw for clamping the holder assembly to the posts.

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