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V. M. HARTRIDGE
DISAPPEARING AND SLIDABLE STEP-CHAIR
FOR KITCHEN CABINETS AND THE LIKE
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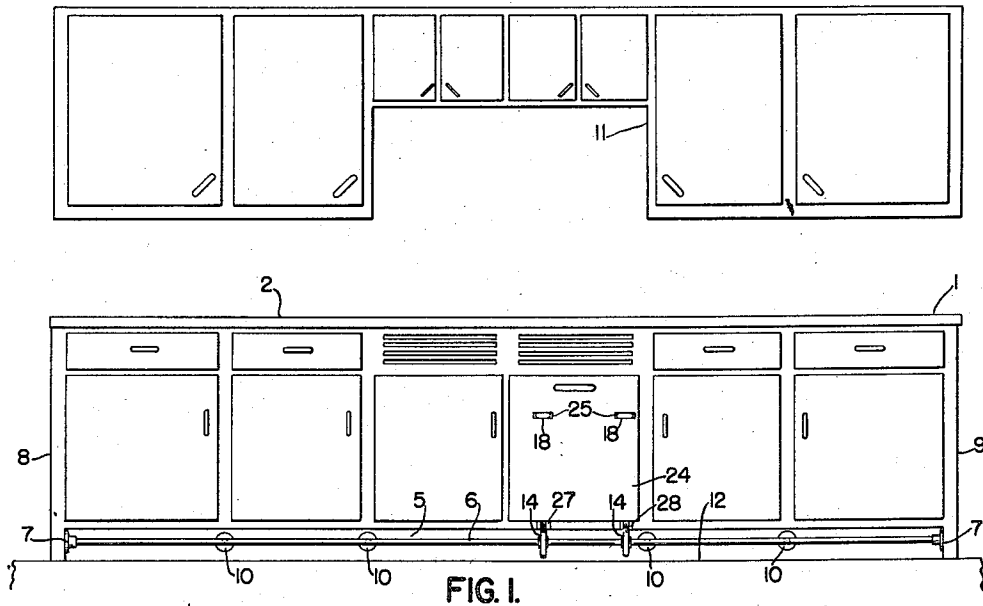


FIG. 1.

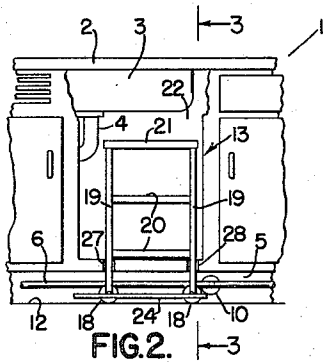


FIG. 2.

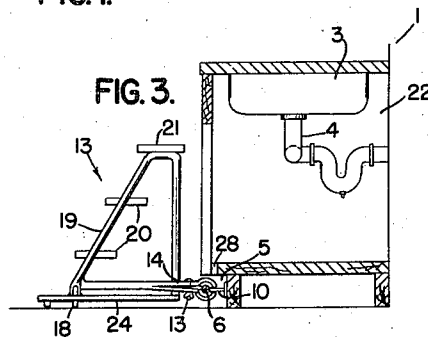


FIG. 3.

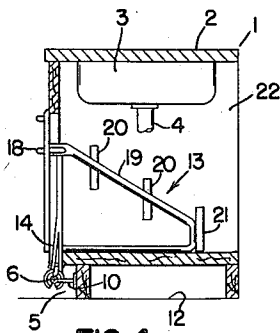


FIG. 4.

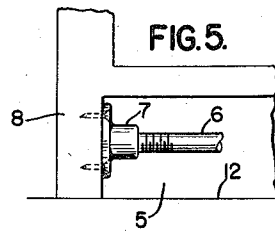


FIG. 5.

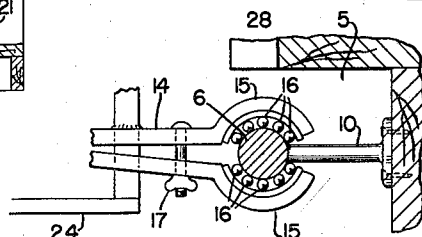


FIG. 6.

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DISAPPEARING AND SLIDABLE STEP-CHAIR FOR KITCHEN CABINETS AND THE LIKE

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5 Claims. (Cl. 312—235)

This invention relates generally to foldable step-stools which are used with counter cabinets such as are found in kitchens.

Devices of this type should be compact so as to be readily stored when not in use. However, they must be stable enough so as to preclude the possibility of upsetting particularly when the housewife is on the top step thereof, as when reaching into an upper cabinet. In this respect the steps should be usable to gain access to any of the upper cabinets and should be inherently safe in any of these positions and without first requiring the user to take the time and effort to suitably brace or otherwise secure the steps. For maximum use these steps should also have other functions, such as, providing a seat for working at the countertop.

In accordance with the invention, a recessible combination step ladder and chair has been provided which is adapted to be slid along the front of a kitchen counter on a guide track for access to any one of a plurality of upper cabinets and which is also adapted to be pivoted about said track for being recessed within one of the counter cabinets for storage.

The arrangement is such as to provide a quickly storable ladder-chair combination that can be used in any one of a plurality of locations with complete safety.

These and other objects and advantages will appear hereinafter, reference being had to the accompanying drawings in which:

Figure 1 is a front elevational view of counter-top kitchen cabinets which utilize the subject matter of this invention;

Figure 2 is a fragmentary view of a portion of the cabinets shown in Figure 1, but with the step-chair in the extended position, and with parts broken away;

Figure 3 is an elevational, cross-sectional view taken generally on line 3—3 of Figure 2;

Figure 4 is a view similar to Figure 3 but showing the step-chair in the storage position;

Figure 5 is a fragmentary and enlarged view of the connection to the cabinets for the guide rod; and

Figure 6 is an enlarged fragmentary view of one of the securing brackets.

Referring in greater detail to the drawings, the kitchen is provided with lower cabinets 1 having a countertop 2 which forms a working surface at a convenient height. A sink 3 is mounted centrally of cabinets 1, and a drain pipe 4 extends downwardly therefrom into the space therebeneath. Along the lower front edge of the cabinets is provided a recess portion 5. A long rod 6 is mounted at each of its ends in brackets 7 on the side walls 8 and 9 of the cabinets to provide a track, and is out of the way and unnoticeable. Rod 6 is supported along its length by a plurality of spaced horizontal supports 10. The inner end of each support 10 is suitably secured to the inner vertical wall of recess 5, and the outer end of each support is secured to rod 6 as by welding. The number of supports necessary will depend on the length of rod 6, the weight it is to carry, etc.

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Upper cabinets 11 are located above the cabinets 1 and are generally co-extensive therewith in length. The upper cabinets contain conventional shelves (not shown), some of which may be of considerable height above the floor 12, in some instances.

The combination step-chair assembly 13 has a pair of spaced brackets 14 at its lower rear side which are slidably mounted on the rod and which hold the assembly the desired distance in front of the cabinets. As can best be seen in Fig. 6, each bracket 14 comprises a pair of half-moon shaped metal members 15 equipped with ball bearings 16 to facilitate sliding on rod 6. Members 15 are mounted for tightening adjustment by a wing nut assembly 17 and are separated at the rear end portions to permit the assembly to be slid past supports 10.

Rotary members are provided for supporting the assembly at its lower front side. These members are shown as taking the form of a wheel 18 rotatably mounted at the lower end of each of the forward legs 19 so that the assembly is slidable along the entire front of the cabinets, the weight of the assembly being supported by wheels 18 and rod 6. Regardless of the position of the steps, they are very stable because they are secured to the rod. When a person is on the assembly, their added weight is sufficient to create enough friction between brackets 14 and rod 6 so as to prevent the assembly from inadvertently sliding sideways. When unoccupied, the weight of the step assembly is insufficient to preclude easy sliding on the rod.

A number of steps 20 are provided to permit easy and safe ascent to and descent from the top step 21. The top step is of sufficient width so as to form a comfortable seat and it is of such height from the floor so as to make the countertop 2 within easy reach from a sitting position. Any of the compartments of lower cabinet 1 may be built to afford leg room for the person sitting on the top step when the compartment door is open.

As shown in the drawings, the compartment 22 beneath sink 3 is adapted to receive assembly 13 for storage purposes. This is accomplished by pivoting the assembly backward about rod 6, as shown in Fig. 4. Little lifting effort is required.

The compartment 22 is preferably used to store assembly 13, since this space beneath the sink is the one least likely to be used for storage of other items. Furthermore, the assembly is then most accessible for use when the housewife wishes to sit at the sink to prepare food. Assembly 13 can easily be disposed between drain-pipe 4 and the adjacent compartment wall.

Secured to the bottom of the lower horizontal framework of the steps is a panel 24 which forms the door for cabinet compartment 22 when the step assembly has been retracted. There is no additional door required to take up valuable space, and the cabinet is always ready to receive the steps, it being unnecessary to first be sure the door is fully open. The door 24 has a pair of slots 25 through which wheels 18 protrude a small amount to contact the floor while the door remains a small distance above the floor.

The lower shelf 26 of the lower cabinets has a pair of recesses 27 and 28 which receive brackets 14 when the unit is swung into the cabinet.

The long narrow kitchen seems to be most popular, where one can reach from stove to sink to refrigerator etc. from one focal point. There is no room for a table and chair in this type of kitchen; the counter top is used as a work table instead. Even an ordinary step-stool is in the way. Besides taking up space, the conventional step-stool is heavy, awkward and hard to move. It also necessitates pulling the steps out for climbing purposes. The present invention overcomes these difficulties.

In a larger kitchen where there is an abundance of cabinets, a person desiring to work in a different spot other than where the step-chair is stored, for instance at a chopping board installed in a counter surface, merely slides the whole assembly along the horizontal track a short distance beyond the opening of the lower cabinet where he wishes to sit, opens the door, and then slides the chair back into position in front of the opening. Many similar work surfaces can be provided in like manner under which leg room can be made by simply removing a 12 to 14 inch section of shelf in the lower cabinet. These additional work surfaces would be an asset in large kitchens such as those found in institutions, clubs, schools, etc., making it possible for a whole staff of kitchen-help to be seated at different intervals. This would, of course, involve using several step-chairs, each stored under or adjacent its respective work surface. It can be tipped back into any lower cabinet for storage as long as the door remains open or is removed entirely, in which case it is replaced by the platform or base 24 of the step-chair. When tilted back into position for storage, the base of the step-chair is the cabinet door. The assembly need only be tipped forward, and by means of the horizontal rod or track upon which it slides can be made instantly and completely ready for use either as a ladder to reach otherwise inaccessible upper cabinets, or as a chair with leg room provided in the space thus vacated. The assembly can slide anywhere in the kitchen provided the continuity of the wall is not broken by a door or an arch. There is no pulling, pushing, or unfolding involved; merely a simple pivoting process.

In the case of U-shaped kitchens, the track may be curved to conform to the curvature of the cabinets so that the assembly 13 may make a complete circuit of the kitchen walls, limited only by a door or other break in the latter. Ball bearings 16 will not only facilitate sliding along a curved track, but will also facilitate vertical pivoting of the assembly.

The invention provides a compact step-chair combination that is quickly stored with little effort and which has good stability in any position along a counter front. The combination is easy to install, has few parts, and is relatively inexpensive. Wood, metal, or other suitable material may be utilized in its construction.

Various modes of carrying out the invention are contemplated as being within the scope of the following claims particularly pointing out and distinctly claiming the subject matter which is regarded as the invention.

I claim:

1. For use with a kitchen cabinet having a front side with an opening therein and also having a recessed portion along its front lower edge, apparatus comprising a guide member extending along said cabinet in said recess, a step-chair assembly slidably mounted adjacent a lower front side thereof on said member whereby said assembly may be slid along said cabinet and guidingly supported by said member, said assembly when adjacent said opening being pivotable on said member so as to swing into said cabinet, and a cabinet door secured to said assembly and adapted to close said opening when said assembly is in said cabinet.

2. For use with a kitchen cabinet mounted adjacent the floor and having a front side with an opening therein, apparatus comprising a guide rod extending along said cabinet and disposed in a longitudinal recess adjacent a lower edge of said front side, a step-chair assembly, the lower rear portion of said assembly having a pair of brackets slidably mounted on said rod, a pair of spaced

supporting wheels mounted on the lower front portion of said assembly whereby said assembly may be slid along said cabinet and be guidingly supported by said rod and supported by said floor, said assembly when adjacent said opening being pivotable on said rod so as to swing into said cabinet, and a shelf in said cabinet opening for supporting said assembly in the folded position, said shelf having recesses therein to receive said brackets when the assembly is recessed.

3. For use with a wall cabinet having a plurality of adjacent storage compartments at upper and lower levels and adapted to extend a substantial length along a kitchen wall, apparatus comprising a step-chair assembly disposed in one of said lower storage units, and means secured to the lower front of said cabinet pivotally mounting said assembly to provide tilting of the same to a forward upright position free of said cabinet and with the forward part resting on the kitchen floor, said pivotal means providing a guide means extending longitudinally of the cabinet to provide for guiding movement of said assembly to any selected position along the cabinet.

4. For use with a wall cabinet having a plurality of adjacent storage compartments extending a substantial length along a kitchen wall, apparatus comprising a guide rod secured to and extending along said cabinet and disposed in a longitudinal recess therein adjacent the kitchen floor, a step-chair assembly including a plurality of rearwardly extending brackets, said brackets being slidably connected to said rod so that the assembly is stabilized by the rod and with the latter being constructed to permit said step-chair to be selectively positioned adjacent any one of said storage compartments, a plurality of spaced supporting wheels mounted on the lower front portion of said assembly and with said wheels positioned to engage the kitchen floor and support the assembly for sliding movement along said cabinets, said assembly being constructed to pivot on said rod into a storage compartment, and a cabinet door secured to the base of said assembly and constructed to close a compartment opening when the assembly is stored therein, said door having openings through which said wheels extend for engagement with the floor.

5. The apparatus of claim 4 in which the guide rod is secured at each end to an end wall of the cabinet and within said recess, a plurality of spaced support members secured to the recessed front wall of the cabinet and extending forwardly therefrom and secured at their forward ends to the rear side of said guide rod, said brackets being split to permit passage of the assembly by the support members during longitudinal positioning of the assembly.

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