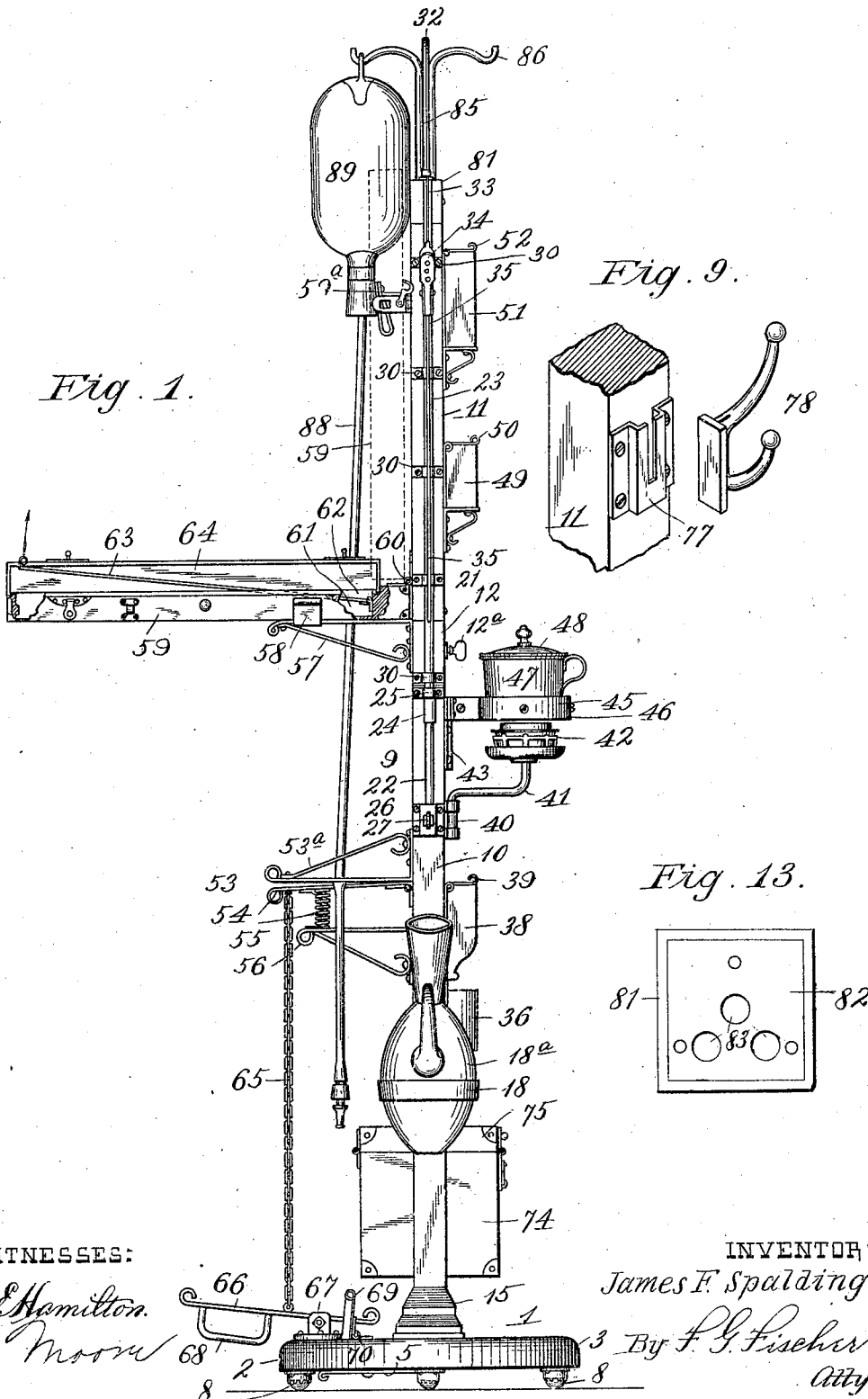


No. 844,478.

PATENTED FEB. 19, 1907.

J. F. SPALDING.
CATHETER USER'S MECHANICAL ASSISTANT.
APPLICATION FILED OCT. 25, 1904.

3 SHEETS—SHEET 1.



WITNESSES:

R. Hamilton.

J. Moore

INVENTOR

James F. Spalding

By F. G. Fischer
Atty.

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3 SHEETS—SHEET 2.

Fig. 2.

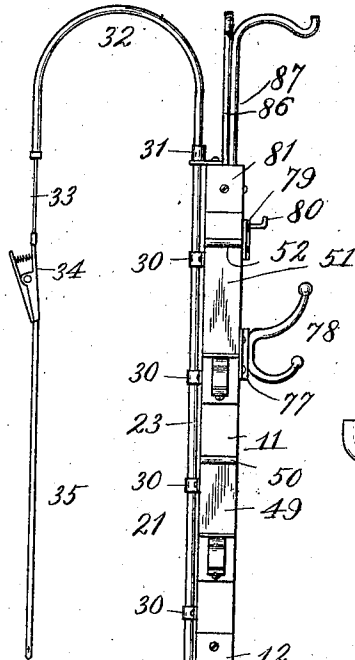


Fig. 12.

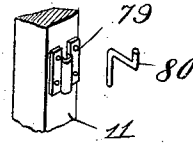


Fig. 10.

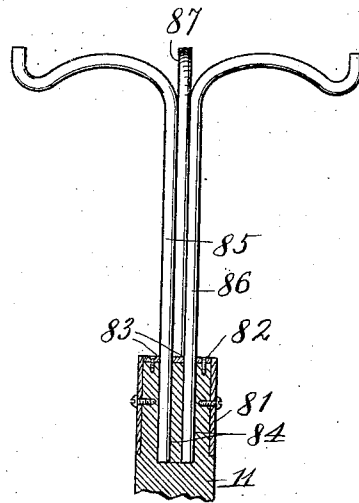


Fig. 7.

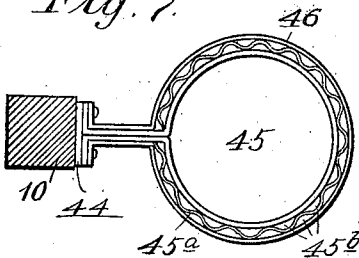


Fig. 8.

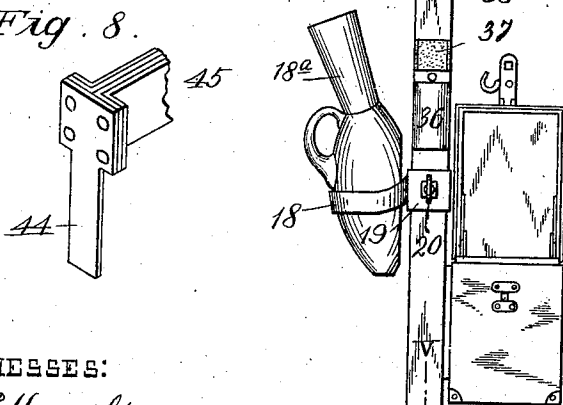
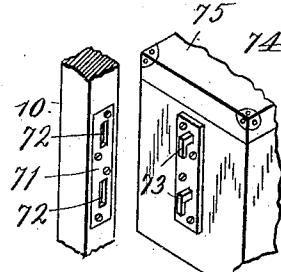


Fig. 6.



WITNESSES:

R. Hamilton.
J. Moon

INVENTOR:
James F. Spalding

By F. G. Fischer
Atty.

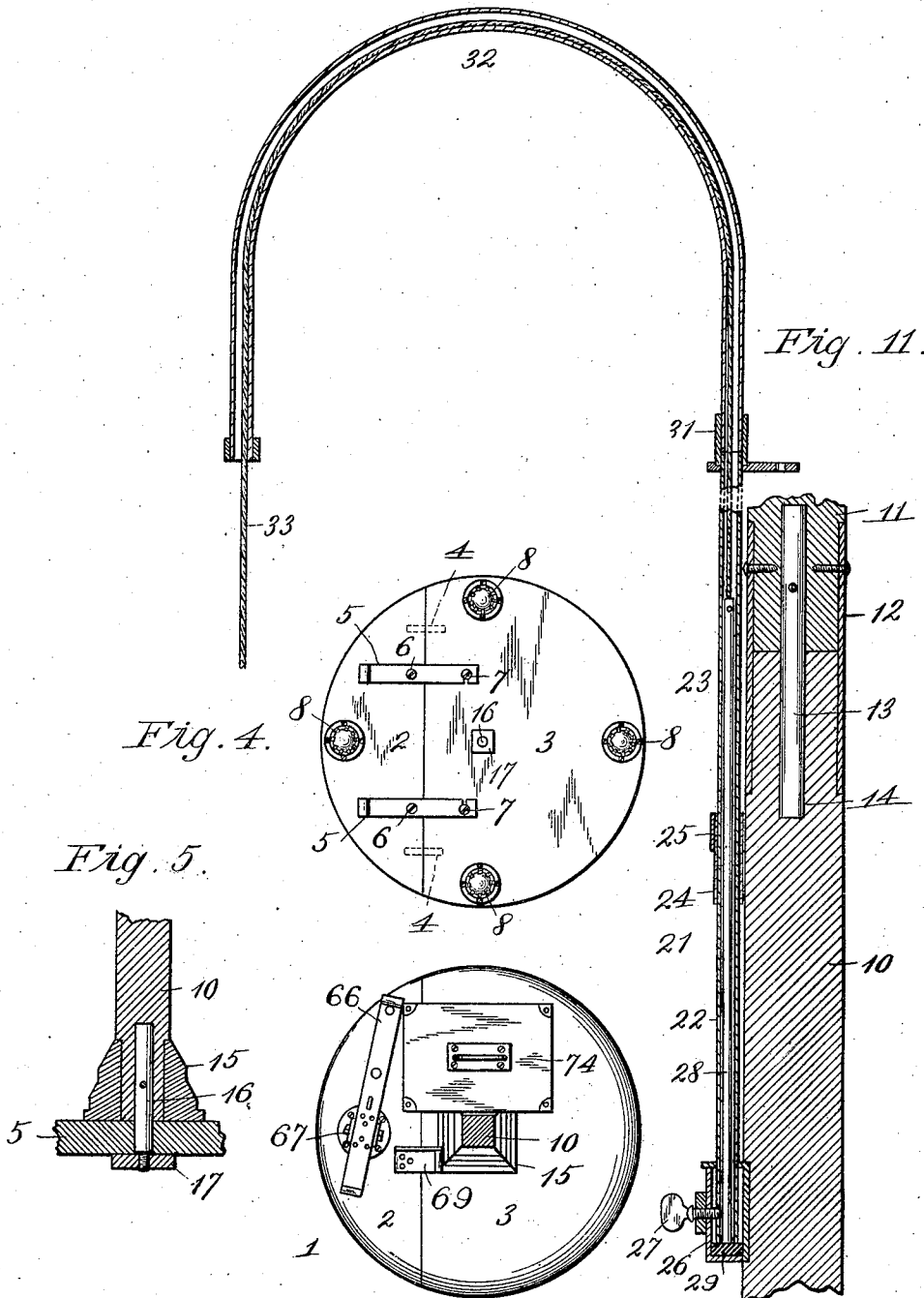
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J. F. SPALDING.
CATHETER USER'S MECHANICAL ASSISTANT.

APPLICATION FILED OCT. 25, 1904.

3 SHEETS—SHEET 3.



WITNESSES:

R. Hamilton
J. Moore

Fig. 3.

INVENTOR,
James F. Spalding

By F. G. Fischer
Atty.

UNITED STATES PATENT OFFICE.

JAMES F. SPALDING, OF KANSAS CITY, MISSOURI.

CATHETER-USER'S MECHANICAL ASSISTANT.

No. 844,478.

Specification of Letters Patent.

Patented Feb. 19, 1907.

Application filed October 25, 1904. Serial No. 229,916.

To all whom it may concern:

Be it known that I, JAMES F. SPALDING, a citizen of the United States, residing at Kansas City, in the county of Jackson and State of Missouri, have invented a certain new, original, and useful apparatus—namely, the Catheter-User's Mechanical Assistant—of which the following is a specification.

My invention relates to a mechanical assistant for catheter users; and my object is to provide an apparatus whereby patients afflicted with certain diseases of the bladder can safely treat themselves while at home or traveling without the aid of a trained nurse or other personal assistant.

The apparatus incorporates a base mounted upon ball-bearing casters, a standard detachably secured to the base, and a collection of appliances necessary in the treatment of certain bladder diseases arranged upon said base and standard within convenient reach of the patient.

In order that the invention may be fully understood, reference will now be made to the accompanying drawings, in which—

Figure 1 represents a front elevation of my apparatus ready for use. Fig. 2 is a side elevation of same. Fig. 3 is a plan view of a circular base forming part of my invention. Fig. 4 is an inverted plan view of same. Fig. 5 is a broken vertical section taken on line V V of Fig. 2, showing the manner in which a standard forming part of the invention is secured upon the circular base. Fig. 6 is a detail perspective view of a portion of the standard and a medicine-cabinet, the latter being detached from said standard. Fig. 7 is a plan view of a bracket detachably secured in a socket on the standard for holding a sterilizing-cup. Fig. 8 is a detail perspective view of a hook on one end of said bracket adapted to fit into the socket on the standard. Fig. 9 is a detail perspective view of a towel-hook and a socket for holding said hook. Fig. 10 is an elevation of three hooks forming part of the invention detachably arranged in the upper end of the standard, which latter is in vertical section. Fig. 11 is a broken vertical section of the standard with a tubing forming part of the invention secured thereto. Fig. 12 is a detail perspective of a stopper-hook and a socket for supporting said hook. Fig. 13 is a plan view of the standard.

In carrying out said invention I employ a circular base 1, made in two sections 2 and 3, respectively, detachably secured together by a pair of dowel-pins 4 and a pair of swiveled hooks 5, which latter are secured to the under side of section 2 with screws 6 and have notched ends for detachably engaging screws 7 on the under side of section 3. Said base is mounted upon ball-bearing casters 8 in order that the apparatus may be easily moved about the room in which it is located.

9 designates a standard, consisting of two sections 10 and 11, the latter of which is provided with a metallic socket 12, adapted to detachably fit over the upper portion of section 10, and a dowel-pin 13, which snugly fits within a counterbore 14 in the upper portion of section 10. Socket 12 is provided with a thumb-screw 12^a, adapted to engage the upper end of section 10, and thus reliably hold it and section 11 together. The lower end of the standard fits into a socket 15, centrally disposed upon the base, to which latter its lower end is detachably secured by a dowel-pin 16 and a nut 17.

The appliances forming that portion of the apparatus attached to the front side of the standard in the order enumerated below are as follows: 18 designates a metallic loop formed integral at one end with a collar 19, adjustably and detachably arranged upon the standard, to which latter it is secured at any point of its adjustment with a thumb-screw 20. 18^a designates a graduated glass urinal detachably arranged in loop 18. 21 designates a tubing made in two detachable sections 22 and 23, respectively, the former of which is provided at its upper end with a rigidly-secured sleeve 24 for the reception of the lower end of section 23. Section 22 is secured to the standard by a clip 25 and a socket 26, which latter has a thumb-screw 27 extending through section 22, adapted to engage a counterweight 28, slidably arranged in tubing 21. The inner bottom portion of socket 26 is provided with a rubber cushion 29 to prevent injury to said bottom portion or the counterweight when the latter drops to the end of its downward movement. Section 23 is secured to the standard by clips 30 and terminates at its upper end in the lower portion of a sleeve 31, secured to the top of the standard, for the reception of one end of a gooseneck 32, detachably swiveled in said

sleeve. 33 designates a cord attached at one end to the counterweight and protruding at its opposite end from the free end of the gooseneck, where it is attached to a spring-clasp 34, employed in suspending a catheter 35, so the latter will not be contaminated through contact with extraneous objects before it is inserted into the bladder. Clasp 34 is of less weight than counterweight 28, so the latter, through the instrumentality of cord 33, will normally hold said clasp in an elevated position.

The appliances forming that portion of the apparatus attached to the right side of the standard in the order enumerated below are as follows: 36 designates a burnt-match holder permanently attached to the standard. 37 designates a strip of abrasive material permanently attached to the standard to form convenient means for igniting matches. 38 designates a match-safe permanently attached to the standard and provided with a hinged lid 39 for normally closing the top end of said safe. 40 designates a socket in which the lower end of a bracket 41 is detachably swiveled for the support of an alcohol-lamp 42. 43 designates a socket in which a hook 44 of a bracket 45 is detachably secured. The outer portion 46 of said bracket extends over the alcohol-lamp 42 and is annular in form for the reception of an enameled sterilizing-cup 47, provided with a hinged lid 48. Bracket 45 is composed of two metallic strips, the annular portions of which have an intervening space for the reception of a corrugated strip 45^a, forming flues 45^b for the circulation of air, which prevents the bracket from becoming unduly heated by the flame from lamp 42. 49 designates an absorbent-cotton box permanently attached to the standard and provided with a hinged lid 50 for the exclusion of dust, &c. 51 designates a lubricant-box permanently attached to the standard and provided with a hinged lid 52.

The appliances forming that portion of the apparatus attached to the left side of the standard in the order enumerated below are as follows: 53 designates a valve permanently secured to the standard, comprising a stationary jaw 53^a and a hinged jaw 54, which latter is normally pressed toward the stationary jaw by an expansion-spring 55, interposed between jaw 54 and a bracket 56. 57 designates a bracket permanently secured to the standard and provided at its outer end with a pair of upwardly-extending arms 58. 59 designates a catheter-box secured by a hinge 60 to the standard, so that it may be either let down to the horizontal position (shown in full lines, Fig. 1) or secured in an upright position by a hook 59^a, as shown by dotted lines in said figure. Box 59 is divided into two compartments 61 62 for sterilized and unsterilized catheters by means of a hinged tray 63, to which access may be had

by elevating hinged lid 64 of the box to the position shown in Fig. 1. Box 59 is hinged just above bracket 57, so that it will rest upon said bracket and between arms 58 when in its lowered position. 65 designates a chain attached at its opposite ends to jaw 54 and a foot-lever 66, fulcrumed to a bracket 67, swiveled upon the base, so the outer end of said lever may be swung around over the base to the position shown in Fig. 3 when not in use. Lever 66 is provided at its outer under portion with a stirrup 68, which affords a convenient foothold for the operator, and when it occupies the operative position (shown in Fig. 1) it is prevented from accidentally swinging to an inoperative position by a stop 69, against which its inner end contacts. Stop 69 is secured upon the base by a hinge 70 in order that it may be lowered to the horizontal position (shown in Fig. 3) when not in use.

The appliances forming that portion of the apparatus attached to the rear side of the standard in the order hereinafter enumerated are as follows: 71 designates a counter-sunk plate having two slots 72 for the reception of the hooks 73, secured to the rear side of a medicine-cabinet 74, provided with a hinged lid 75, whereby access is had to the interior of said cabinet. Cabinet 74 contains medicine used in the bladder-wash and for treating the water in which the catheters are sterilized. It also contains an instrument for handling sterilized catheters, instruments for determining the temperature of the water and the quantity of medicine for the bladder-wash, a supply of alcohol for the alcohol-lamp, and sterilized water for wetting the end of a clean towel, used in fully disinfecting the hands (previously and thoroughly washed) preparatory to lubricating and using the sterilized catheter, and also for wetting a piece of absorbent cotton with which the meatus is thoroughly cleansed prior to its lubrication and the subsequent introduction of the lubricated catheter into the bladder, and finally for cleansing the meatus after the withdrawal of the catheter. 76 designates a handle permanently secured to the standard to afford a convenient handhold in moving the apparatus from place to place.

77 designates a socket permanently secured to the standard, in which the rearend of a towel-hook 78 is detachably secured.

79 designates a socket permanently attached to the standard, in which a stopper-hook 80 is detachably secured.

The upper end of the standard is reinforced by a metallic collar 81 and a top plate 82, which latter has three apertures 83, registering with a similar number of counterbores 84 in the standard, for the reception of three hooks 85, 86, and 87, the lower ends of which are detachably arranged in said counterbores.

Hook 85 is used in suspending a fountain-syringe 89, containing sterilized and medicated water, which is introduced into the bladder. Hook 86 is used in suspending a fountain-syringe (not shown) when taking an ordinary injection, and hook 87 is used in suspending a hot-water bag (not shown) within convenient reach of the patient.

Stopper-hook 80 forms a convenient support for the hot-water-bag stopper when the latter is not in use.

In practice the patient seats himself in front of urinal 18^a, removes a new catheter from compartment 61 and places it in the sterilizing-cup 47, partly filled with medicated water, which is brought to the boiling-point by flame from alcohol-lamp 42, ignited with a match taken from match-safe 38. After the catheter has been thus sterilized it is suspended from clasp 34 and covered with the lubricant taken from lubricant-box 51. The patient then cleanses the meatus with absorbent cotton taken from the cotton-box 49 preparatory to introducing the catheter into the bladder. Thumb-screw 27 is next unscrewed from contact with counterweight 28 to permit the clasp and the catheter to descend, so that the latter can be introduced into the bladder through the urethral passage. During this latter operation one end of the catheter is supported by clasp 34, leaving both hands free to perform said operation. After one end of the catheter has been introduced into the bladder its outer end is detached from the clasp and lowered into the urinal, into which latter the contents of the bladder are discharged. The outer end of the catheter is then removed from the urinal and inserted into the depending end of a tube 88 of the fountain-syringe 89, previously filled with sterilized and medicated water, which is permitted to flow into the bladder, the flow of water through the tube being regulated with valve 53, between the jaws of which latter said tube extends. When the operation of washing the bladder has been completed and its contents have been discharged into the urinal, the catheter is removed, again sterilized, and placed in compartment 62 for future use.

The apparatus may be readily placed in a knocked-down condition for shipment by removing all of the detachable parts from the standard, taking the two sections of the latter apart, and by separating the two parts forming base 1, and when in said knocked-down condition the apparatus may be packed in a small chest of ordinary or preferred construction.

Although the above apparatus is intended primarily for home use, it may be readily converted into a convenient apparatus for use when traveling by only employing tube 21, socket 26 and its thumb-screw, gooseneck 32, counterweight 28, cord 33, clasp 34, and

urinal 18^a. When thus arranged for use while traveling, tubing 21 is provided with a clamp whereby it may be supported from a closet-seat, and a suitable support is provided for the urinal.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. An apparatus of the character described, consisting of a standard, suitable means for supporting the same, a tubing secured to said standard, a gooseneck communicating with said tubing, a counterweight slidably arranged in the tubing, a cable attached to one end of said counterweight and having its opposite end protruding from the gooseneck, and a clasp secured to said protruding end.

2. An apparatus of the character described consisting of a base, a standard secured thereto, a tubing secured to said standard, a gooseneck swiveled to said tubing, a counterweight slidably arranged in the tubing, a cord attached to one end of said counterweight and having its opposite end protruding from the gooseneck, and a clasp secured to said protruding end.

3. An apparatus of the character described consisting of a suitably-supported standard, a gooseneck secured thereto, a cable extending through said gooseneck, a counterweight to which one end of the cable is attached, and a clasp to which the opposite end of said cable is attached.

4. An apparatus of the character described consisting of a suitably-supported standard, a gooseneck secured thereto, a cable extending through said gooseneck, a clasp attached to one end of said cable, a counterweight attached to the opposite end of said cable, and means secured to the standard for guiding said counterweight.

5. An apparatus of the character described consisting of a standard, a tubing secured to said standard and consisting of two sections, a sleeve on one of said sections for receiving the adjacent end of the other section, a gooseneck communicating with the upper section, a cushion arranged in the lower section, a counterweight slidably arranged in the tubing, a cable attached at one end to said counterweight and protruding at its opposite end from the gooseneck, and a holding device to which said protruding end is attached.

6. An apparatus of the character described consisting of a standard, a tubing secured thereto, a socket in which the lower end of said tubing is secured, a gooseneck communicating with the upper end of the tubing, a cable arranged in said tubing and having one end protruding from the gooseneck, a clasp to which said protruding end is attached, a counterweight slidably arranged in the tubing to which the inner end of the

cable is attached, and a thumb-screw carried by the socket and adapted to engage the counterweight.

7. An apparatus of the character described consisting of a circular base, ball-bearing casters upon which said base is mounted, a socket centrally disposed upon said base, a standard having one end detachably arranged within said socket, means for reliably securing said end in the socket, a tubing carried by the standard, a cable having one end protruding from said tubing, a clasp to which said protruding end is attached, and means arranged within the tubing to which the inner end of the cable is attached for normally holding said clasp in an elevated position.

8. In an apparatus of the character described, a tubing curved at its upper portion, a cable arranged in said tubing and having one end protruding from the curved portion thereof, a clasp to which said protruding end is attached, and means arranged within the tubing to which the inner end of the cable is attached for normally holding said clasp in an elevated position.

9. In an apparatus of the character described, a tubing, a gooseneck swiveled at the upper end thereof, a cable arranged in said tubing and having one end protruding from the gooseneck, a clasp to which said protruding end is attached, and means arranged within the tubing to which the inner end of the cable is attached for normally holding said clasp in an elevated position.

10. In an apparatus of the character described, a tubing curved at its upper portion, a cable arranged in said tubing and having one end protruding from the curved portion thereof, a clasp to which said protruding end is attached, and a counterweight arranged within the tubing to which the inner end of the cable is attached for normally holding said clasp in an elevated position.

11. In an apparatus of the character described, a tubing curved at its upper portion, a cable arranged in said tubing and having one end protruding from the curved portion thereof, a clasp to which said protruding end is attached, a counterweight arranged within the tubing to which the inner end of the cable is attached for normally holding said clasp in an elevated position, and a cushion arranged in the lower portion of the tubing.

12. In an apparatus of the character described, a tubing curved at its upper portion, a cable arranged in said tubing and having

one end protruding from the curved portion thereof, a clasp to which said protruding end is attached, a counterweight arranged within the tubing to which the inner end of the cable is attached for normally holding said clasp in an elevated position, and means for holding the counterweight against accidental movement.

13. In an apparatus of the character described, a base made in two detachable sections, swiveled hooks on one of said sections which detachably engage members on the other section, dowel-pins on one of said sections which detachably engage counterbores in the other section, casters upon which said base is mounted, a socket on the base, and a standard having one end detachably secured in said socket.

14. In an apparatus of the character described, a base provided with a centrally-disposed socket, a standard consisting of two sections and having one end detachably arranged in the socket on the base, a socket at one end of one of the sections which receives one end of the other section, a thumb-screw extending through the wall of said socket, and a dowel-pin on one of said sections which engages a counterbore in the other section, substantially as described.

15. An apparatus of the character described, consisting of a suitable support, a tubing secured to said support and consisting of detachable sections, a gooseneck swiveled at the upper end of said tubing, a counterweight slidably arranged in the tubing, means for holding said counterweight stationary, a cable having one end protruding from the free end of the gooseneck and attached at its opposite end to the counterweight, and a clasp for supporting catheters secured to said protruding end.

16. An apparatus of the character described, the combination, of a standard, a catheter-box hinged to the standard provided with two compartments for holding used and unused catheters, means for holding the catheter-box in a folded position against the standard, and a bracket secured to the standard upon which said catheter-box rests when the latter is extended.

In testimony whereof I affix my signature in the presence of two witnesses.

JAMES F. SPALDING.

Witnesses:

F. G. FISCHER,
LESLIE E. BAIRD.