Oct. 27, 1953 S. P. KJELLGREN 2,657,111

SLIDING CLOSURE

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Fig. 1

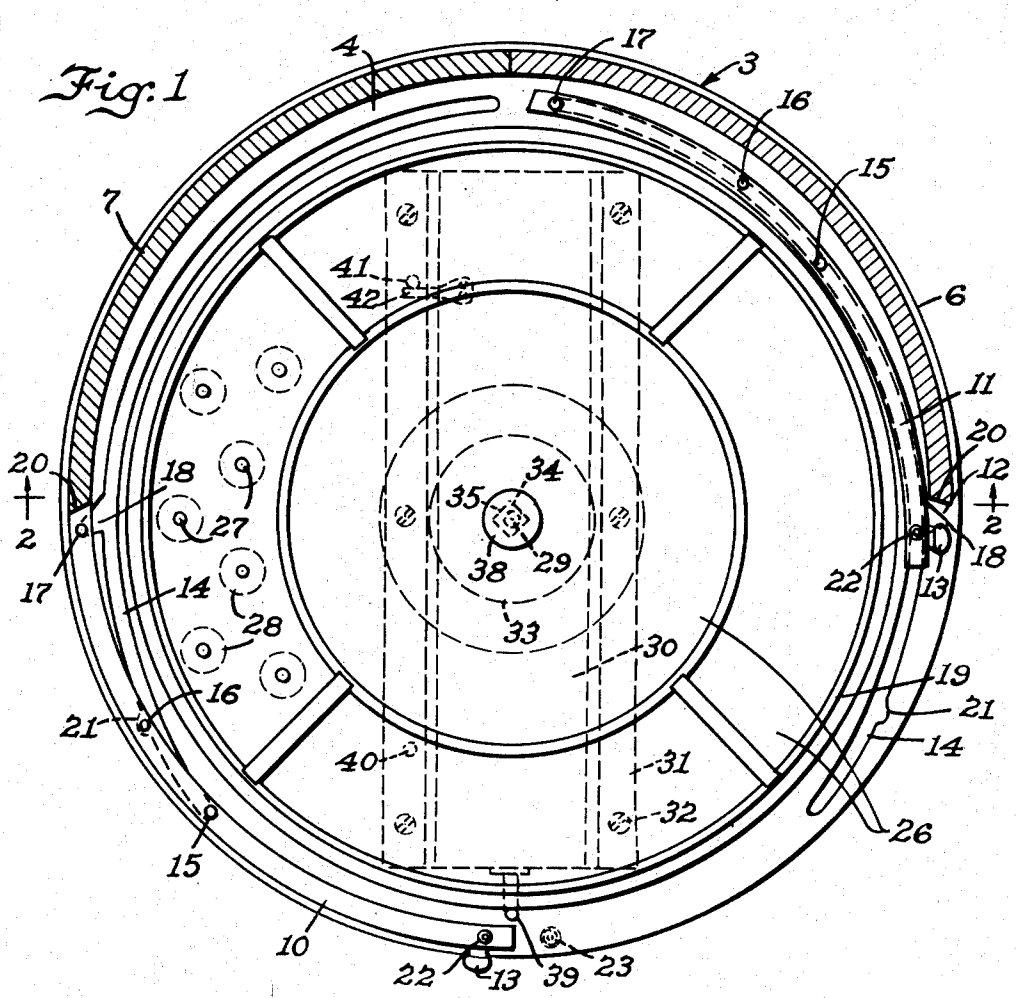
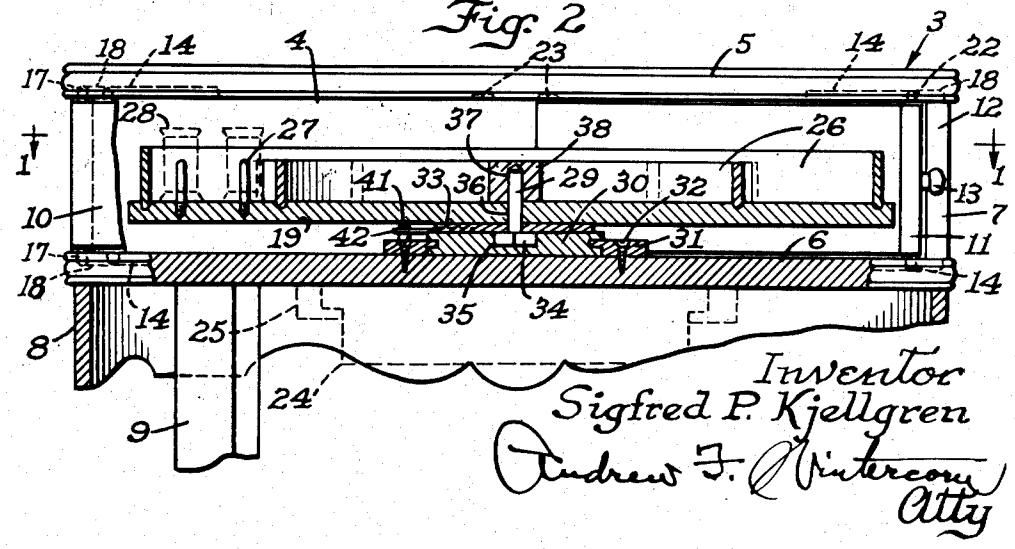


Fig. 2



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SLIDING CLOSURE

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4 Claims. (Cl. 312—307)

1

This invention relates to a new and improved sewing cabinet, and has for its principal object the provision of a drum type table that is specially constructed in the top portion to house the sewing facilities, so that they are quickly and easily accessible when needed but are completely concealed otherwise, the table retaining the external appearance of a standard drum type table when the doors provided for the sewing compartment immediately below the top thereof are closed, so that the table will be appropriate for use in a living room or wherever desired.

In the sewing cabinet of my invention, a circular tray that is of slightly smaller diameter than the inside of the circular sewing compartment in the top portion of the drum type table is rotatably mounted on a slide guided in said compartment for lineal movement diametrically thereof and is arranged to be pulled out about half way so that everything kept in the tray is easily accessible by a slight turn of the tray. There are two arcuate doors closing the front half of the sewing compartment, and these doors are slidably guided in opposite directions in arcuate grooves provided in the top and bottom walls of said compartment, so as to move into the space between the periphery of the tray and the arcuate back wall enclosing the rear half of the compartment, each door being guided in its grooves by coaxially arranged combination pivot and guide pins at the middle thereof and at least one other pair of coaxially arranged guide pins at the rear end thereof, the latter being movable from communicating grooves inwardly into the arcuate grooves when the front end of the door is pulled out slightly at the commencement of the opening operation as the door pivots about its middle pins. An additional pair of coaxially arranged guide pins are preferably provided on each door between the other two pairs of pins, so that there will be two pairs of pins guiding the door when it is nearly half way open, thus insuring smooth sliding action of the door and avoiding the likelihood of the combination pivot and guide pins running outwardly into the communicating grooves previously mentioned and causing the outer surface of the door to be scuffed by sliding contact with the back wall of the compartment. The usual bullet type detents are preferably provided on the front end portions of the two doors arranged to ride into the usual receptacles in the top or bottom wall of the sewing compartment.

The invention is illustrated in the accompanying drawing, in which—

2

Fig. 1 is a horizontal section through the sewing compartment in the top portion of a drum type table made in accordance with my invention, the section being on the line 1—1 of Fig. 2, and

Fig. 2 is a view partly in front elevation and partly in vertical cross-section on the line 2—2 of Fig. 1.

The same reference numerals are applied to corresponding parts in these two views.

Referring to the drawing, the reference numeral 3 designates a drum type table, which, in accordance with my invention, has a circular sewing compartment 4 provided in the top portion thereof between the circular table top 5 and a circular bottom wall 6, the top 5 and bottom 6 being joined together in fixed spaced relation by an arcuate wall 7 which encloses the rear half of the compartment. Depending from the bottom 6 is a circular ornamental apron 8 of any suitable or preferred design, and a supporting base of any suitable or preferred design is provided joined to the bottom 6 within this apron, a portion of one leg of this base being indicated at 9, for example. Two arcuate doors 10 and 11, each extending through 90°, are provided to close the open front half 12 of the sewing compartment 4. Each of these doors has an operating knob 13 extending radially outwardly from the front end portion thereof. Arcuate grooves 14 are provided in the top and bottom walls 5 and 6 of the sewing compartment, and each door has three pairs of guide pins 15, 16, and 17 extending from the top and bottom edges thereof and arranged to slide in these grooves 14 to guide the door through approximately 90° of movement from the fully closed position to a fully opened position. The door 10 is indicated in the fully closed position and the door 11 in the fully opened position in Fig. 1. The pins of each pair are coaxially arranged, and the pins 15 are at the middle of each door and serve as combination pivot and guide pins, the door being arranged to pivot about these pins as an axis as the front end of the door is pulled outwardly by means of the knob 13 at the commencement of the opening movement, at which time the pins 17, which are provided at the rear end portion of the door, move inwardly in communicating grooves 18 into the arcuate grooves 14, the door being thereafter guided by pins 15 and 17 for sliding movement rearwardly in the sewing compartment in the space 4 between the back wall 7 and the circular tray 19 that contains the sewing facilities. The adjoining edges of the back wall 7 and the doors 10 and 11 are cut on an acute

angle to radii of the compartment 4, as indicated at 20, so as to enable closer fitting of the doors against the end wall without interfering with easy manipulation of the doors. The grooves 18 are flared inwardly, as shown, so as to enable easier entrance and exit of guide pins 17 and, accordingly, easier opening and closing of the doors. However, these wider entrances into grooves 18 from grooves 14 give rise to the increased likelihood that guide pins 15 might happen to ride into the grooves 18 when the doors reach the half-way open point, in which event it is obvious that the finished outer sides of the doors would be apt to get scuffed by rubbing contact with the back wall 7, and, for that reason, I have provided the intermediate pair of guide pins 16 spaced far enough rearwardly in relation to the pins 15 to cooperate with pins 17 in guiding the doors in the grooves 14, so that no oscillation of the doors in relation to the grooves is possible at any point in the course of the forward or rearward sliding movement of the doors. Smooth sliding operation of the doors throughout their travel in both directions is thereby positively assured. The pins 16 necessitate the provision of only small notches 21 in the outer side of grooves 14 near the front ends thereof, as shown in Fig. 1, to accommodate these pins in the closed position of the doors. Bullet type detents 22 are provided on the front end portions of the doors, on top, and these detents are spring-pressed for snap-in engagement in receptacles 23 provided therefor on the under side of top 5, whereby to lock the doors securely but releasably in closed position. The table 3, therefore, looks very much like any other drum type table when the doors 10—11 are closed, there being only the small knobs 13 to indicate the presence of the doors, but no hinges or other hardware to spoil the nice appearance of the article. Hence, one may place this table in a living room or wherever a drum table is appropriate. If a shallow drawer for sewing and knitting materials and work in process is desired, it may easily be provided, working in guides on the under side of the bottom 6 of the compartment 4, as indicated in dotted lines at 24 and 25 in Fig. 2, and having a cut section of the apron 8 fastened to the front end thereof and serving both as a drawer pull (a portion thereof projecting below the front end of the drawer, as indicated, to provide a finger-hold portion) and as a shield or cover for the drawer, so as to make it as inconspicuous as possible.

The circular tray 19 is in the nature of a drawer except that it is adapted to be turned about its center, as will soon appear, to make different portions thereof more easily accessible. It provides a suitable number of pockets 26 for the various sewing facilities, such as needles, thimbles, scissors, measuring tape, buttons, and so forth, pegs 27 being provided in at least one of the pockets on which spools of thread and yarn may be placed, as indicated at 28. The tray is swivelled centrally on a vertical pin 29, which is carried on a slide 30 guided for lineal movement diametrically of the circular compartment 4 between guides 31 fastened by screws 32 to the top of bottom 6. A wooden disk 33 that is glued to the top of slide 30 spaces the bottom of tray 19 from slide 30 to reduce frictional drag in the turning of the tray. The pin 29 has a square-headed lower end portion 34, which has a non-rotatable press fit in a socket 35 provided therefor in slide 30. The pin is held in the socket by the disk 33 and extends freely through a center hole in the disk and through a registering bearing hole 36 in the bottom of the tray and has a working fit in a blind bearing hole 37 provided in a wooden spool 38 that is preferably cemented to the top of the tray bottom. A hook-shaped pull member 39 is fastened to the front end of slide 30 and extends upwardly in front of the tray where it can be taken hold of easily to pull out the tray when the doors 10—11 are opened, unless, of course, the operator prefers to take hold of the tray itself and pull the slide and tray assembly out that way. Any suitable or preferred means may be provided for limiting the outward and inward movement of slide 30, as, for example, upwardly projecting pins 40 and 41 on one of the guides 31 between which a laterally projecting pin 42 secured to the top of the slide 30 is arranged to operate, this pin 42 striking pin 40 at the limit of outward movement of the tray, and striking pin 41 at the limit of return movement.

The lower pin 15 and the upper pin 17 on each of the doors 10 and 11 are preferably extended a trifle farther from the edges of the doors than the others, so as to keep the rear end of each door down and the front end up as far as possible and thereby avoid scuffing the finished top surface of the bottom 6 in the working to and fro of the doors. I may use spring-pressed guide pins at these points to insure freedom of operation of the doors while obtaining the desired result just mentioned.

It is believed the foregoing description conveys a good understanding of the objects and advantages of my invention. While I have described the invention as applied to a sewing cabinet, it should be evident that there are many other kinds of cabinets in which the present combination of the sliding rotary tray and disappearing door or doors may be used. The appended claims have, therefore, been drawn, so as not to be limited to the one kind of uses mentioned but to cover all legitimate modifications and adaptations.

I claim:

1. In a cabinet providing a generally circular compartment defined within a circumferentially extending wall that has an elongated opening provided in one portion thereof affording access to the interior of said compartment, an elongated arcuate door adapted to serve as a closure for said opening and as a flush and concentric continuation of said circumferentially extending wall, and means for guiding said door in a generally arcuate path from a position closing said opening to an open position disposed inside said compartment alongside said opening, said means comprising an elongated arcuate guide groove provided in said cabinet in nearly concentric relationship to said circumferentially extending wall, a guide pin on one end portion of said door slidable in said groove, and a combination pivot and guide pin on an intermediate portion of said door also slidable in said groove, said door being adapted to pivot relative to said latter pin in said groove in the fully closed position of said door, said cabinet having a short groove provided therein in communication with the arcuate groove near one end of the opening to accommodate said first guide pin in the closed position of the door, and another guide pin on said door between the other two pins and nearer the second named pin and slidable in said arcuate groove so as to

prevent engagement of the second pin in the short communicating groove.

2. In a cabinet providing a generally circular compartment defined within a circumferentially extending wall that has an elongated opening provided in one portion thereof affording access to the interior of said compartment, a pair of elongated arcuate doors arranged in end to end relation to close said opening as a flush and concentric continuation of said circumferentially extending wall, said doors being movable in generally arcuate paths away from one another to open position and toward one another to closed position, and means for guiding each of said doors in said arcuate paths comprising an elongated arcuate guide groove provided in said cabinet in nearly concentric relationship to said circumferentially extending wall, a guide pin on one end portion of said door slidable in said groove, a combination pivot and guide pin on an intermediate portion of said door also slidable in said groove, said door being adapted to pivot relative to said latter pin in said groove in the fully closed position of said door, and said cabinet having a short groove provided therein in communication with the arcuate groove near one end of the opening to accommodate said first guide pin in the closed position of the door, and another guide pin on each door between the other two pins and nearer the second named pin and slidable in said arcuate groove so as to prevent engagement of the second pin in the short communicating groove.

3. In a cabinet providing a substantially circular storage compartment defined within a circumferentially extending wall, said wall being cut away to provide an opening therein throughout substantially 180°, an elongated arcuate door in said opening forming a flush and concentric continuation of said circumferentially extending wall and adapted to move in an arcuate path from said opening into said storage compartment alongside said circumferentially extending wall, and means for guiding said door comprising an elongated arcuate guide groove provided in said cabinet in nearly concentric relationship to said circumferentially extending wall, a guide pin on one end portion of said door slidable in said groove, and a combination pivot and guide pin on an intermediate portion of said door also slidable in said groove, said door being adapted to pivot relative to said latter pin in said groove in the fully closed position of said door, said cabinet having a short groove provided therein in communication with the arcuate groove near one end of the opening to accommodate said first

guide pin in the closed position of the door, and another guide pin on said door between the other two pins and nearer the second named pin and slidable in said arcuate groove so as to prevent engagement of the second pin in the short communicating groove.

4. In a cabinet providing a substantially circular storage compartment defined within a circumferentially extending wall, said wall being cut away to provide an opening therein throughout substantially 180°, a pair of elongated arcuate doors in end to end relation closing said opening as a flush and concentric continuation of said circumferentially extending wall, each adapted to move away from the other in an arcuate path from said opening into said storage compartment alongside said circumferentially extending wall, and means for guiding each of said doors comprising an elongated arcuate guide groove provided in said cabinet in nearly concentric relationship to said circumferentially extending wall, a guide pin on one end portion of said door slidable in said groove, and a combination pivot and guide pin on an intermediate portion of said door also slidable in said groove, said door being adapted to pivot relative to said latter pin in said groove in the fully closed position of said door, and said cabinet having a short groove provided therein in communication with the arcuate groove near one end of the opening to accommodate said first guide pin in the closed position of the door, said cabinet including on each door another guide pin between the other two pins and nearer the second named pin and slidable in said arcuate groove so as to prevent engagement of the second pin in the short communicating groove.

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