

Aug. 20, 1957

R. J. CARBARY

2,803,510

CABINET, INCLUDING RETRACTABLE CASTER DEVICE

Filed April 2, 1954

FIG. 1

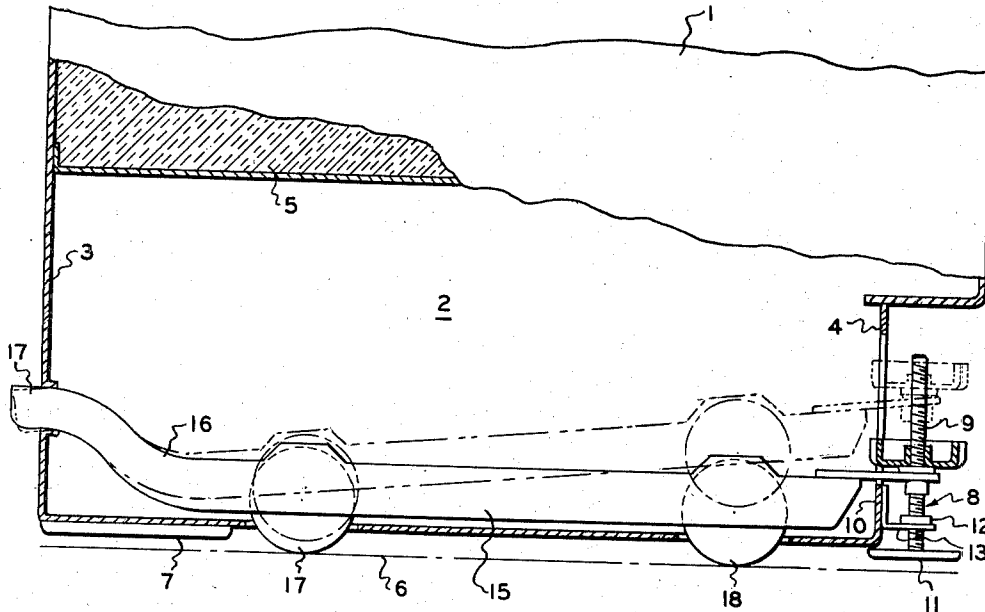
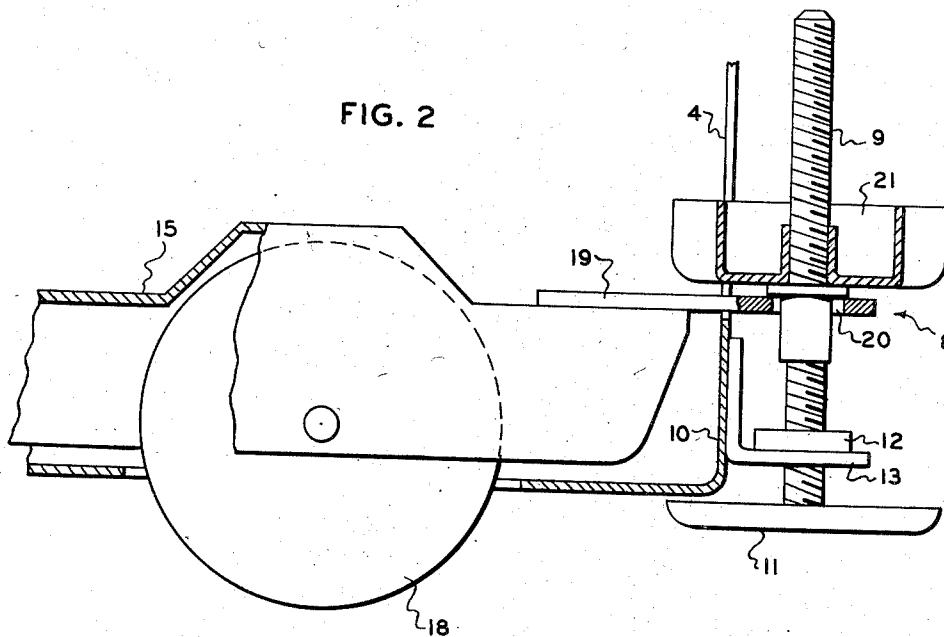


FIG. 2



INVENTOR.

RICHARD J. CARBARY

BY *Richard J. Carbary*

HIS ATTORNEY

1

2,803,510

CABINET, INCLUDING RETRACTABLE CASTER
DEVICERichard J. Carbury, Syracuse, N. Y., assignor to General
Electric Company, a corporation of New York

Application April 2, 1954, Serial No. 420,629

3 Claims. (Cl. 312-253)

The present invention relates to a cabinet including a retractable caster device. More particularly it relates to a cabinet structure such as a refrigerator, stove, washing machine or other relatively heavy home appliance and a caster mechanism mounted on the supporting frame structure of the cabinet and which can be raised or lowered to facilitate the movement of the cabinet from one part of the floor to another.

Refrigerators and other household or kitchen appliances such as ranges, washing machines, dryers and the like are ordinarily provided with rather large supporting surfaces so that they will rest on a comparatively large area of the floor thereby preventing or substantially reducing the likelihood of permanent indentations in the floor due to the weight of the appliance. However, it is occasionally desirable to move the appliance from its normal position for cleaning beneath or behind the appliance or for some other purpose and it is therefore desirable to provide a caster arrangement which can be brought into use at such times. It is, of course, not feasible to provide any heavy piece of furniture with permanent casters due to the relatively small bearing surface area of the wheels or rollers.

A primary object of the present invention is to provide a retractable caster assembly of the above character which is simple and inexpensive, which is ordinarily hidden from view by the cabinet structure, and which is accessible from the outside of the cabinet to facilitate the operation of bringing the caster mechanism into operation when desired.

It is also desirable to provide in combination with a refrigerator or similar cabinet structure adjustable legs to facilitate the leveling of the appliance where the floor or other supporting surface is relatively uneven. It is accordingly a further object of the invention to provide in combination with such a leveling means a caster arrangement which together form an integral part of the cabinet structure.

In carrying out the objects of the present invention there is provided in combination with a cabinet having a rigid supporting structure, a caster assembly or device adapted to be pivotally mounted on the cabinet structure and including an elongated frame member having casters rotatably mounted thereon. The frame member is arranged to be pivotally connected to one end, as for example the rear, of the cabinet structure while the other end of the frame member including means for raising and lowering the caster device is mounted on the other end of the cabinet structure. In accordance with the preferred modification of the invention the cabinet is provided with vertically adjustable legs and the means for lowering the caster device to its operable position is combined with and forms part of the adjustable leg structure.

For a better understanding of the invention, reference may be had to the accompanying drawings in which Fig. 1 is a front elevational view, partly in section, of a refrigerator cabinet incorporating an embodiment of the present invention, and

2

Fig. 2 is an enlarged sectional view showing the detailed construction of the invention.

Referring to the drawing, there is shown for the purpose of illustrating the present invention a refrigerator cabinet 1 having at the lowermost end thereof a machinery compartment 2 defined by a rigid supporting frame structure including a rear wall 3 and a forward wall 4. The machinery compartment 2 is below the food storage compartment and is separated therefrom by an insulating partition 5. Normally the cabinet is supported upon a supporting surface 6 by means of the rear legs 7 which are fixed to the cabinet structure and adjustable front legs 8, it being understood of course that there will ordinarily be provided two rear legs and two front legs per cabinet.

The adjustable front legs 8 each comprise a threaded vertically arranged stud 9 threadably mounted on a supporting bracket 10 fixed to the cabinet structure and forming a part thereof. Pads or feet 11 secured to the lower end of the stud 9 provide a relatively flat supporting surface of substantial area for the cabinet. Each of the supporting legs 8 can be moved vertically with reference to the cabinet structure by loosening the locking nut 12 so that the stud can be rotated one way or the other with reference to the threaded bracket 10 to raise or lower the foot 11. After the leg has been brought to the proper position for leveling the cabinet, the locking nut 12 is again rotated into a locking position with reference to the horizontal portion 13 of the bracket. The adjustable legs 8 will in most cases be hidden from view by a toe plate (not shown) mounted on the front of the cabinet.

The retractable caster device of the present invention which is generally indicated by the numeral 15, comprises an elongated inverted frame member 16 of inverted U-shaped cross section on which are journaled the rear and front casters 17 and 18. This caster assembly is pivotally secured to the one end of the cabinet structure and is mounted at the other end on the stud 9 forming part of the adjustable leg 8. The pivotal mounting of the elongated frame member 16 on the rear wall 3 of the cabinet structure is obtained by inserting the end 17 of the frame member 16 through an aperture 18 formed in the rear wall 3 of the cabinet. The forward end of the frame member 16 is provided with a projection 19 having an aperture 20 therein which is adapted to be received on the stud 9. The aperture 20 is of a size such that the caster frame structure 16 can be moved easily up and down on the stud and still be held in pivoted relationship with the aperture 18 on the rear wall 3 of the cabinet. Means for lowering the caster device so that the cabinet 1 is supported on the casters rather than on the legs is provided in the form of a hand wheel 21 threaded onto the stud 9 above the projection 19.

Normally the hand wheel 21 will be positioned adjacent the top of the stud 9 in the dotted line position shown in Fig. 1. In this position the cabinet 1 is supported on the rear leg 7 and the adjustable legs 8 and the caster device is held in its raised position by contact of the rear caster 17 with the supporting surface as shown in the dotted line positions of these elements in Fig. 1. When it is desired to move the cabinet, the hand wheel 21 is screwed downwardly on the stud 9 so that the caster device also brings the front wheel 18 into engagement with the supporting surface to raise the cabinet from the supporting surface to a position in which the entire weight of the cabinet is carried by the casters 17 and 18 in the full line position shown in Fig. 1. The caster device is retained in its lowered full-line position only long enough to permit the cabinet 1 to be shifted from one place to another on the floor or other supporting surface. Thereafter the handle 21 is turned on the stud 9 to its normal position adjacent the top of the stud whereby the cabinet

3

1 is lowered onto the floor to a position in which it is again supported by the legs 7 and 8 to provide a bearing surface of comparatively large area between the cabinet and the supporting surface.

From the above description it will be seen that there has been provided a caster device of simple and inexpensive construction which can be readily adapted for use with a refrigerator cabinet or other appliance of similar type and which is sufficiently rugged to support the entire weight of the cabinet when that becomes necessary. Since the pivotal support for the rear portion of the caster device merely comprises an aperture in the rear wall 3 forming part of the cabinet support structure through which the rear end 17 of the channel member 16 extends and since the stud 9 forming part of the leveling or adjustable leg 8 comprises the main portion of the anchoring and operating mechanism for the forward portion of the caster device, it will be seen that this arrangement is of simple construction and of relatively low manufacturing cost. The caster assembly is easily removable from the refrigerator cabinet 1 merely by completely removing the hand wheel 21 from the upper portion of the stud 9 after which the extension 19 can be lifted from the upper end of the stud and the entire caster assembly removed through the forward part of the cabinet structure.

If desired the hand wheel 21 can be employed for the purpose of adjusting the height of the leg 8. To carry out this operation the hand wheel 21 is left in its dotted line position as shown in Fig. 1 and the locking nut 12 is rotated on the stud 9 upwardly into engagement with the lower portion of the hand wheel 21. In this position the locking nut 12 will prevent rotation of the hand wheel 21 on the stud so that the rotation of the hand wheel 21 is imparted to the stud to lower the pad or foot 11 with reference to the cabinet structure. After the pad 11 has been lowered a distance sufficient to accomplish the desired leveling of the cabinet 1, the locking nut 12 is again returned to its locking position with reference to the horizontal portion 13 of the bracket 10.

While there has been shown and described a specific embodiment of the present invention, it is to be understood that the invention is not limited to the particular construction shown and described and it is intended by the appended claims to cover all modifications within the spirit and scope of the invention.

What I claim as new and desire to secure by Letters Patent of the United States is:

1. In combination, a rigid supporting structure, a vertically adjustable leg at one end of said structure, said leg including a vertically disposed stud threadably

4

mounted on said structure for vertical adjustment of said leg, a caster assembly including an elongated frame member and casters mounted thereon adjacent each end of said member, one end of said member being slidably arranged on said stud, an aperture in the other end of said structure, the other end of said frame member extending into said aperture and being retained therein by said stud, and means on said stud for lowering said caster device.

2. In combination, a rigid frame structure, a vertically adjustable leg at one end of said structure, a fixed leg at the other end of said structure, said adjustable leg including a vertical stud threadably mounted on said frame structure for vertical adjustment of said adjustable leg, a caster device including an elongated frame member and casters mounted thereon adjacent each end of said member, one end of said member having an opening therein for receiving said stud, an aperture in the other end of said structure adjacent the fixed leg, the other end of said frame member loosely extending into said aperture and being retained therein by said stud, and a hand wheel threaded on said stud above said frame member for engagement therewith for effecting lowering of said caster device.

3. In combination, a rigid frame structure, a vertically adjustable leg at one end of said structure, said leg including a vertically disposed stud threadably mounted on said frame structure for vertical adjustment thereof, a caster device including an elongated frame member and casters mounted adjacent each end of said member, one end of said member being slidably arranged on said stud, an aperture in the other end of said structure, the other end of said frame member extending into said aperture and being retained therein by said stud, a hand wheel threaded on said stud above said one end of said frame member and engageable therewith to lower said caster device to a position wherein said frame structure is supported by said caster device, said caster device being normally held in a raised position by contact of the caster adjacent said other end of said frame member with the surface supporting said frame structure.

References Cited in the file of this patent

UNITED STATES PATENTS

146,997	Eddy	Feb. 3, 1874
234,496	Simmons	Nov. 16, 1880
248,753	Huston	Oct. 25, 1881
1,482,527	Simpson	Feb. 5, 1924
2,094,522	Blake	Sept. 28, 1937