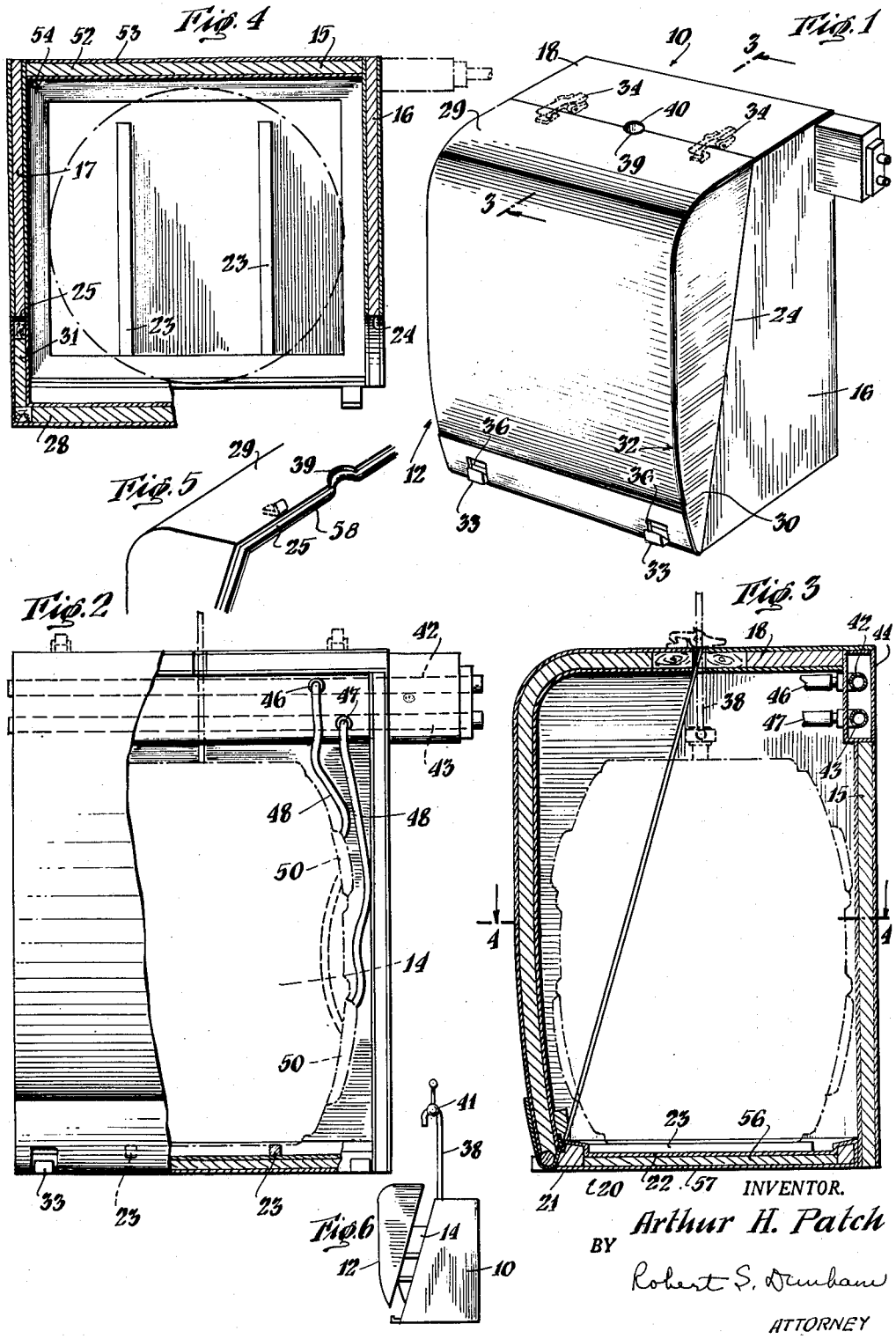
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DISPENSING-TYPE BARREL ENCLOSURE

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DISPENSING-TYPE BARREL ENCLOSURE

Arthur Herbert Patch, Glen Ridge, N. J., assignor to Novadel-Agene Corporation, Belleville, N. J., a corporation of Delaware

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This invention relates to apparatus for storing and cooling beer or other brews, and more particularly relates to dispensing-type enclosures or boxes for refrigerated barrels, e. g. structures for receiving a barrel or keg which is kept cold by suitable means, and from which the beverage is to be dispensed.

A presently preferred method of cooling beer is to circulate a coolant fluid in heat exchange relationship with the beverage while the latter is maintained in its original package, i. e. the barrel. For example, a system now widely used in the case of wooden kegs involves cooling coils which are mounted inside the keg itself, and through which the cold water or other coolant is circulated. In such installations the barrels are conveniently placed behind the bar or otherwise near the locality where the beverage is dispensed, and are screened only by the bar or in some cases are covered by simple metal shells that can be lifted away when an exhausted barrel is to be replaced with a filled one. The heavy wooden walls of the barrel ordinarily afford good thermal insulation, preventing undue transfer of heat to the contained liquid and affording efficient cooling action without untoward effects.

Metal barrels, either aluminum or stainless steel, have recently come into extended use. Special arrangements have been proposed for cooling the contents of such a keg while it stands at the dispensing locality, but the metal walls of these barrels are relatively good conductors of heat, so that they assume a low temperature and if exposed, will condense large quantities of moisture from the surrounding air, often sufficient to form a pool on the floor within a very short time. That is to say, the temperature of the refrigerated metal barrel is usually below 50° F. and is thus ordinarily well below the dew point of the surrounding atmosphere, especially in restaurants, taverns, and the like. Since a barrel, once connected to the cooling system, must remain so connected and in a refrigerated condition as long as the contained beer is to be preserved, the problem of sweating exists continuously, twenty-four hours a day. As will now be appreciated, it is an important one of various problems that have heretofore impeded the development of cooling methods and equipment for metal-wall kegs.

Accordingly a paramount object of the present invention is to provide a novel and improved enclosure, that may be conveniently called a dispensing box, into which the barrel can be placed and in which it may be connected with the cooling

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system, such enclosure being of a sealed and insulated character but nevertheless adapted to facilitate the use of the barrel for dispensing beer or the like, and to permit full realization of the cooling action. A further object is to provide such box or enclosure, which permits ready insertion and removal of barrels, it being borne in mind that a filled beer keg is extremely heavy and cannot easily be lifted or inserted downwardly in any kind of receptable. Another and more specific object is to provide an enclosure which can be rapidly opened for perfect access to the barrel, and which also, in a novel and efficient manner, seals the barrel against heat transfer and air circulation, to obviate the problem of sweating or condensation.

Further objects are to provide such a box which when open not only affords access to the barrel but permits ready attachment of cooling instrumentalities, as well as easy connection or disposition of other necessary parts, particularly the tap rod by which the beverage is to be dispensed; also to provide enclosures of the character described which are rugged and durable in construction, fully able to withstand the rough usage necessarily incidental to the handling of heavy beer barrels; and to afford a box which may be very rapidly opened and closed, with a minimum of adjustment but without sacrifice of heat-insulating effectiveness in its closed condition.

To these and other ends a presently preferred embodiment of the invention is shown, by way of example, in the accompanying drawings to which the following description relates, it being believed that the features and principles of the invention may be readily understood from this illustrative disclosure.

Referring to the drawings:

Fig. 1 is a perspective view of the box embodying the invention, shown in closed position;

Fig. 2 is a front elevation, with a part of the cover portion of the structure broken away;

Fig. 3 is a vertical section on line 3—3 of Fig. 1;

Fig. 4 is a horizontal section on line 4—4 of Fig. 3;

Fig. 5 is a fragmentary perspective view of a part of the cover portion; and

Fig. 6 is a side elevation, on a greatly reduced scale, showing the manner in which the cover portion may be separated for access to the interior.

Although for the purposes explained above the box of the invention may also be embodied in plural or multiple units, i. e. constituting a plurality of like boxes arranged side-by-side with

single rear and top walls for the body portion and with separate cover portions for each section, the drawings conveniently and for brevity of illustration, show a single unit, adapted to receive one barrel.

The structure comprises a body portion generally designated 10 and a cover portion 12, arranged to fit together so as to afford a complete enclosure for a barrel 14, e. g. a keg of the metal type, having a metal side wall and integrally joined metal heads. The body portion 10 of the box has a vertical rear wall 15, vertical side walls 16 and 17 and a top wall 18. The body portion 10 also has a base or bottom structure 20 that includes a peripheral frame 21 surrounding a floor section having a metal plate 22 for its upper surface, which mounts a plurality of skids 23, 23 or like parts upon which the barrel 14 may be seated. The top 18 is materially shallower, i. e. shorter in the forward direction from the rear wall 15, than the base structure 20; in conformity, the side walls 16 and 17 have their front edges 24, 25 sloping downwardly and outwardly, i. e. at an acute angle to the vertical.

The cover portion 12 comprises a forward, substantially vertical wall 28, a top wall 29 and vertical side walls 30, 31. The top 29 of the cover portion is of appreciable depth, and in effect complements the top 18 of the body portion to provide a top surface for the box having an extent of the same order as the base 20. The side walls 30, 31 of the cover portion are of a generally non-rectangular shape, e. g. triangular as shown, and have cooperating edges which extend at the same angle to the vertical as the edges 24, 25 and thus fit snugly against the latter while the edge of the top portion 29 engages the forward edge of the top 18 of the body. While the cover portion may in some cases be of strictly rectangular or like configuration, the preferred structure shown includes a curved surface at the upper, forward corner where the wall 28 meets the wall 29, the wall 28 also being conveniently curved or sloped inwardly as at 32 to its bottom line of removable attachment to the base 20, such lower recess affording toe room for the operator who is standing at the enclosure and drawing beer.

As will now be seen, the complete enclosure is a generally rectangular box divided into two parts, viz. the body portion and the cover portion, along a parting line which lies wholly in a single plane, preferably extending from a central region of the top 18—29, downwardly at a substantially acute angle to the vertical (e. g. 15° or so), to the forward edge of the base 20.

For secure yet fully removable attachment of the cover portion 12, the base 20 has a pair of forwardly-projecting lugs or hooks 33, 33 into which the lower edge of the cover portion can be seated, so that when it rests on the lugs 33, it may be swung toward and away from a closed position as if it were hinged at the forward edge of the base.

Latches 34, 34 are provided at the top of the box, each having its separable parts mounted respectively on the cover portion and the body portion, and each being preferably of such construction, for example a catch of a locking lever type, that its movable latching members may be swung rapidly into holding position and further actuated to draw the cover snugly against the body portion. It will now be seen that upon releasing the latches 34, the cover 12 may be swung outwardly (on the hinge constituted by the lugs 33), away from the body portion at the top, and then may be lifted off the lugs and taken completely away from the body portion. Replacement of the cover is effected with like simplicity, e. g. by seating its single lower edge in the recesses of the lugs 33 and then swinging it forward into closed position, whereupon the latches 34 can be fastened. For convenience in positioning the cover and guiding it properly, its lower edge and the adjacent part of its front face may be slightly recessed as at 36, 36 to register with the lugs 33.

Where the barrel is kept in a cooled condition for directly dispensing the brew, one arrangement for withdrawing the latter is by means of a tap rod or draught tube 38 mounted into the uppermost head of the barrel 14 as the latter stands upright, e. g. in the illustrated box. While in some cases other draught connections may be made, such as flexible tubing run to a remote location on the bar (a practice which may be followed with the so-called "Golden Gate" tap which extends through a bottom side portion of the barrel), and while in other cases different opening structures may be provided to accommodate a tap rod, one convenient arrangement for a central, vertical draught tube 38 involves a pair of complementary semi-circular notches 39, 40 at the center of the meeting edges of the top portions 29 and 18, i. e. so arranged that when the cover is brought into place as shown in Fig. 1, the notches 39, 40 provide a single hole through which the tap rod 38 may pass. Thus after the barrel is enclosed in the box and the cover secured, the tap rod 38 rises from the hole 39, 40 and the faucet 41 (Fig. 6) at the upper end of the tap rod is freely available for use.

The structure may also be provided with built-in means for delivering refrigerated coolant to the barrel 14, for example as embodied in the pipes 42, 43 mounted in a housing 44 which extends across the rear of the enclosure at the top of its back wall 15. Inside the enclosure a pair of outlet pipes 46, 47 project from the housing 44, being connected respectively to the pipes 42, 43, and adapted for removable connection of hose lines 48, 48 or the like extending to the cooling structure of the barrel 14, such as the annular, inter-connected cooling sleeves 50, 50. It will be understood that the pipes 42, 43 are connected to a suitable circulator and associated apparatus (not shown) whereby cold water or the like is directed into one of the pipes and withdrawn from the other. A like header pipe, not shown, may also pass through the box with an appropriate separable connection to the barrel for supply of gas under pressure, e. g. carbon dioxide or air, as usually required. Although various other arrangements can alternatively be used for introduction of the water and gas lines, for instance simply in the form of nipples (for hose attachment) extending through a side or back portion of the enclosure (as for single or separated boxes), the mounting of the continuing header pipes lengthwise of the rear wall of the box facilitates connection of successive boxes in a lateral array, to be served by cooling water traversing the individual pipe lengths in succession.

All of the walls of the body portion and cover portion, and preferably also the base structure 20, are constructed of suitable thermal insulating material. While a variety of other wall structures may be employed for such purpose, the apparatus shown has each such wall constituted by

a central, relatively thick sheet of rigid, cellular insulating board 52, faced inside and out with thin sheets 53, 54 of relatively waterproof or impervious sheet material. Although the covering layers 53, 54 may in some cases be made of metal, sheet material such as the well known hard composition board made of compressed comminuted wood is particularly suitable, as having a rather low heat conductivity and yet being sufficiently durable to withstand hard use. The base 20 may include a panel of insulating board 56, preferably faced, for extra durability, with metal such as the upper plate 23 and an under plate 57. Thus as stated, each of the walls (including the base) 15, 16, 17, 18 and 20 of the body portion, and likewise the walls 28, 29, 30 and 31 of the cover portion are all constructed of durably sheathed thermal insulation.

It will be particularly noted that the meeting edges of the cover and body portions by preference lie in a single, continuous plane (except for the hinge-lug structure at the bottom) having no flanges or inter-engaging parts. Thus the edges may abut flatwise together in perfect alignment. Preferably a continuous gasket 58 (Fig. 5) of soft rubber or the like may extend all around the face of one edge, as on the cover; in consequence the abutting edges afford a highly effective thermal seal when the latches 34 are drawn up to pull the cover tightly against the body. At the same time, it is not necessary for the attendant to exercise any special care in fitting the cover in place, otherwise than to seat recessed portions 36 of the bottom edge in the lugs 33; nor is the close fit of the cover and body impaired by dents or other disfiguration of the meeting edges, as might be the case when flanges or grooves are bent out of alignment by rough usage.

The described structure affords a peculiarly convenient and efficient device for holding a refrigerated metal keg, to retain it in dispensing position, to avoid undue condensation or sweating, and to conserve refrigeration. For insertion of such a barrel, the latches 34 are released and the cover portion 12 is moved out and entirely away from the body portion 10. The barrel 14 is then moved up, in any manner customary for handling such objects, and with practically no lifting, is put in place on the skids or tracks 23 within the box. Before it has been fully moved in, the tap rod 38 can be inserted through the usual tap bush, whereupon the barrel is finally pushed into place so that the rod 38 seats in the notch 40; or if different draught arrangements are utilized, they can be connected with equal ease. Other necessary connections are made, including attachment of the hoses 48 to the coolant outlets 46, 47, placing the barrel on circulation, so to speak, for the desired cooling action. All that is finally necessary is to place the single bottom edge of the cover 12 in place, i. e. with its recesses in mating relation to the lugs 33; the cover is then swung forward against the body and the latches 34 are engaged and tightened. As soon as the contained brew has been cooled to the desired point it may be dispensed in the usual manner and no further attention to the interior of the box is required until it is desired to remove the barrel and replace it with another.

The operation of removing the barrel is equally simple, being essentially the reverse of the sequence described above and again requiring neither special care on the part of the attendant nor undue exertion in taking the barrel out of the box. The complete removability of the cover 12 is a feature of special value, since it may be placed to one side and thus safe from damage as a barrel is inserted or withdrawn. Permanently hinged doors or the like are apt to be objectionable, since they tend to swing into the path of the heavy barrel or otherwise to be struck or engaged by the latter as it is pushed into or out of the enclosure; blows of such character often result in misalignment or worse damage of permanently hinged parts.

By virtue of the sloping arrangement of the parting line between the body and cover, the insertion and removal of a barrel is greatly facilitated. It may be reached manually from above at all times, so as to permit a much easier loading or unloading operation than where a barrel must be inserted all the way under an overlapping top. Furthermore the attachment of the cooling connections, and the insertion of the tap rod or completion of other tap connection are very simple to do. Where the box is to be used with a rod or rigid tube 38 rising directly from the barrel and where notches 39, 40 are provided at the parting line between the top portions 18—19 to accommodate such rod at the central or other location in which it occurs, the illustrated device also affords very simple means for access of such a rod.

Since the walls of the box are insulated and since its interior is relatively closely sealed (except, perhaps, for slight clearance around the tap rod 38, through which little, if any, warm air is apt to descend) economical and efficient cooling are promoted, circulation of moisture-laden air around the metal barrel is prevented, and there is practically no sweating of the latter. Although the structure is shown as holding a metal barrel and is of peculiar advantage in combination with such containers, it may also be employed for wooden kegs, with which it affords a useful, protective, and efficiently insulating enclosure. Nevertheless, as explained, the apparatus is especially suitable for metal containers of beer and other brews, e. g. aluminum, standard steel and stainless steel barrels, and fully accomplishes all of the stated objects.

It is to be understood that the invention is not limited to the specific structures herein shown and described, but may be embodied in other forms without departure from its spirit.

I claim:

1. A dispensing box for removably receiving a refrigerated barrel, comprising a completely thermally insulated, upright box structure adapted to enclose a barrel completely, said structure including a body portion having a top part, side wall portions, a rear wall and a base part having skids adapted to receive a barrel in upright position, with the barrel seated on said skids and without substantial elevation of the bottom of the barrel from a floor upon which the box structure may be located, said body portion having its base part extending from the bottom of said rear wall to the front of said box and having its side wall parts shaped to be coextensive with said base part at their lower edges, said body portion being open along a parting plane which includes the front edge of said base part and extends upwardly and rearwardly therefrom making an acute angle with the vertical, the top of said body portion extending from the top of said rear wall to said plane, and a removable unitary cover portion having a front wall, side wall parts and a top part, said cover portion being shaped to have a single lower edge at the bottom of its

front wall, said cover portion further being open along a parting plane which extends upwardly and rearwardly from said lower edge, said cover portion, at its parting plane, conforming with the body portion, and being thereby adapted to be placed laterally against the opening of the body portion to close the box, means including separable hook and latching means for securing said body and cover portions in sealed relation to each other, and means extending into the box for cooling an enclosed barrel, said body and cover portions being cooperatively shaped to enclose a barrel with said barrel disposed in accessible relation upon removal of the cover portion, and said body portion being open over its entire vertical extent, to the bottom, when the cover portion is removed.

2. The dispensing box described in claim 1, in which the top parts of said body and cover portions are disposed for mutual engagement along a line intermediate the top of the box structure,

said top parts having notches at said line, disposed in registration with each other, for passage of a tap rod to extend from an enclosed barrel.

ARTHUR HERBERT PATCH.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
Re. 19,361	Clifford	Nov. 6, 1934
196,297	Hovey	Oct. 23, 1877
270,564	Galland	Jan. 9, 1883
1,193,809	Mauk	Aug. 8, 1916
1,582,823	Jones	Apr. 27, 1926
1,980,945	Smith	Nov. 13, 1934
2,031,908	Sawin	Feb. 25, 1936
2,252,173	Gibson	Aug. 12, 1941
2,260,958	Tomson	Oct. 28, 1941