

Sept. 8, 1970

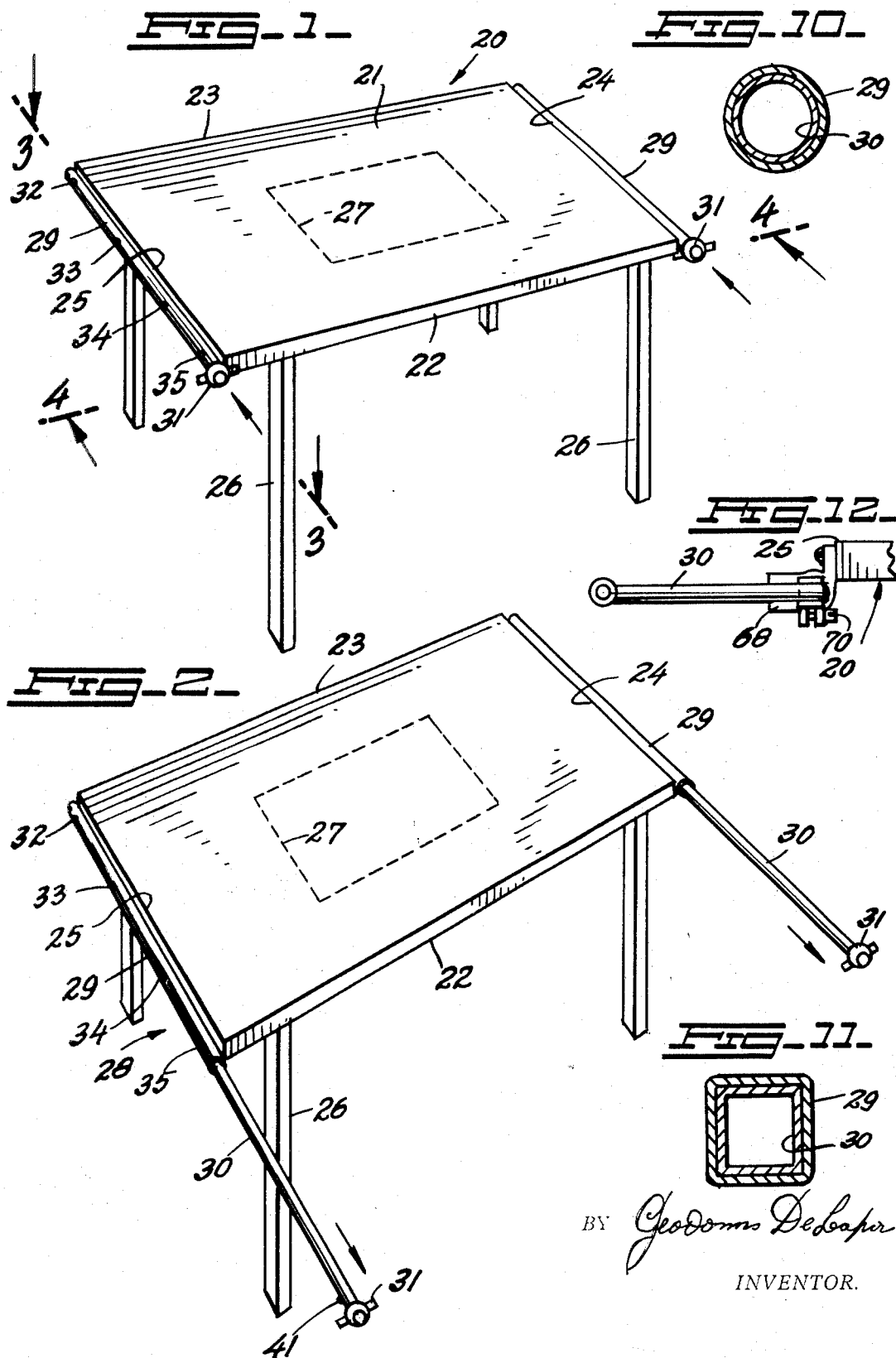
G. DE LAPA

3,527,352

GARMENTS HANGER MEANS

Filed Nov. 14, 1967

3 Sheets-Sheet 1



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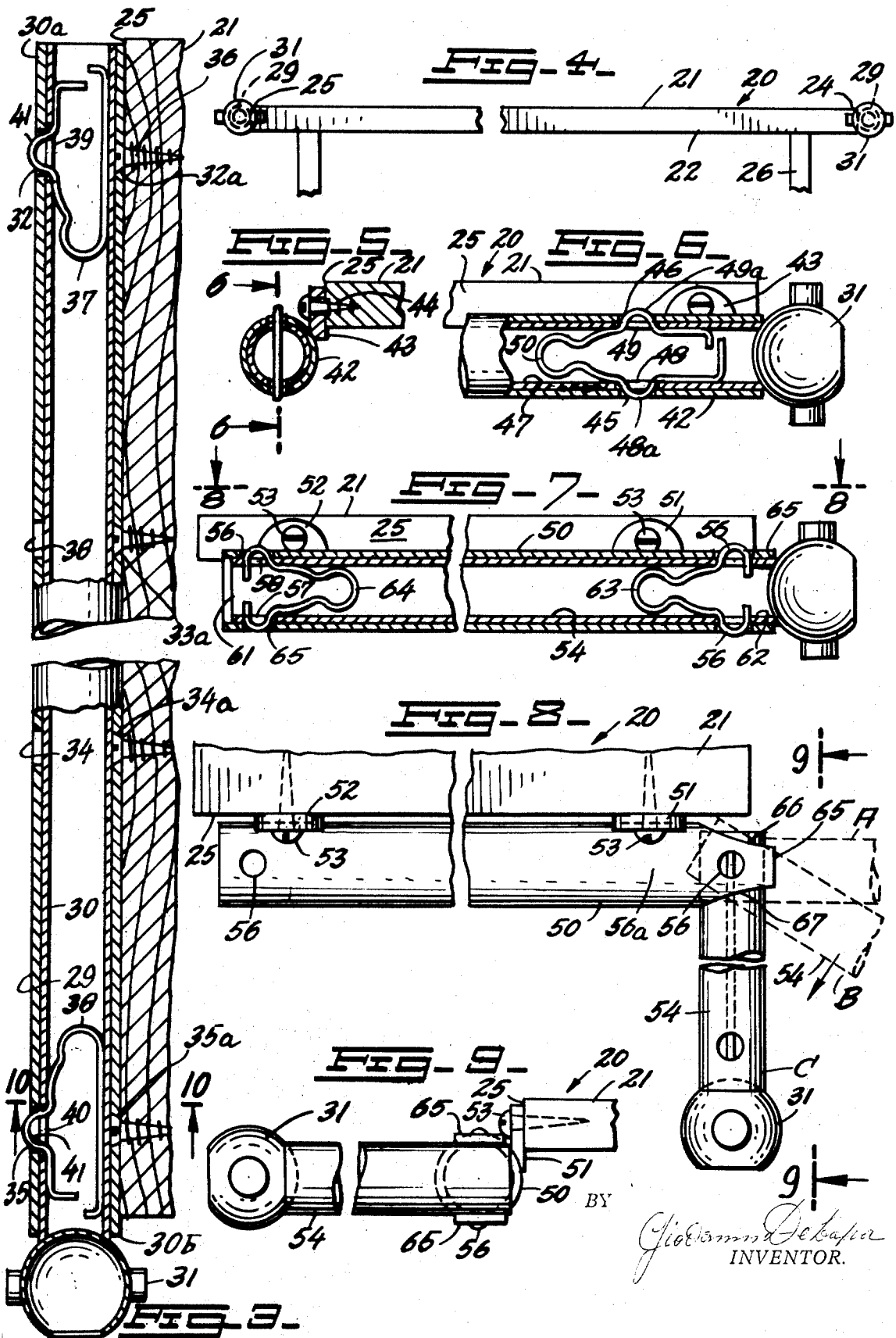
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GARMENTS HANGER MEANS

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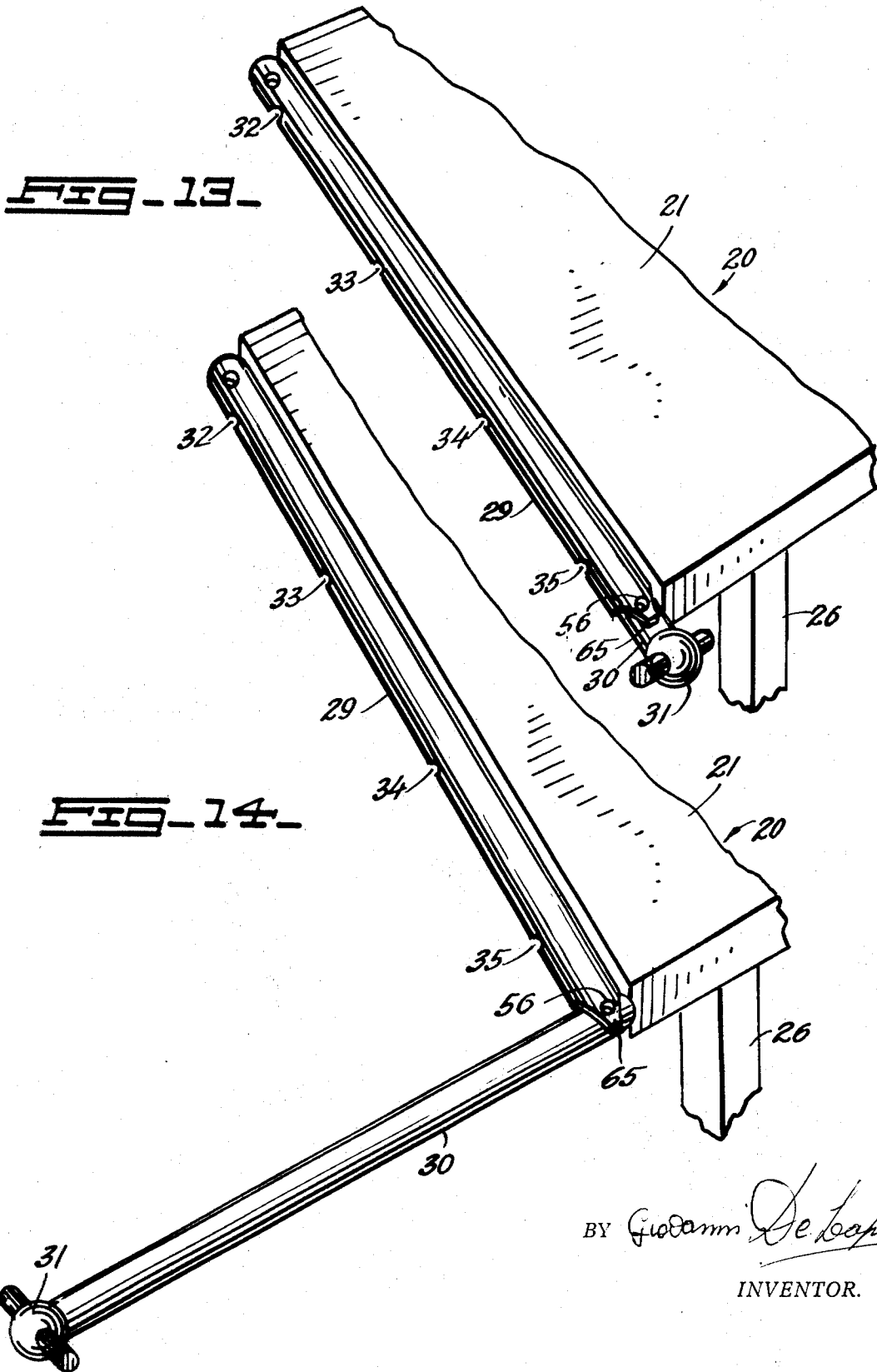
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GARMENTS HANGER MEANS

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GARMENTS HANGER MEANS
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1 Claim

ABSTRACT OF THE DISCLOSURE

The present invention relates to a hanging device for supporting clothes articles in a tailor shop. The device in question may be formed of an elongated tubular member into which is mounted another slidable member smaller in diameter. The slidably mounted member moves in the first member lengthwise. Upon reaching the end of travel it can be hinged sideways. The sliding member has indexing spring detents which also serve as a bearing shaft upon which the sliding member can move in an arcuate path.

The present invention relates to hangers, and more particularly it relates to means for making possible the hanging of garments on handles which may be located adjacent to a sewing machine table and mounted upon platforms or directly secured to the machine table top, and in close proximity to the man that works at the sewing machine, the tailor or his assistant.

More specifically to the embodiment of the present invention it relates to a means for facilitating the hanging of trousers on handles which can be fastened to the left and to the right margins of a sewing machine table. The hangers or handles in question may be adjustable to take various length so as to support a greater or a lesser number of trousers which may be hanged upon them in the process of general sewing operations in mass production or in the making of trouser cuffs and the like.

The hanger in question forming an embodiment of the present invention substantially differs from similar devices in use in the industry. My hanger provides flexibility and can be readily adapted to mass production. In its general configuration my hanger consists of a pair of tubular members with one member in the pair having an inner diameter which is slightly larger than the outer diameter of the other member in the pair. Accordingly when the smaller tubular member is housed within the larger tubular member, it is possible to slide the smaller member in-and-out off the larger member with ease. A plurality of holes may be provided upon the larger tubular member which are drilled transversely across the tube so as to form on either side of said tube a pair of centrally aligned holes. The larger tube then is mounted by means of screws to the edge of a sewing table top and is anchored securely thereto.

The inner tubular member which is of smaller outer diameter may be provided with a pair of holes, one on either extreme end thereof. A pair of substantially V-shaped springs (preferably made of piano wire) may be shaped in such a manner as to form a spring detent. The latter may be mounted into the holes provided on either end of the tube so as to extend beyond the holes and to form an indexing mechanism.

It is, of course, understood that when the smaller tube is fitted within the larger tube, the spring detents aforesaid will extend beyond the diameter of the small tube and will snap into the indexing opening or holes which are located in the outer tube (when the inner tube is slidably moved in-and-out within the outer tube). This indexing action will permit positioning of the inner tube (or indexing) within the outer tube. Each indexing position

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of the inner tube will be controlled by the relative position of the indexing holes in the outer tube. In the event that there are four such indexing holes, then, accordingly there will be four indexing positions for the inner tube.

In such a manner the inner tube may be moved in-and-out of the larger tube, and may be locked into the various indexing positions. It is, of course, understood that when the work has been completed, and the trousers have been removed from the hanger (the inner tube) then the inner tube may be moved in its entire length into the outer tube in its normally retracted position (see FIG. 1).

The outer and the inner tubes are preferably made of tube lengths of standard circular or square-shaped cross sections. Any other section of tube, however, may be used as well. There is an inherent advantage in the use of tubes of square cross section because in this case the tubes permit automatic alignment of the spring detent (indexing) with its corresponding indexing holes. In the case of circular shaped tubes such an automatic alignment is not possible. To facilitate such an alignment the inner tube (at its working end) may be provided with a handles or a knob which will be formed in such a manner as to indicate to the user in what fashion the inner tube must be extended or retracted to facilitate indexing. For instance, such a knob may be provided with a T-shaped handle. The construction of such a handle will be described later in detail.

A modification of the above hanger design may provide facility to hinge or to swivel the inner tube sideways. The latter arrangement will make possible the swiveling of the inner tube 90 degrees from its horizontal position. The hinging or the swiveling of the inner tube will provide easier access to the sewing table.

Accordingly, one object of the present invention is to provide a garments or a clothes hanger which may be easy to install to a sewing table top, and to operate, and one which may be readily mass produced at low cost.

Another object of the present invention is to provide a clothes hanger which is made preferably of a pair of tubes, with one tube being fitted within the outer tube and made to slide in-and-out off the outer tube.

A further object of the present invention is to provide in said hanger an indexing mechanism to facilitate the indexing and locking of the inner tube within the outer tube at predetermined working positions.

An additional object of the present invention is to provide an indexing spring with an indexing detent. The latter facilitating the positioning of the inner tube relative to the outer tube as the inner tube is slidably movable in respect to the outer tube.

Another object of the present invention is to provide the inner tube with an indexing and positioning handle. By means of the handle the inner tube may be extended in-or-out of the outer tube with ease and at the will of the operator.

Another object of the present invention is to provide a means for hinging or swiveling the inner tube upon the outer tube when the inner tube reaches the apex of its sliding movement. The inner tube can be hinged a full 90 degrees from the horizontal.

An additional object of the present invention is to provide specially designed mounting brackets by means of which the clothes hanger in question may be readily secured to the right or left margins of a table top.

This invention also consists in certain other features of design and construction, and the combination and arrangement of parts, to be hereinafter fully described, illustrated in the accompanying drawings, and specifically pointed out in detail in the appended claim.

In describing the invention in detail, references will be made to the accompanying figures where like character

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numerals denote like or corresponding parts throughout the several views, in which:

FIG. 1 is a perspective front elevational view of a sewing machine table which is provided with a pair of clothes hangers showing the embodiment of the present invention. In this figure the hangers are shown in a retracted non-operative position;

FIG. 2 is a view similar to the one in FIG. 1, however, in this case the clothes hangers are shown in an extended and operative position;

FIG. 3 is an enlarged longitudinal cross sectional view, taken on the line 3—3 of FIG. 1, showing the embodiment of the present invention and the manner in which the inner tube is mounted to slide freely within the outer tube, restricted only in its movement by the indexing mechanism;

FIG. 4 is a front elevational view of the present invention, taken on the line 4—4 of FIG. 1;

FIG. 5 is a section through a modification showing the manner in which the inner tube may be housed within the outer tube, and the manner in which the outer tube may be secured to the sewing table top by means of mounting lugs or brackets;

FIG. 6 is a section taken on the line 6—6 of FIG. 5, showing the manner in which the outer tube may be secured to the sewing table top and the indexing mechanism;

FIG. 7 is another modification. In this case the inner tube may be made to hinge within the outer tube when the former reaches the apex of its sliding movement;

FIG. 8 is a plan elevational view of FIG. 7, taken on the line 8—8, showing the manner in which the inner tube can be hinged 90 degrees upon reaching the apex of its sliding movement;

FIG. 9 is a front elevational view taken on the line 9—9, of FIG. 8, showing the position of the inner tube substantially as indicated in FIG. 8;

FIG. 10 is a section taken on the line 10—10, of FIG. 3, showing the inner and the outer tubes having a substantially circular cross-section;

FIG. 11 is a similar section shown in FIG. 10, however with the inner and the outer tubes having substantially a square-shaped cross-section;

FIG. 12 is a perspective view of another modification showing the utilization of special bracket members to facilitate the mounting of the clothes hanger to the sewing table top;

FIG. 13 is a perspective view showing the device in its non-operative position; while

FIG. 14 shows the device in its operative position.

It is to be understood, however, that the present form of disclosure is merely for the purpose of illustration, and that there might be various modifications thereof, without departing from the spirit of the invention as herein set forth.

Referring now more particularly to the present invention, best seen in FIGS. 1 and 2, inclusive, and comprising, in combination, a rectangular sewing machine table 20 of standard design, having a table top 21, preferably made of wood, and which may be formed by means of the front and back table margins 22 and 23, respectively, and the right and left table margins 24 and 25, respectively, and the table supporting legs 26. Upon its top, it can be seen that the sewing table top 21 is marked with the dotted lines 27, to indicate the relative position occupied by the sewing machine proper. With the sewing machine actually not forming the embodiment of the present invention, it has not been shown in the drawings.

It can be seen that FIG. 2 is similar with FIG. 1. However, FIG. 2 indicates the manner in which the device is being operably effective, while FIG. 1 shows the device in its non-operative position. It can be readily discerned from FIG. 2 that the clothes hanger 28 (actually there are two hangers, with one hanger mounted separately to either right or the left side 24 and 25, respectively of the

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table top 21), may be mounted directly to the left table margin 25, substantially as shown, by means of wood screws. The clothes hanger 28 may be formed of a pair of tubular members 29 and 30, respectively. The tubular member 29 (called outer) is longer in diameter than the tubular member 30 (called inner). The inner member 30 may be fitted to slide within and in-and-out of the member 29, by means of the operative handle or the T-shaped knob 31. In such manner the inner tubular member 30 can be readily extended from the outer tubular member 29, or retracted into the latter, substantially as indicated in FIGS. 1 and 2, inclusive.

Referring more particularly to FIG. 3, which is a longitudinal cross-sectional view through the clothes hanger 28, taken on the line 3—3 of FIG. 1, it shows the manner in which the inner tubular member or the tube 30 can be fitted to slide within the outer tubular member or the tube 29. From FIG. 3 it can be readily discerned that the outer tube 29 may be provided with four pairs (or more) of transversely machined or drilled holes 32—32a, 33—33a, 34—34a, and 35 and 35a, respectively. These holes are drilled in pairs on their own respective center lines and in such a manner as to form a group of four (or more) outer holes 32 to 35, inclusive, and a group of inner holes 33a to 35a, inclusive. The inner holes 33a to 35a, inclusive, are utilized as mounting holes in the manner shown in FIG. 3. Wood screws 36 may be used to affix or to mount the outer tube 29 to the edge or the margin 25 of the table top 21, substantially as indicated. The outer holes 32 to 35, inclusive, are called the indexing holes.

It can be readily discerned that inside the tube 30 there are two or a pair of indexing springs 37 and 38, respectively, which are mounted on either extreme ends 30a and 30b of the tube. Also it can be seen that the end 30a of the tube 30 may be provided with the locating hole 39, while the end 30b may be provided with the locating hole 40. Also it can be seen that the indexing springs 37 and 38 can be provided with the indexing detents 41, which fit within the locating holes 39 and 40, respectively and are in alignment with the indexing holes 32 to 35, in the outer tube 29.

From the above it becomes apparent that when the inner tube 30 is moved within the outer tube 29, the indexing springs 37 and 38 are taken along due to the fact that the spring detents 41 are held within the holes 39 and 40, respectively. In as much as the indexing springs 37 and 38 are formed of flexible piano wire, the relative motion of the sliding tube 30 will force the disengagement of the spring detents 41 from their indexing holes, and more particularly from the indexing holes 32 and 35, and will allow the tube 30 to be moved a substantial distance, until it reaches the hole 33, in the outer tube 29, which is adjacent to the hole 32. The spring detent 41 will then lock the tube 30 in its new position unless the tube 30 is moved further to the next indexing hole 34, which is adjacent to the hole 33, etc., until to the last indexing hole 35. It is, of course, understood that more than four (or less than four) indexing holes may be provided upon the outer tube 29, depending upon its total length.

Referring to FIGS. 5 and 6, respectively, they indicate a modification. In this latter case the outer tube 42 may be held anchored to the table edge 25 by means of the mounting lugs or the brackets 43, which are held to the table top 21 by means of the wood screws 44. Relative to FIG. 6, it can be seen that the outer tube 42 can be provided with a pair of indexing holes 45 and 46, respectively, while the inner tube 47 has a pair of locating holes 48 and 49, respectively. In this case the indexing spring 50 has a pair of indexing detents 48a and 49a instead of a single spring detent 41 shown in FIG. 3. The need for such an arrangement will be shown later.

FIGS. 7, 8 and 9, respectively, show an additional modification. In this case the outer tube 50 can be provided

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with a pair of lugs 51 which by means of the wood screws 53 may be anchored to the table top 21, substantially as indicated. The inner tube 54 fits snugly within the outer tube 50. The outer tube 50 is provided with a plurality of indexing holes (in this case the holes 55 and 56), which can be located in pairs upon the same center lines and can be in perfect alignment. However, the inner tube 54 is provided with only one pair of holes 57 and 58, and 59 and 60, respectively, which are located on either end 61 or 62, of the inner tube 54. A double acting piano wire indexing spring 63 and 64 is provided and is mounted substantially as shown in FIG. 7. The springs 63 and 64 are formed as above described.

Referring more specifically to FIG. 9, which is a plan elevational view of FIG. 8, it can be seen that the end 65, of the outer tube 50, is provided with a pair of arcuate cut outs 66 and 67, inclusive, so as to permit the hinging or the swiveling of the inner tube 54 (the hanger) substantially as shown. Dotted lines A and B indicate the position of the inner tube 54 as it is being moved or hinged from its normal position marked A to its new position marked C. The hinging of the pipe or the hanger 54 permits an easier access to and from the sewing table 20. However, the tubes 50 and 54 may be provided with a secondary set of locating or indexing holes 56a so as to permit the anchoring of the inner pipe 54 (or the hanger) in its normal position A preliminary to being moved to the new position marked C.

Reference being made to the modification shown in FIG. 12, it indicates the manner in which the outer tubing 50 may be anchored to the table top 21 by means of a pair of specially constructed brackets 68. Each bracket is split at 69, and by means of the machine screw 70 can be made tight so as to hold the outer tube 50 locked in position. Also the bracket 68 may be formed with a U-shaped extension 71 so as to support the inner tube 54 (the hanger) when the latter is hinged or is swiveled 90 degrees from its originally normal position indicated at A to the new position marked C, substantially as shown in FIG. 8.

FIGS. 13 and 14, respectively, are perspective views showing the embodiment of the present invention. In FIG. 13 the outer tubular member 29 is mounted by screws to the edge of table 21, with the inner sliding tube 30 in its normal non-operative position housed inside the outer stationary tube 29.

However, FIG. 14, shows the manner in which the inner tubular member 30 can assume an extended position when it is extracted from the stationary member 29. Due to the inherent design of the device, and because it is provided with an indexing spring 64, it is possible to slide the inner member 30 to the very end of the stationary member 29, and have it locked by the extension 49a in

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the spring 64. The extension 49a springs into the hole 56, substantially as shown, to allow the sliding member 30 to swing 90 degrees relative to the stationary member 29.

A careful examination of the foregoing description in conjunction with the invention as illustrated in the drawings, will enable the reader to obtain a clear understanding and impression of the alleged features of merit and novelty, sufficient to clarify the construction of the invention as hereinafter claimed.

Minor changes in shape, size and materials, and rearrangement of parts, may be resorted to in actual practice, as long as no departure is made from the invention claimed.

Having described my invention, what I claim as new and original is the following:

1. In a device of the class described, comprising, in combination, a pair of tubular members, one outer and one inner tube, the outer tube being of substantially larger inner diameter, said inner tube having a diameter which snugly fits within the inner diameter of said outer tube, means for sliding said inner tube lineally within said outer tube, and means for indexing said inner tube within said outer tube, said means comprising a spring indexing detent, and means for swinging or swiveling said inner tube in an arcuate path relative to the lineal movement thereto, and means for supporting said inner tube in its new arcuate position; said outer tube having a pair of cut-outs and mounted brackets, a pair of supporting bearing sections, a hole in each one of said sections, each of said holes being in alignment with one another, said indexing spring detent pair being mounted into said holes acting as a bearing, said inner tube being free to swing in an arcuate path 90 degrees from the lineal position of said outer tube, and means in said brackets to lock said inner tube in its relatively new position.

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