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MOTORIZED MULTI-ROLLER HEAT PRESS HANGER

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Fig - 6.

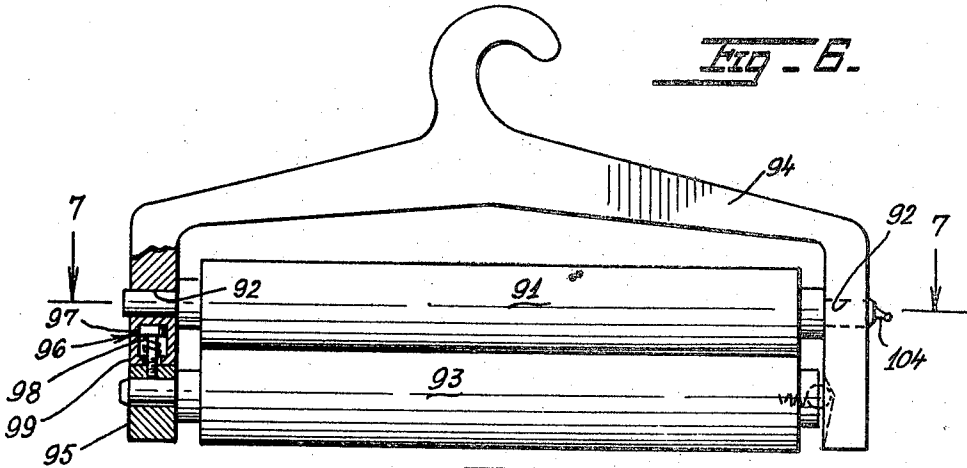


Fig - 7.

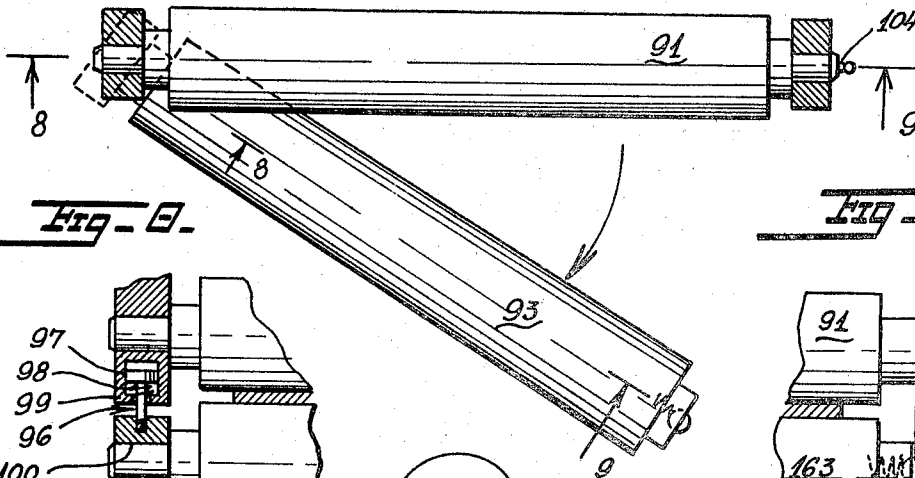


Fig - 8.

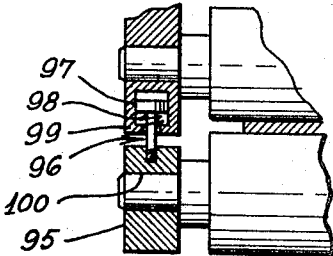


Fig - 9.

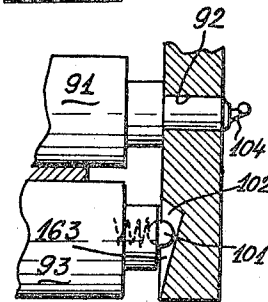


Fig - 10.

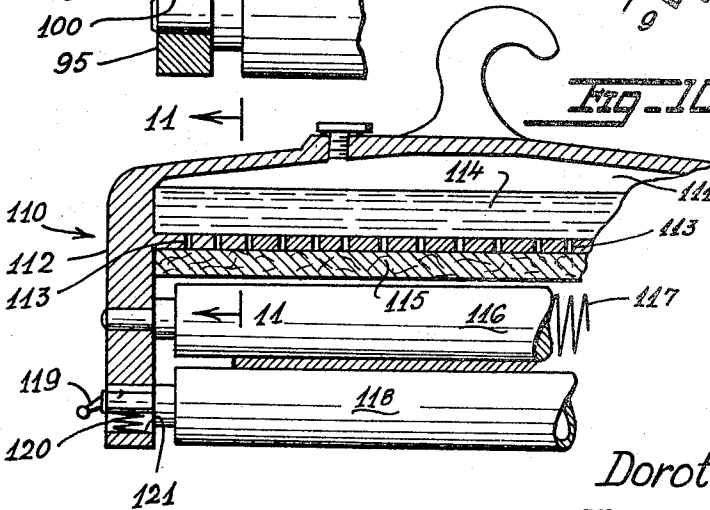
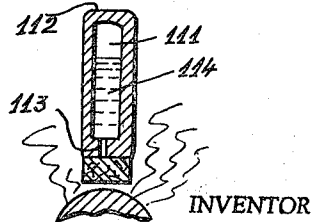


Fig - 11.



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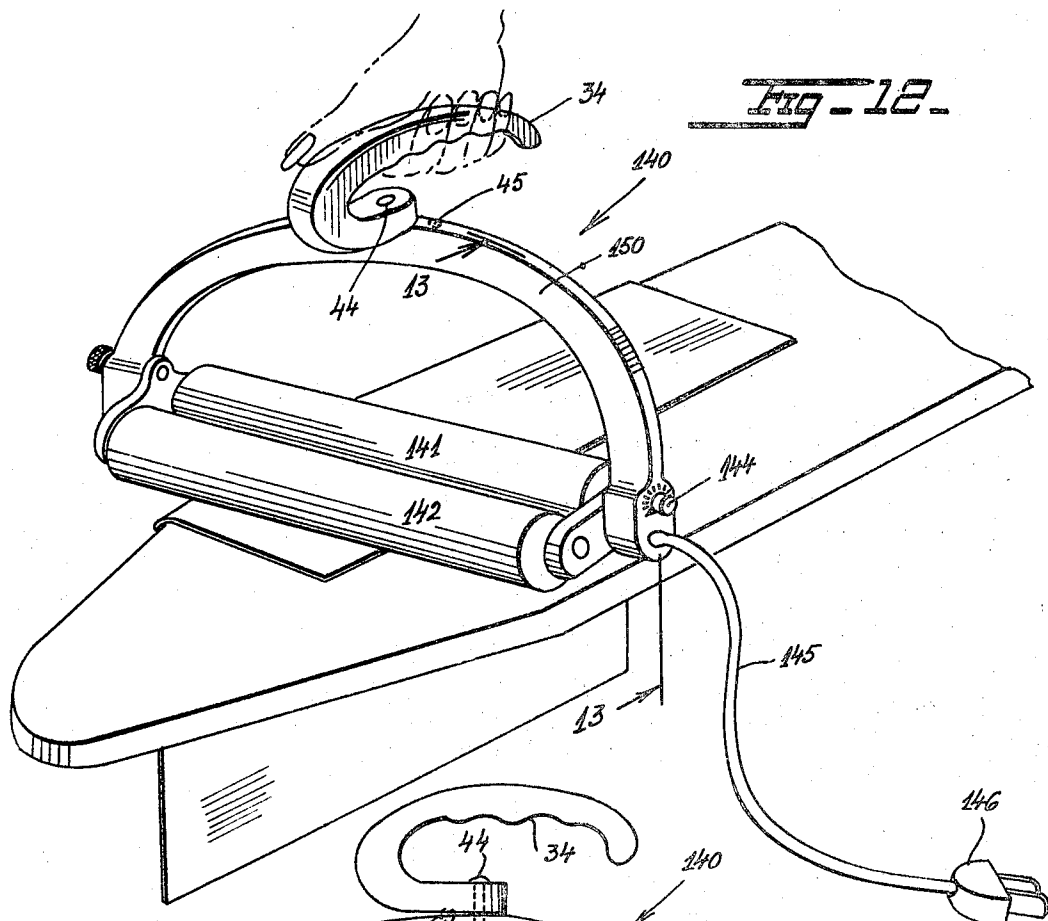
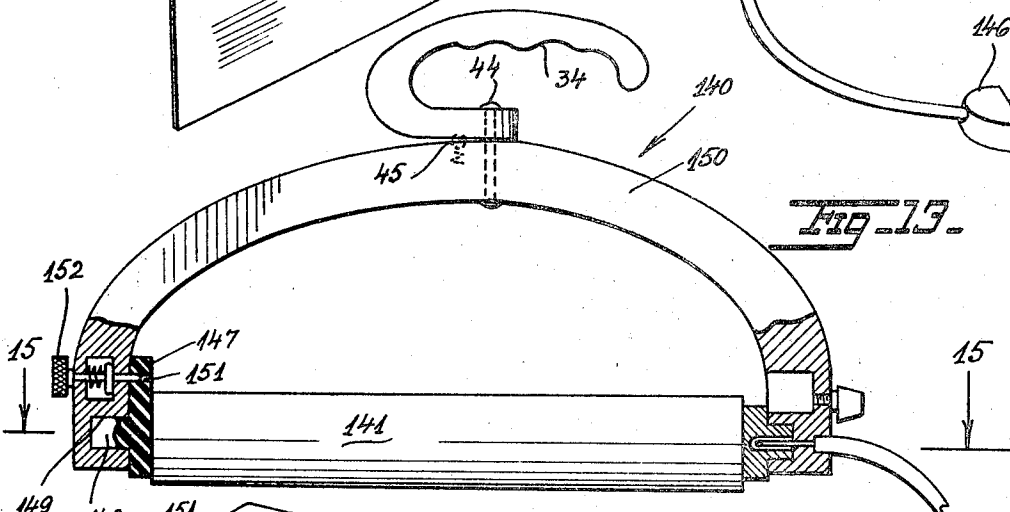
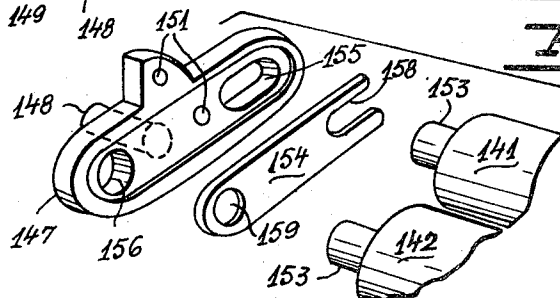
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MOTORIZED MULTI-ROLLER HEAT PRESS HANGER

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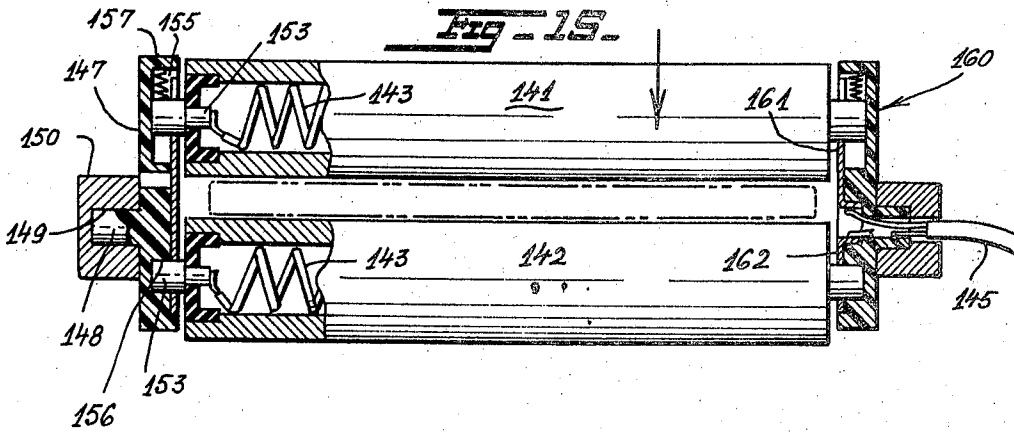
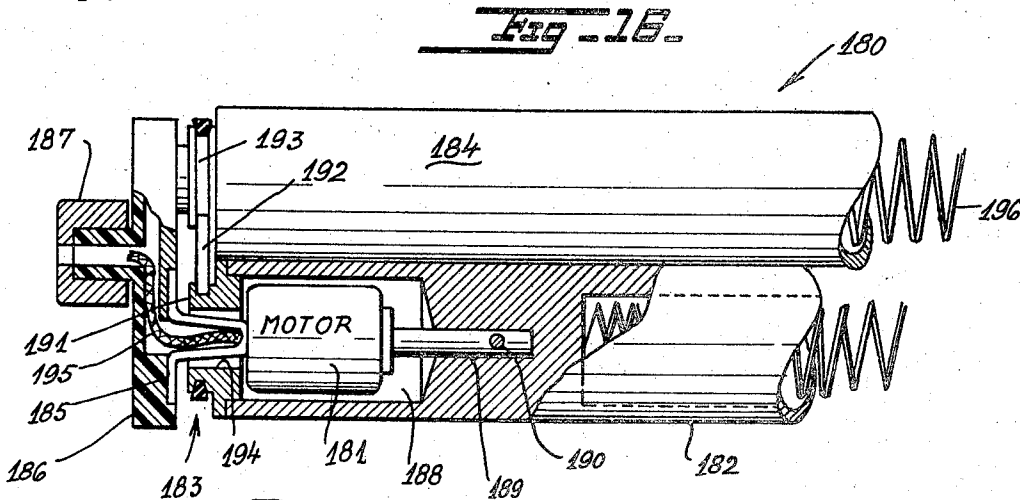
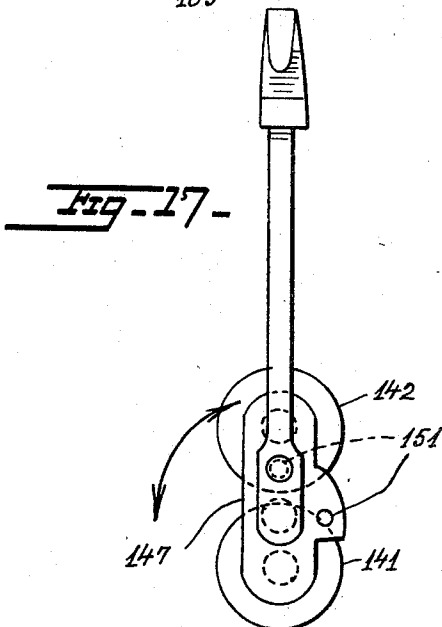
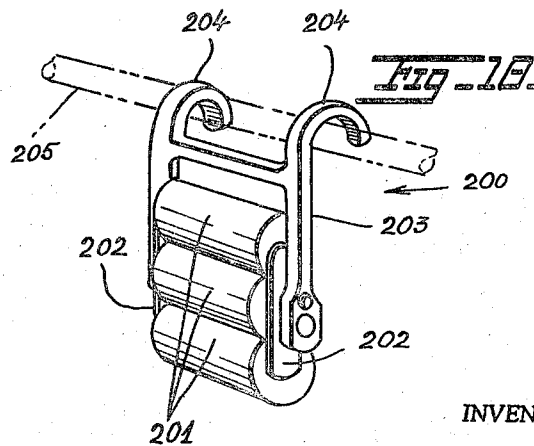
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MOTORIZED MULTI-ROLLER HEAT PRESS HANGER

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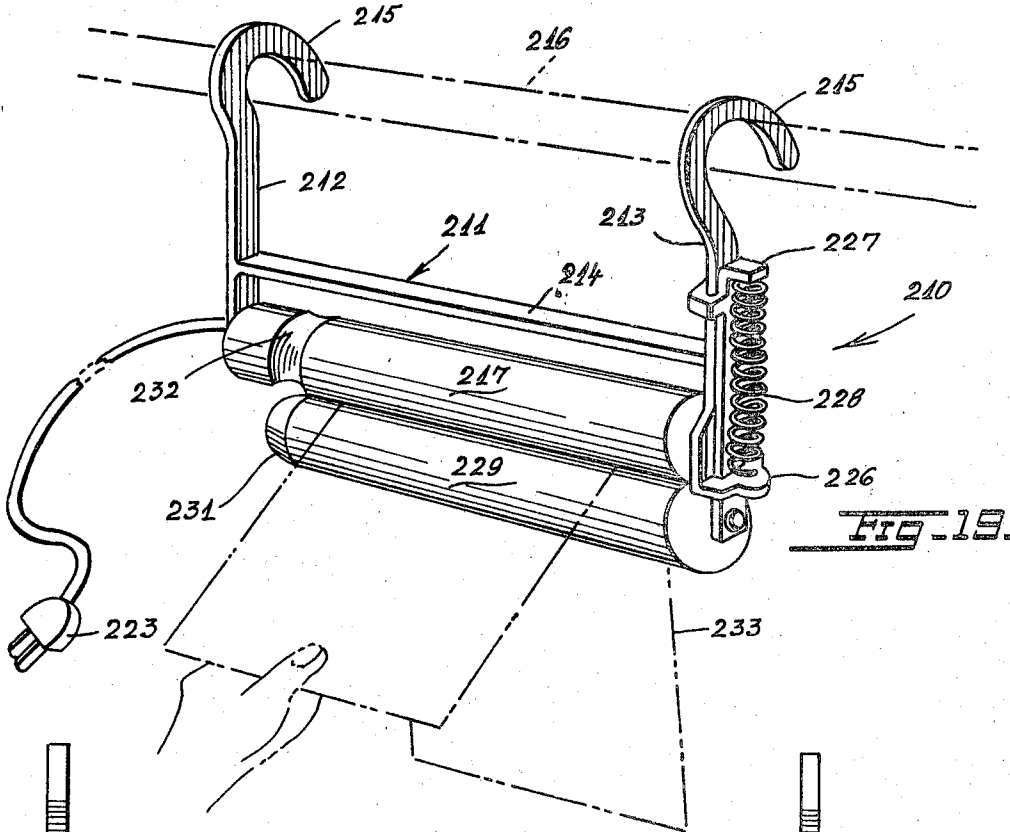


Fig. 19.

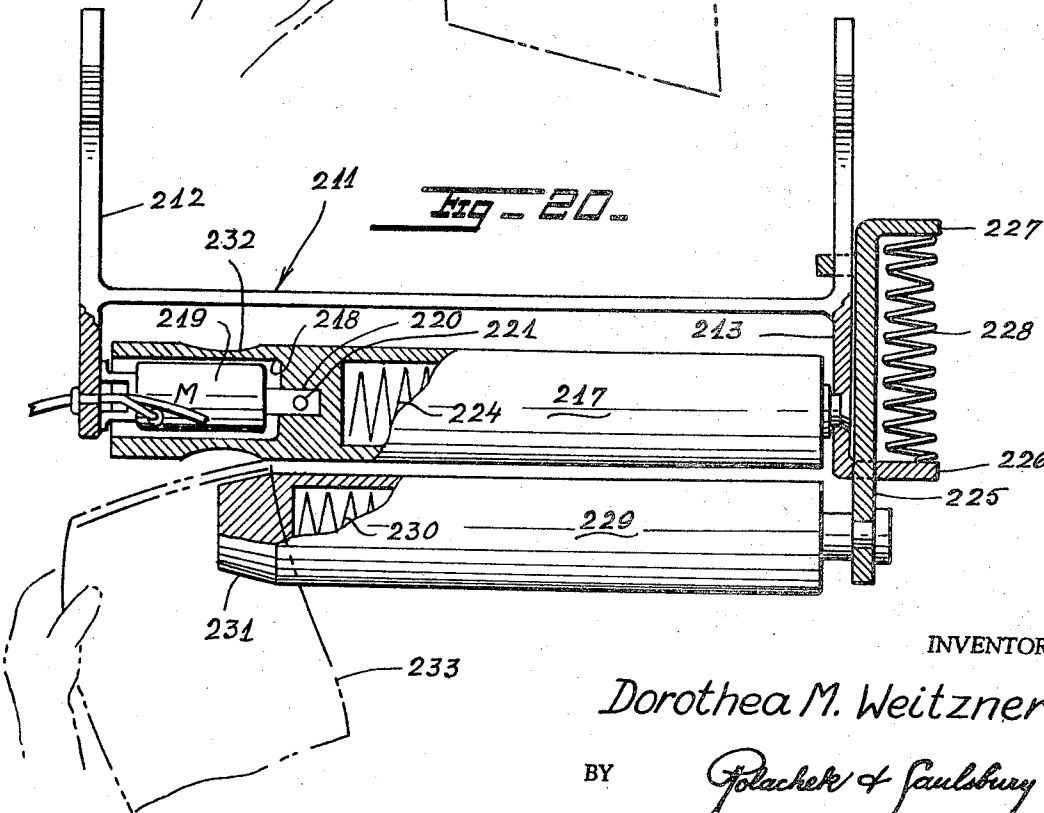


Fig. 20.

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**MOTORIZED MULTI-ROLLER HEAT
PRESS HANGER**

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ABSTRACT OF THE DISCLOSURE

A multiple roller assembly having self-contained means for pressing fabric materials and which is adaptable for being supported from a closet garment hanger bar when in a stored, non-use position. The roller assembly consists of a generally arcuate shaped frame with means for supporting rollers at opposite ends thereof, and means at midportion of the frame for supporting the assembly from a garment hanger bar of a closet. The rollers are electrically heated and are rotated by motor power.

This invention relates generally to fabric pressing devices. More specifically it relates to hand operated fabric pressing devices.

A principal object of the present invention is to provide a multiple roller assembly of novel design having self-contained means for pressing fabric materials and which is adaptable for being supported from a closet garment hanger bar when in a stored, non-use position.

Yet another object is to provide a multiple roller assembly having self-contained means for pressing fabric and which when not in operative use can be utilized as a garment hanger to support clothing from a closet bar.

Yet another object is to provide a fabric pressing device in the configuration of a garment hanger and which has a supporting hook that is readily adjustable to form a handle for an operator's hand when used in a conventional manner to iron fabrics.

Yet a further object is to provide a fabric pressing device having a plurality of rollers which are adjustable between a horizontal plane when the device is used for ironing, and a vertical plane when the device is suspended in a closet so to take up a minimum amount of room upon the bar.

Yet a further object is to provide a fabric pressing device wherein a pressing operation may be performed when the rollers are either in a horizontal plane or a vertical plane.

Yet a further object is to provide a fabric pressing device which may be made to contain its own batteries for powering a heating element and rotatably drive the rollers or the device may be powered from a conventional domestic electric outlet.

Yet a further object is to provide a fabric pressing device containing an electric motor and a drive mechanism for driving the rollers.

Yet another further object is to provide a fabric pressing device wherein the rollers may be self-adjustably parted therebetween to allow fabric being pressed to travel therethrough.

Other objects are to provide a fabric pressing device that is simple in design, inexpensive to manufacture, rugged in construction, easy to use and efficient in operation.

These and other objects will be readily evident upon a study of the following specification and the accompanying drawings wherein:

FIGURE 1 is a perspective view of one form of the present invention,

FIG. 2 is a cross sectional view taken on line 2—2 of FIG. 1,

FIG. 3 is a perspective view of a modified form of construction,

FIG. 4 is an enlarged cross sectional view taken on line 4—4 of FIG. 3,

FIG. 5 is a cross sectional view taken on line 5—5 of FIG. 3,

FIG. 6 is a side elevational view of yet another modified form of the invention,

FIG. 7 is a cross sectional view taken on line 7—7 of FIG. 6,

FIG. 8 is an enlarged detail of the structure in FIG. 6 and shown with the rollers in a parted position,

FIG. 9 is an enlarged detail of the structure in FIG. 6 and also showing the rollers in a parted position.

FIG. 10 is a fragmentary side cross sectional view of yet another modified form of the invention which is designed for steam pressing.

FIG. 11 is a cross sectional view taken on line 11 of FIG. 10.

FIG. 12 is a perspective view of yet another form of the invention showing how the roller plane may be altered between a horizontal and vertical position.

FIG. 13 is a cross sectional view taken on line 13—13 of FIG. 12.

FIG. 14 is an exploded view of certain parts shown in FIG. 13.

FIG. 15 is a cross sectional view taken on line 15—15 of FIG. 13.

FIG. 16 is a fragmentary cross sectional view taken on the same plane as FIG. 15 and showing a motor and drive mechanism contained within the device for driving the rollers.

FIG. 17 is an end elevational view of the device shown in FIG. 12, and shown in an alternate position.

FIG. 18 is a perspective view of a modified form of the invention, wherein three rollers are employed.

FIG. 19 is a perspective view of yet another modified form of the invention, and

FIG. 20 is a front elevational view thereof.

Referring now to the drawings in detail and to FIGS. 1 and 2 in particular, the reference numeral 30 represents a multiple roller assembly for pressing fabrics, according to the present invention wherein there are a pair of rollers 31 supported upon bearing units 32 at each end, which in turn are carried on opposite ends of an arcuate frame 33 having a pivotable member 34 over its midportion which may readily serve as a handle or hook.

Each roller comprises a sleeve 35 carried rotatably on a stub shaft 36 at each end, each stub shaft being pivotally mounted by means of a removable pin 37 to one of a pair of lugs 38 formed at each end of the frame, thereby permitting upward or downward pivotal movement of each roller, should access thereto be required. Each roller has a central chamber 39, one of the rollers having batteries 40 within the chamber which are electrically connected through a switch 41 to an electric heating coil 42 within the other roller.

The frame 33 is of garment hanger size and configuration so that it may be easily supported from a closet bar together with conventional garment hangers and which has an arcuate upper edge 43 to permit support of a garment thereupon, if preferred, when it is stored away.

The support member 34 is pivotally secured by a pin 44 to the frame and is rotatable between a plane parallel with the frame to a plane transverse thereto, as is indicated by the solid and phantom lines in FIG. 1. Detents 45 may be employed to lock the member in position.

In operative use, when it is desired to iron fabric in a conventional manner, the member 34 is rotated to the position shown by the solid lines and the switch 41 is turned on to close a circuit from the batteries to the heater coil. When the sleeve containing the heater coil is

warmed sufficiently then ironing may be done. Ironing may also be done by leaving the device suspended from a bar and passing fabric 46 between the rollers, as shown in FIG. 1. It will be noted that member 34 has a hook portion 47 to permit introduction of a bar therein. Should the batteries need replacement or the heater need repair, then the pin 37 at one end may be removed, the roller pivoted up or down and the stub shaft 36 slid off to permit access into the chamber.

In a modified construction 60 shown in FIGS. 2, 3 and 4, the rollers 61 are adjustable relative to each other by a spring loaded mechanism 62 at each end of the frame 63. The mechanism includes plates 64 and 65 slidable relatively to each other. Plate 64 has an opening 66, and plate 65 has a lug 67 extended through the opening. A lever 68 pivoted on a pin 69 on a post 70 formed on plate 64 has a slot 71 into which a pin 72 on lug 67 is received. A compression spring 73 allows for variations in the space 74 between the rollers depending upon the thickness of fabric being moved therebetween.

In FIGS. 6, 7, 8 and 9, a garment pressing device 90 includes a roller 91 journaled in bearings 92 at each end, and a roller 93 in contact engagement with roller 91 and which is pivotable laterally relative thereto for providing access therein to replace electric batteries or the like. At one end of the frame 94, a bearing block 95 is pivotally secured by a threaded bolt 96 having an enlarged head 97. A compression spring 98 between the head and a shoulder 99 on the frame normally urges the block toward the frame thus keeping the rollers to bear toward each other. A bearing 100 in the block 95 supports one end of roller 93, the opposite end of the roller having a spring loaded detent 101 receivable in a slot 102 having an inclined wall 103 that normally causes the spring loaded detent to be urged toward the further away portion of the wall, thus causing the rollers to be urged together. A switch 104 in the end of roller 91 permits manual control of electric power to a heater in the roller.

When access into roller 93 is desired to change batteries, the roller end with the detent is urged laterally to pivot away. The detent unit is removed to gain access to batteries in the roller.

The modified form 110 shown in FIGS. 10 and 11 includes a tank 111 within the frame 112. A series of openings 113 allow seepage of water 114 within the tank to a felt pad 115 adjacent thereto. The felt pad upon saturation is in relatively close position to a heated roller 116 containing a heater 117, the heat from the heated roller vaporizing the water in the felt pad, the vapors settling upon a fabric in the vicinity thereof. A roller 118 containing batteries and a switch 119 is normally urged toward roller 116 by a compression spring 120 within a recess 121 on each end of the frame.

In FIGS. 12 to 15, and 17, a modified form 140 is shown wherein the rollers 141 and 142 are pivotable between a vertical plane (shown in FIG. 17) and a horizontal plane (shown in FIG. 12). Each roller contains a heater 143 that is connected in series to each other, a rheostat switch 144, and by means of an extension cord 145 to a plug 146 which is receivable within an electric outlet receptacle of a house.

The rollers are supported at one end in a pivotable block 147 that incorporates a stub shaft 148 pivotable in a bearing 149 on the frame 150. The block 147 has a pair of openings 151 for selectively engaging with a spring loaded pin 152 supported on the frame and thus maintain the rollers in either a vertical or horizontal plane.

Electrical connection between the heaters in each roller is attained by the heater ends being connected to a metal roller stub shaft 153 supported electrically, insulated on each roller. Each shaft 153 engages a metal strip 154 adjacent one side of the block 147; the block being made of insulation material to enclose the electrically conductive parts.

The stub shafts 153 are supported within blind openings

155 and 156 in the block 147, the opening 155 being of elongated configuration to allow adjustability of roller 141 relative to roller 142 depending upon the thickness of any fabric being passed between the rollers. A compression spring 157 within the opening 155 normally urges roller 141 toward roller 142. The strip 154 is provided to allow movement of roller 141 relative thereto by allowing the stub shaft 153 of roller 141 to pass through an elongated slot 158 while the stub shaft of roller 142 is passed through a circular opening 159 in the strip.

At their opposite ends the rollers 141 and 142 are supported in a block 160 which is generally similar to block 147 which houses a pair of separated strips 161 and 162 each of which is in contact engagement with the opposite end of the heater and a stub shaft connected thereto. The cord 145 is connected electrically to one of the strips 161 and to the rheostat which is connected to the other strip 162.

FIGURE 16 incorporates a construction that could easily be combined with the construction shown in FIGS. 12 to 15 and 17. The figure shows a modified form 180 wherein a motor 181 is contained in one of the rollers 182, and a drive mechanism 183 causes the roller 182 to drive a roller 184.

The motor 181 is mounted on a mount 185 that is rigidly secured to a pivotable block 186 pivoted on frame 187. The shaft 182 has an enlarged opening 188 on one end thereof so to contain the motor housing therein without contact therewith. A motor shaft 189 from the motor is secured by means of a pin 190 to the roller 182, thereby providing a means for rotating the roller relative to the block 186. A pulley 191 is rigidly secured in the mouth of the opening 188, the pulley being engaged by an endless rubber belt 192 that transmits rotational movement to a pulley 193 secured to the end of roller 184.

It will be noted that the pulley 191 has a relatively large opening 194 therethrough so to clear the mount 185 and wiring 195 leading to the motor. The roller 184 and the remaining portion of roller 182 may contact heaters 196 therein.

In FIG. 18, a modified form 200 is shown to include three rollers 201 supported at each end upon pivotable blocks 202 pivoted in frame 203. Obviously the present invention may be made to incorporate four or even more rollers, as preferred. The form of the invention illustrated in FIG. 18 includes a pair of spaced apart supporting hooks 204 which are in axial alignment so that they be hooked over a singular supporting rod 205.

In FIGS. 19 and 20, another modified form 210 is shown to comprise an H-shaped frame 211 having parallel spaced apart vertical legs 212 and 213 interconnected together by a cross arm 214. Hooks 215 in axial alignment are formed at the upper ends of the legs so to support the device from a common bar 216. An upper roller 217 is supported between the lower ends of the legs, one end of the roller being secured pivotably free to leg 213. The opposite end of the roller has an opening 218 therein for containing a motor 219 that is rigidly affixed to leg 212 and wherein the motor shaft 220 is connected by a pin 221 to the roller for providing rotation to the roller. An electric cord 222 having a plug 223 at one end is connected to the motor and through appropriate insulated friction bearings, not shown, to a heater coil 224 in the roller.

The leg 213 supports a slidable arm 225 thereupon, the leg having a lug 226 and the arm having a lug 227 between which a compression coil spring 228 is located that normally urges against the lugs thereby urging a lower roller 229 mounted pivotally free by its one end to the arm 225 to bear against the upper roller. A heater coil 230 within the roller 229 is connected electrically to the circuit that provides power to the heater coil 224. Otherwise both heater coils may be operated by batteries within each roller as described above.

The end of the roller 229 is tapered as shown at 231 and the roller 217 has a circumferential notch 232 in

alignment with the taper 231 for the purpose of allowing easy introduction of a fabric 233 therebetween.

While various changes may be made in the detail construction, it is understood that such changes will be within the spirit and scope of the present invention as is defined by the appended claims.

What is claimed is:

1. In a multiple roller assembly for pressing fabrics the combination of a frame, a plurality of rollers carried by said frame, said rollers being in parallel adjacent relationship, means for heating at least one of said rollers, means urging said rollers adjustably against each other, said frame comprising a generally arcuate member, bearing means at opposite ends of said arcuate member for carrying said rollers, said rollers being carried between said frame ends, means at a midportion of said arcuate frame for supporting said assembly in a person's hand or from a garment hanger bar of a closet comprising a pivotable member pivotably secured upon said arcuate frame, said latter member comprising a generally U-shaped element to form selectively a hook for hooking over said garment hanger bar or a handle for grasping within said person's hand detent means on said member and said member and said frame for maintaining said member in a selected position, the means for heating said rollers comprising each of said rollers including a cylindrical sleeve, a stub shaft within each end of said sleeve, said stub shafts and said sleeve enclosing a central chamber, a heating element within at least one of said chambers, and electrical connections through said stub shafts of said rollers and said bearing means of said frame to a switch and a source of electrical energy, said source of electrical energy comprising dry cell batteries within at least one of said roller central chambers, and at least one of said stub shafts at the end of said roller being removably secured to said sleeve to permit replacement of said batteries, and motor means for providing rotatable power to said rollers.

2. The combination as set forth in claim 1, wherein said assembly includes adjusting means for selectively aligning said rollers in a vertical plane or a horizontal plane, said adjusting means comprising a longitudinal block at each end of said frame, said block having a stub shaft pivotable within a bearing on said frame, said block having a plurality of longitudinally spaced apart openings to form bearings, said roller stub shafts being supported rotatably free in said spaced apart openings, and lock means for selectively retaining said block in a vertical or horizontal plane, said lock means comprising a pair of openings radially disposed about said bearing in said frame and ninety degrees apart, said radially disposed openings selectively receiving a slidable lock pin carried on said frame.

3. The combination as set forth in claim 1, wherein said bearing means comprises a pair of spaced apart lugs on each end of said frame, openings in horizontal axial alignment through said pair of lugs, said stub shafts of said rollers being pivotably mounted on pins carried within said spaced apart openings, said pins being removable to permit vertically pivotal movement of said rollers for removing said stub shaft and allow replacement of said batteries within said roller chamber.

4. The combination as set forth in claim 1, wherein

said bearing means comprises an opening in each end of said frame, said openings being in axial alignment to rollably support an upper of said rollers, a block pivotally secured to and below one said frame end, said block being pivotally secured on a vertically extending screw, a horizontal axis bearing in said block supporting rollably free one end of the lower of said rollers, the opposite end of said lower roller having a detent, and a slot in the end of said frame, which is adjacent said detent, said slot having an inclined inner wall to urge said lower roller against said upper roller when said detent bears against said wall, said lower roller and pivotable block being horizontally pivotable about said screw.

5. The combination as set forth in claim 2, wherein one of said rollers further contains a motor therewithin, and drive means for transmitting rotational power from said motor to both said rollers, said motor being mounted on a mount rigidly affixed to said block at one end of said frame, a shaft of said motor being affixed to said roller containing said motor to transmit motion thereto, a pulley affixed to one end of said roller and opening in said pulley to permit said mount and wires from said block to extend therethrough, an endless belt around said pulley and around a pulley on the other of said rollers.

6. The combination as set forth in claim 2, wherein said stub shafts of said rollers are insulated from said roller sleeve, said stub shafts being electrically connected to the ends of said heaters in said roller chambers and said stub shafts are electrically connected together at one end by a metal strip adjacent said block, said metal strip having openings therethrough to receive said stub shafts; and the stub shafts at the opposite ends of said rollers being likewise electrically connected to strips electrically connected to said switch and source of power.

7. In a multiple roller assembly for pressing fabrics, the combination of a frame, a plurality of rollers carried by said frame, said rollers being in parallel adjacent relationship, means for heating at least one of said rollers, means urging said rollers adjustably against each other, said frame being H-shaped in configuration having a pair of vertical legs and an interconnecting cross arm, the upper ends of said legs having hooks in axial alignment with each other, the lower ends of said legs supporting an upper roller therebetween, one end of said roller being supported pivotally free on one of said legs and the other end being affixed to a motor shaft of a motor secured to the other of said legs, said roller having an enlarged opening therein to contain said motor, electric power means connected to said motor, a vertically slidable arm on one of said legs, said slidable arm having a lug, the leg supporting said slidable arm also having a lug, a compression coil spring therebetween, said slidable arm supporting one end of a rotatable lower roller, said spring normally urging said rollers together, and a heater coil in each of said rollers powered by an electric source.

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