Nov. 20, 1951 G. W. McKAY 2,575,725

COMBINATION TABLE AND SHELVES

Filed April 15, 1947 3 Sheets-Sheet 1

Fig 2

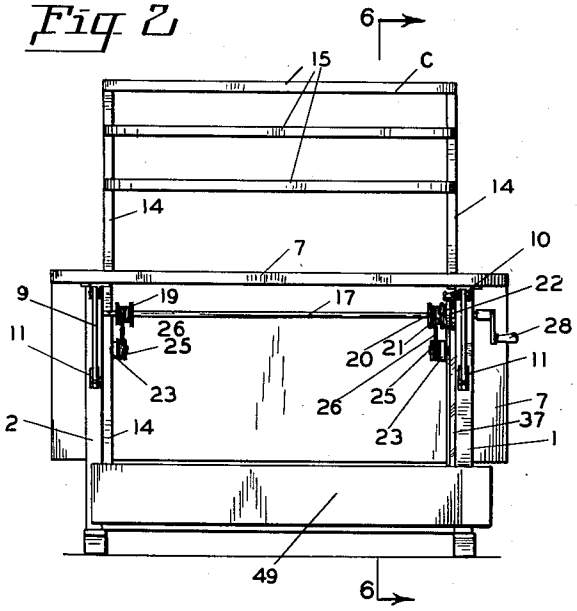


Fig 4

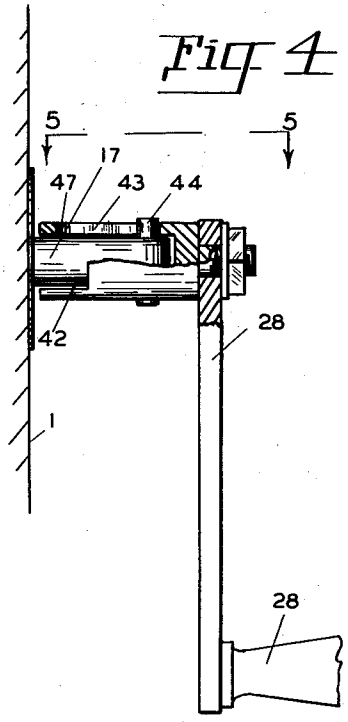


Fig 1

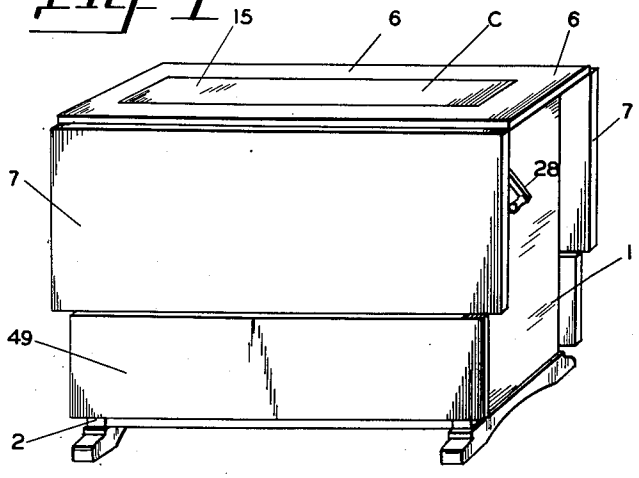


Fig 5

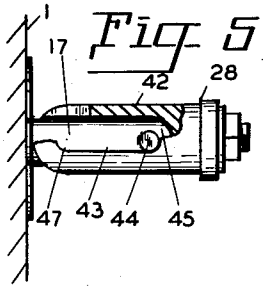
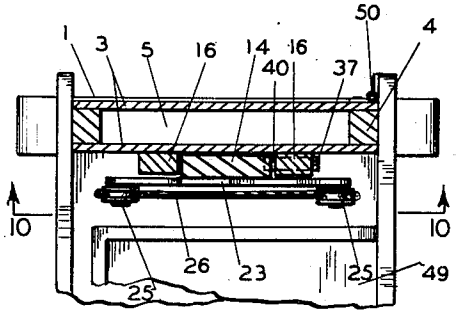


Fig 3



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Nov. 20, 1951 G. W. McKAY 2,575,725

COMBINATION TABLE AND SHELVES

Filed April 15, 1947 3 Sheets-Sheet 2

Fig 6

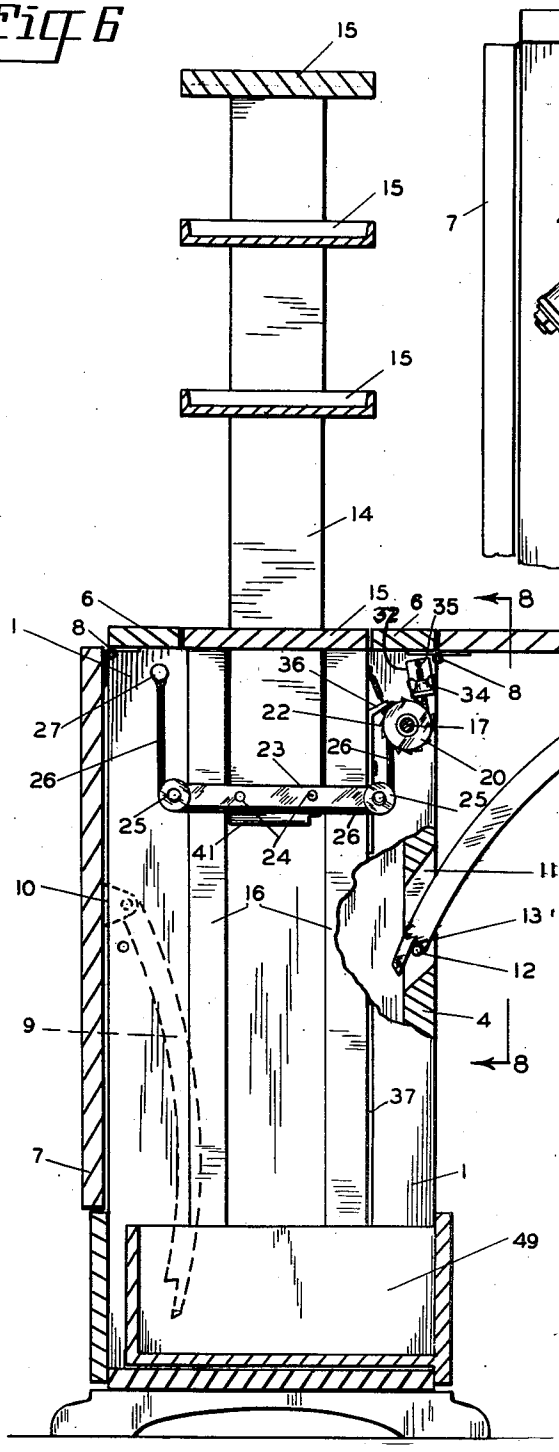
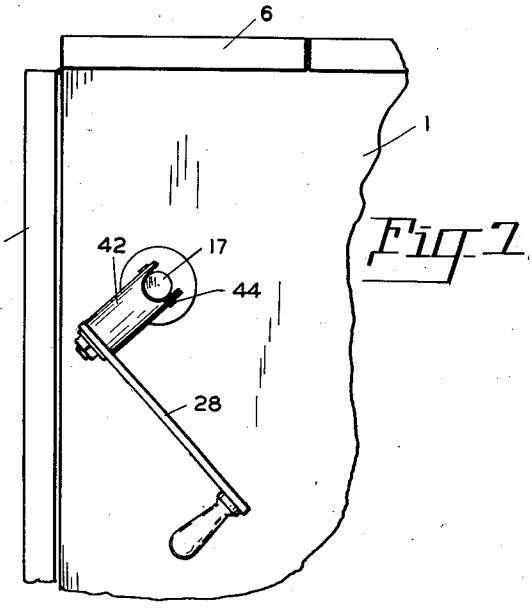


Fig 7



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Nov. 20, 1951 G. W. McKAY 2,575,725

COMBINATION TABLE AND SHELVES

Filed April 15, 1947 3 Sheets-Sheet 3

Fig 8

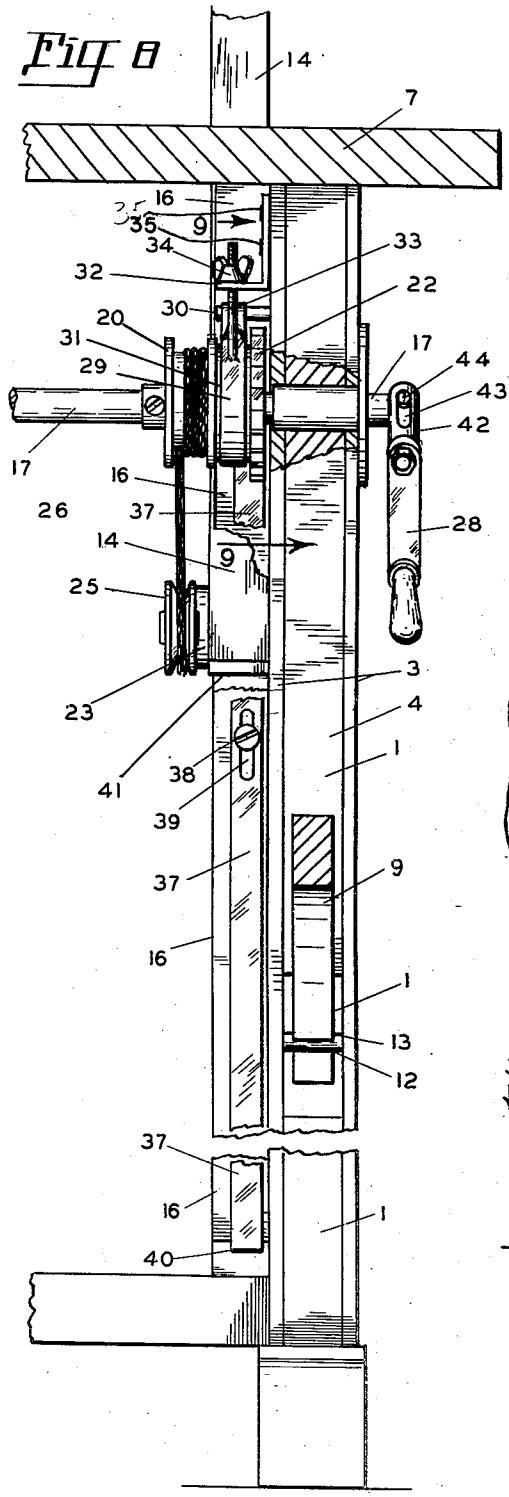
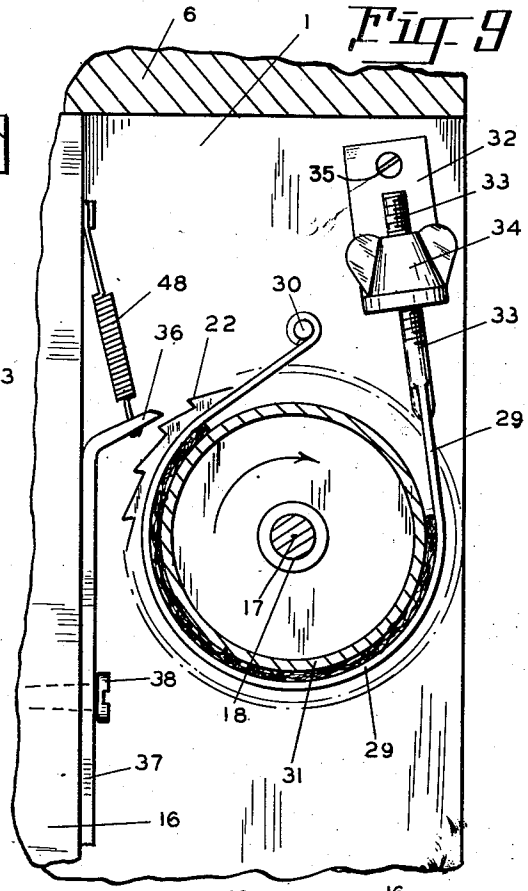


Fig 9



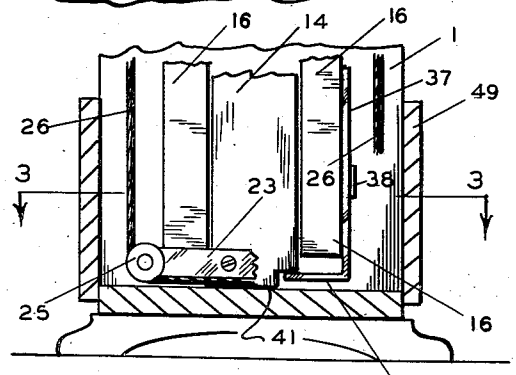


Fig 10

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Patented Nov. 20, 1951 2,575,725

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2,575,725

COMBINATION TABLE AND SHELVES

George W. McKay, Portland, Oreg.

Application April 15, 1947, Serial No. 741,556

3 Claims. (Cl. 312—287)

1

This invention relates to combination tables and shelves and is an improvement over my pending application, Serial 672,129, which has become abandoned.

The primary object of the invention is to provide a mechanism for raising and lowering the shelves within the table.

A further object of the invention is to provide a crank mechanism for rotating cable drums for raising and lowering the shelves wherein an adjustable brake is incorporated for holding the shelves at any desired elevation depending upon the amount of objects being supported by the shelves.

Another object of the invention is the provision of a crank handle on the raising and lowering mechanism that can be folded out of the way when not in use.

These and other incidental objects will be apparent in the drawings, specification and claims.

Referring to the drawings:

Figure 1 is a perspective view of my new and improved combination table and shelves, illustrating the shelves in lowered position within the table and the leaves of the table folded down.

Figure 2 is a side view of the table and shelves showing one leaf of the table in raised position, and the shelves in elevated position.

Figure 3 is a fragmentary sectional detail taken on line 3—3 of Figure 10.

Figure 4 is an enlarged view of the crank handle for operating the raising and lowering mechanism, parts being broken away for convenience of illustration.

Figure 5 is a plan view of the same taken on line 5—5 of Figure 4, parts being broken away for convenience of illustration.

Figure 6 is a sectional end view of the table and shelves taken on line 6—6 of Figure 2, parts being broken away for convenience of illustration.

Figure 7 is a fragmentary end view illustrating the operating handle in folded position.

Figure 8 is an enlarged fragmentary side view taken on line 8—8 of Figure 6, parts being broken away for convenience of illustration.

Figure 9 is an enlarged sectional view taken on line 9—9 of Figure 8 illustrating the brake associated with the raising and lowering mechanism.

Figure 10 is a fragmentary sectional end view taken on line 10—10 of Figure 3.

In the drawings:

The combination table and shelves comprise end legs 1 and 2, sides 3 which are spaced apart by the spacing members 4, thus providing spaces

2

5. A top 6 is fixed to the upper ends of the legs 1 and 2 and has table leaves 7 hingedly mounted thereto at 8. Curved shape braces 9 are pivotally mounted to the underside of the leaves 7 at 10 and operate in the spaces 5 at the ends of the table. The braces 9 pass through openings 11 formed in the members 4 of the legs.

Cross pins 12 bridge the openings 11 with which the notched ends 13 of the braces 9 engage when the leaves 7 are raised. The braces 9 are curved as illustrated taking the dotted position within spaces 5 when the leaves are folded.

The shelf member C operates in a central opening in the top 6 of the table and consists of the end members 14 between which are mounted the shelves 15. The uppermost of shelves 15 forms a top to fit in and close the central opening in the top 6 when the shelves are lowered and the lowermost shelf fits in the opening in alignment with the top 6 to close said opening and form part of the top when the shelves are raised, as seen in Figures 1, 2, and 6. The end members 14 are guided up and down between the guides 16, which are fixedly secured to the insides of the legs 1 and 2, best illustrated in Figures 3 and 6. A cross shaft 17 is journalled at 18 between the end legs of the table and cable drums 19 and 20 are secured thereto. Also secured to shaft 17 is a brake drum 31 of a brake means 21, and a ratchet wheel 22.

Cross members 23 are secured to the lower ends of the end members 14 of the shelf member C as by bolts 24, and at opposite ends of these cross members are pulleys 25. Cables 26 each have one end anchored to the table at the inside of end legs 1 and 2 above the pulleys 25. From the anchoring points 27 the cables 26 extend downwardly under and around the pulleys 25 and thence up to the drums 19 and 20 respectively, to which the opposite ends are anchored to wind on and unwind therefrom. When the shaft 17 is revolved by the crank 28 the drums will be revolved thus raising and lowering the end members 14 of the cabinet.

Dishes and supplies can be stored on the shelves 15 of the cabinet when raised, as illustrated in Figure 2. A brake band 29 is anchored at 30 to the leg 1 of the table and passes around the brake drum 31 fixed to the cross shaft 12 to retard and hold the shaft stationary and the shelf member C in any desired vertically adjusted position. A bracket 32 is fixedly mounted to the leg 1 by any suitable fastening means 35, and has the bolt 33 forming part of the brake band 29 passing therethrough and held by the wing nut 34. The

wing nut 34 adjusts the friction of the brake band 29 about the drum 31, the friction being regulated according to the weight of the dishes and supplies contained within the cabinet.

The ratchet wheel 22 and pawl are provided, to prevent an operator rotating the cable drums 19 and 20 in the wrong direction when starting to raise the shelf member C. 36 indicates a pawl formed at the upper end of a bar 37, the latter having slots 39 through which screws 38 pass, whereby to retain the bar and pawl in slidable position against one of the guides 16.

Referring to Fig. 10 it will be noted the lower end of the bar 37 is formed with a foot 40 which fits under the adjacent guide 16, and under the lower end of one of the upright end or side members 14.

When the shelf member C is in its lowermost position the end 41 of the member 14 will depress the foot 40, and correspondingly the bar 37, thus engaging the pawl 36 with the ratchet wheel 22. This prevents the operator from rotating the shaft and drums in the wrong direction when starting to elevate the shelf member C from a lowered position to a raised position above the table. It is obvious this arrangement is a safeguard against unreeling and tangling the cables.

I have illustrated a handle arrangement that can be folded out of the way and it consists of a hollow hub 42 having slots 43 formed therein. The hub 42 fits over the end of the cross shaft 17 and a pin 44 is anchored in the end of said shaft working within the slots 43. When the handle is in position for rotating the shaft 17 it is in the position illustrated in Figures 4 and 5. The hub 42 being pushed towards the leg 1 of the table and the cross pin 44 coming to the ends 45 of the slots 43. This holds the hub 42 in alignment with the shaft 17 so that the handle 28 can be manipulated by the operator to rotate the shaft 17 and the drums 19 and 20 to raise or lower the cabinet.

When the shelf member C is not being raised or lowered the hub 42 is pulled out until the ends of pin 44 reach the ends 47 of the slots 43, at which time the hub will pivot from the pin to the position illustrated in Figures 1 and 8 allowing the handle 46 to hang down against the end of the leg 1.

I will now describe the operation of my new and improved table and shelves. The leaves 7 are ordinarily folded down as illustrated in Figure 1. These leaves can be brought up to the position shown in Figure 6. The operator then grasps the handle of the crank 28 and aligns the hub 42 with the shaft 17 after which the shaft can be rotated only in one direction. This is due to the pawl 36 being in engagement with the ratchet wheel 22, when starting to elevate the table. As the shelf member C starts upwardly the cables 26, which form a saddle for the lower end of the cabinet, will wind up on the drums 19 and 20, thus elevating the shelf member above the table. Due to the brake arrangement, the crank can be released at any time, the brake holding the shelf member in adjusted position.

The brake is effective to hold the shelf member C stationary and firm at any partially elevated or lowered position when raised or lowered, or at its extreme upper position when the lowermost shelf 15 is in the central opening in the top 6 of the table in horizontal alignment with top 6 to close said opening and form part of the complete top as seen in Figure 6. The lower portions of the upright end or side members 14 remain

partially extended below the top 6 and between the upper portions of the fixed spaced vertical guides 16 in any adjusted or raised position, to maintain the shelf member C steady at all times in conjunction with the raising and lowering means or cables and winding means thereof.

When the lower end 41 of the end members 14 is removed from the foot 40 of the bar 37 the spring 48 elevates the pawl 36 out of alignment with the ratchet wheel 35. This permits the shaft 17 to be rotated in either direction to adjust the position of the shelf member or lower it until its top is in the table opening and level with the top of the table.

What I claim as new is:

1. A combined table and shelves comprising a table formed with an opening in its top and provided at opposite ends with vertical guides, a shelf member, including a top and bottom shelf to fit in the opening in the top of the table, and ends which fit in and slide in the guides, pulleys at each side of the lower ends of the ends, a shaft mounted between the ends of the table, drums mounted on the shaft, cables each having one of their ends secured to the ends of the table above the pulleys and trailed around the pulleys and their opposite ends trailed around the drums, a brake drum and ratchet wheel mounted on the shaft, a brake band trailed around the brake drum, a spring-actuated pawl normally out of engagement with the ratchet wheel, the pawl having a projection with which one of the ends of the shelf member engages when the top shelf is lowered in the opening in the top of the table, to pull the pawl into engagement with the ratchet wheel to prevent further rotation of the drums in the same direction and unwinding and tangling of the cables, while permitting reversal of the drums and winding of the cables to raise the shelves.

2. A combined table and shelves as defined in claim 1, wherein one end of the brake band is anchored to one end of the table and means are provided on said table end and the other end of the brake band to adjustably anchor the latter end of the brake band to regulate the friction between the brake band and the brake drum to hold the shelves in adjusted position when extended above the table.

3. A combined table and shelves comprising a table formed in its top with an opening, spaced apart end and side sections for the table, a shelf member, including end uprights, a top and shelves, operating in the opening in the top of the table, said latter top and the lowest shelf closing said opening in alignment with the top of the table when the shelf member is in raised and lowered positions, a cross bar secured to the lower portion of each of the end uprights, pulleys secured at the ends of the cross bars, a shaft journalled in and extending between the ends of the table, a pair of drums secured to the shaft, cables trailed intermediately around the pulleys with one of their ends secured to the table above the pulleys and their opposite ends anchored to and trailed around the drums to raise or lower the shelf member, a brake drum fixed to the shaft, a brake band engaged around the brake drum and anchored at its ends to the table, means for regulating the frictional engagement of the brake band with the drum to sustain the shelf member in adjusted position when projected above the table top, means cooperative between the table, shelf member and shaft and operable for preventing further rotation of the shaft in

the same direction when the shelf member is lowered and the top shelf thereof is in the opening in the top of the table, and manual means for rotating the shaft against the friction of the brake band and elevating the shelf member.

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