An upper cover of a garbage can includes a fitting frame, an upper cover body, an outer frame and two combining members. The combining members are respectively composed of a pivotal cylinder and a torsion spring, combined with the pivotal members of the upper cover body and the inner frame, letting the upper cover body to swing slowly up to an open upright condition or swing down to a closed condition with the pivotal members as pivots and by means of the torsion springs immersed in friction oil and turned in an untwisted natural condition or in a twisted condition. The upper cover body is pivotally combined with the inner side of the fitting frame combined with an outer frame, which is then assembled on the upper edge of a garbage can, letting the upper cover swung down or up to close or open slowly without noise by pressing.
FIG. 1 (PRIOR ART)
FIG. 7
UPPER COVER OF A GARBAGE CAN

BACKGROUND OF THE INVENTION

1. Field of the Invention

This invention relates to an upper cover of a garbage can, particularly to one able to be opened easily, smoothly and noiselessly by pressing.

2. Description of the Prior Art

Garbage cans with upper covers tally with the requirements of sanitation and environmental protection; therefore, such garbage cans have been researched and developed. One of them is a conventional pedal-controlled garbage can shown in FIG. 1 having an upper cover threadably combined thereon, but the upper cover is not easy to be assembled with the can body because the interacting mechanism between the pedal and the upper cover has lots of components, having a complicated structure. In addition, when the upper cover is peduled to open or close, there may produce colliding noises caused by the upper cover against the garbage can and make the garbage can unstable.

SUMMARY OF THE INVENTION

The objective of the invention is to offer an upper cover of a garbage can, able to be opened and closed conveniently and smoothly, simple in structure and saving producing and assembling cost.

BRIEF DESCRIPTION OF DRAWINGS

This invention will be better understood by referring to the accompanying drawings, wherein:

FIG. 1 is a perspective view of a conventional garbage can:

FIG. 2 is an exploded perspective view of an upper cover of a garbage can in the present invention:

FIG. 3 is a partial magnified view of the upper cover of a garbage can in the present invention:

FIG. 4 is a perspective view of the upper cover of a garbage can in the present invention:

FIG. 5 is a side cross-sectional view of a pivotal member combining with a hook member of the upper cover body and a pivotal groove of a fitting frame in the present invention, showing the upper cover being swung down to close up the fitting frame:

FIG. 6 is a side cross-sectional view of the pivotal member combining with the hook member of the upper cover body and the pivotal groove of the fitting frame in the present invention, showing the upper cover opened and swung up from the fitting frame:

FIG. 7 is a side view of the upper cover body closed to be opened from the fitting frame in the present invention:

FIG. 8 is another side view of the upper cover body being opened and swung up to a certain angle relative to the fitting frame in the present invention:

FIG. 9 is another side view of the upper cover body opened and swung up to an upright condition relative to the fitting frame in the present invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

A preferred embodiment of an upper cover of a garbage can in the present invention, as shown in FIGS. 2 to 7, includes a fitting frame 2, an upper cover body 3, two combining members 4 and an outer frame 5 combined together.

The fitting frame 2 has an opening 20 formed in its central portion and its peripheral edge provided with plural engage members 21. Further, the fitting frame 2 has two pivotal grooves 22 respectively bored at the opposite sides of a rear portion and a stop stud 23 provided in front of the pivotal groove 22.

The upper cover body 3 has two pivotal members 30 respectively provided at the opposite sides of a rear portion and a press member 31 provided near a front center portion, a hook member 310 provided at the front end of the press member 31, and a secure rod 300 fixed in the pivotal member 30 for a lower end of a torsion spring 41 to be secured thereon.

The two combining members 4 are respectively fitted in both the pivotal groove 22 of the fitting frame 2 and the pivotal member 30 of the upper cover body 3, respectively consisting of a pivotal cylinder 40 and the torsion spring 41 received in the pivotal cylinder 40. The pivotal cylinder 40 has a pivotal member 400 fixed inside with a secure rod 4000, and an actuating rod 401 cut with an engage groove 4010.

The outer frame 5 is formed with a central opening for assembling the fitting frame 2 in the central opening by mutual engagement of the inner side of the outer frame 5 and the engage members 21 of the fitting frame 2.

In assembling, as shown in FIGS. 5 and 6, firstly, the upper cover body 3 is combined with the fitting frame 2 in an upright condition relative to the fitting frame 2, with the torsion spring 41 of the combining member 4 received in the pivotal member 30 of the upper cover body 3, letting the lower end of the torsion spring 41 secured on the secure rod 300 in the pivotal member 30. Next, the pivotal cylinder 40 of the combining member 4 is aligned to the torsion spring 41 and fitted in both the pivotal groove 22 of the fitting frame 2 and the pivotal member 30 of the upper cover body 3, letting the secure rod 4000 in the pivotal member 400 of the pivotal cylinder 40 secured with the upper end of the torsion spring 41 in an untwisted natural condition. Both the interior of the pivotal member 30 of the upper cover body 3 and the surface of the pivotal member 400 of the combining member 4 are filled with friction oil so as to resist quick recovering movement of the twisted torsion spring 41 in case the upper cover body 3 is swung up by the recovering force of the twisted torsion spring 41 so that the upper cover body 3 may slowly swing up by friction function of the friction oil. Lastly, the actuating rod 401 of the pivotal cylinder 40 is moved downward to have its engage groove 4010 engaged with the stop stud 23 of the fitting frame 2 to finish assembly of the upper cover of a garbage can.

In using, if the upper cover body 3 in the open swung-up upright position is to be swung down to close on
the fitting frame 2 with the outer frame 5 combined with a upper opening of a garbage can, the upper cover body 3 in the upright opening position is manually swung down with the pivotal spring 410 functioning as a pivot, with the torsion spring 41 twisted by rotation of the secure rod 300 of the upper cover 3 against the secure rod 4000 of the combine member 4, forcing the hook member 310 of the press member 31 to hook with the inner side of the fitting frame 2 so as to force the upper cover body 3 kept in the closed condition and with the torsion spring 41 maintained in the twisted condition to always have some recovering force enough for swinging up the upper cover body 3.

[0023] In opening the upper cover body 3 in the closed condition for throwing garbage in the garbage can with the upper cover in the invention, the press member 31 of the upper cover body 3 is pressed downward, forcing the hook member 310 at the front end of the press member 31 released from the inner side of the fitting frame 2. Simultaneously, the pivotal member 30 of the upper cover body 3 is pushed by the recovering force of the twisted torsion spring 41 to permit the upper cover body 3 to swing slowly up by means of the friction function of the friction oil resisting the force of the twisted torsion spring 41 with the pivotal member 400 as a pivot to the open upright position shown in FIG. 9. When the upper cover body 3 is to be closed again on the fitting frame 2 with the outer frame 5 fixed on the garbage can, only press and swing down the upper cover body 3 in the open upright position, forcing the hook member 310 hook the inner side of the fitting frame 2, then the upper cover can be kept closed on the garbage can, with the torsion spring 41 kept in the twisted condition.

[0024] As can be understood from the above description, this invention has the following advantages.

[0025] 1. It is convenient and easy to be opened and closed.

[0026] 2. It is smoothly and slowly swung open by the recovering force of the torsion springs 41 twisted and the frictional function of the friction oil filled in the pivotal member 30 and the surface of the pivotal member 400 of the pivotal cylinder 40 so it is possible to reduce the swing-up impact of the upper cover body 3 and avoid producing impact noises, suitable for use in an office.

[0027] 3. The upper cover and the garbage can are able to be separately packed and transported, facilitating packing and lowering transporting cost.

[0028] 4. The engage members 21 of the fitting frame 2 and the inner side of the outer frame 5 are together formed with an engage portion able to be closely engaged with the upper projecting edge of the garbage can.

[0029] While the preferred embodiment of the invention has been described above, it will be recognized and understood that various modifications may be made therein and the appended claims are intended to cover all such modifications that may fall within the spirit and scope of the invention.

I claim:

1. An upper cover of a garbage can comprising:
   a fitting frame formed with an opening in the center portion, said fitting frame having two pivotal grooves respectively bored in the opposite sides of a rear portion, a stop stud fixed in front of each said pivotal groove;
   an upper cover body having two pivotal members respectively provided at the opposite sides of a rear portion;
   two combining members respectively and pivotally fitted in both said pivotal groove of said fitting frame and said pivotal member of said upper cover body, each said combining member consisting of a pivotal cylinder and a torsion spring;
   an outer frame having its inner side fitted with said fitting frame; and
   said pivotal cylinder and said torsion spring of said combining member together received in both said pivotal groove of said fitting frame and said pivotal member of said upper cover body to combine said upper cover body in an open upright position with said fitting frame, thus finishing assembling work of said upper cover with a garbage can, said upper cover body in the open upright position possible to be swung down to close on said fitting frame or to be swung up to open to the open upright position.

2. The upper cover of a garbage can as claimed in claim 1, wherein said fitting frame has its outer peripheral edge provided with plural engage members to engage with the upper projecting edge of a garbage can.

3. The upper cover of a garbage can as claimed in claim 1, wherein each said pivotal member of said upper cover body is fixed therein with a secure rod for an inner end of said torsion spring to be secured thereon.

4. The upper cover of a garbage can as claimed in claim 1, wherein said pivotal cylinder of said combining member is provided with a pivotal member and a secure rod, said secure rod fixed in the interior of said pivotal member for an outer end of said torsion spring to be secured thereon.

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