Feb. 15, 1966 E. D. MYERS 3,235,062

STORAGE CONTAINER FOR LABORATORY WEIGHT SETS

Filed June 20, 1963 2 Sheets-Sheet 1

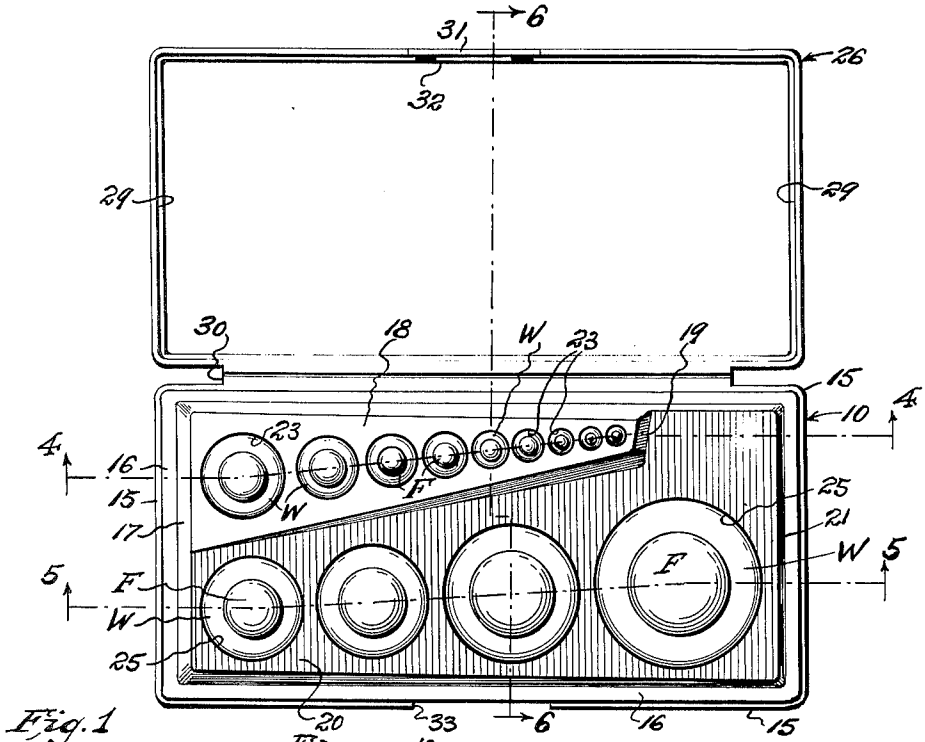


Fig. 1

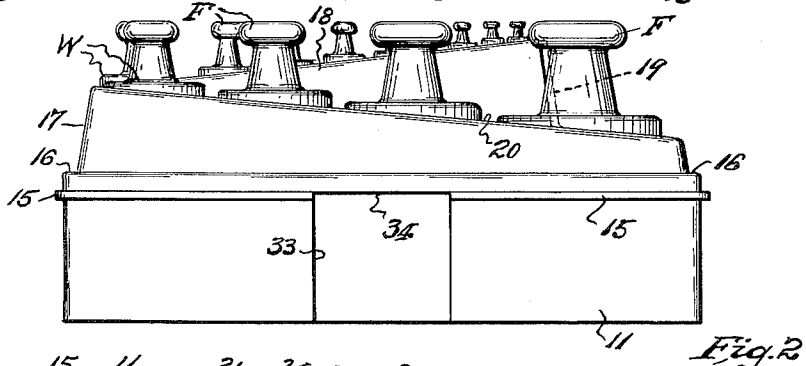


Fig. 2

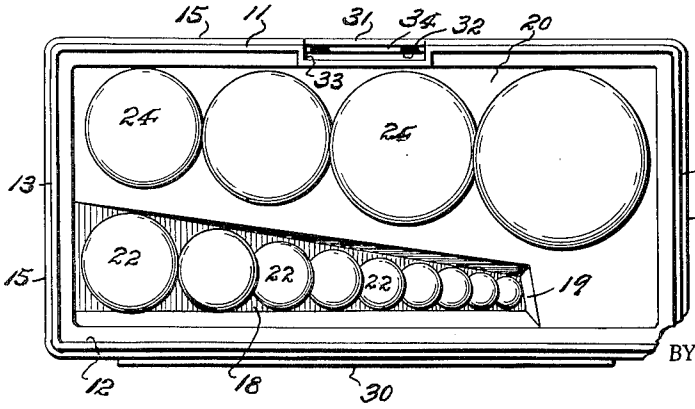


Fig. 3

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STORAGE CONTAINER FOR LABORATORY WEIGHT SETS

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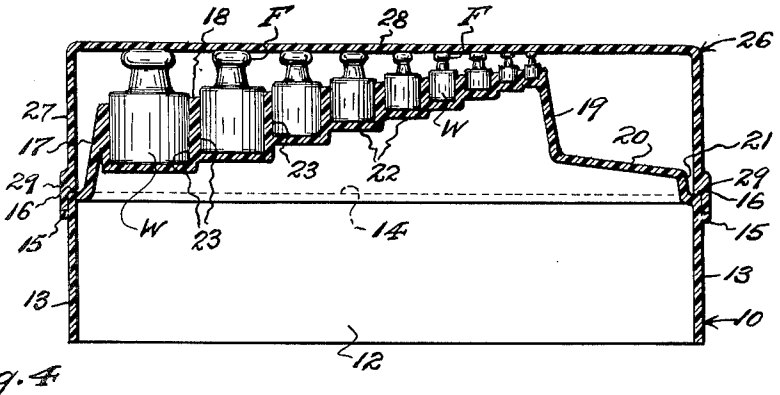


Fig. 4

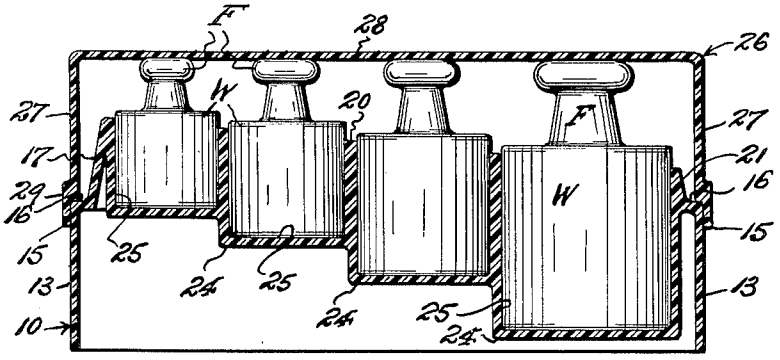


Fig. 5

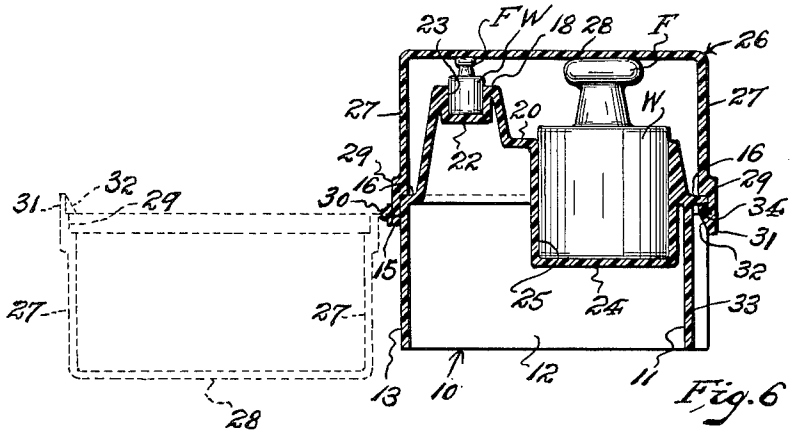


Fig. 6

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3,235,062
STORAGE CONTAINER FOR LABORATORY WEIGHT SETS

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This invention relates to improvements in storage containers for laboratory weight sets.

Laboratory weights are usually provided in sets comprising a plurality thereof ranging in size, by varying steps, from a minimum size affording a single unit of selected weight indication to a maximum size affording a desired multiple of the selected weight units. The weights may be indicative of weight units of selected metric or avoirdupois standards. For example, the sets may be indicative of weights in grams ranging from one gram to one thousand grams, more or less. Each weight includes an upstanding finger piece at its upper end by means of which the same can be conveniently handled in use.

It is an object of this invention to provide a storage container for holding such weight sets subject to removal of individual weights therefrom when use thereof is desired, and, when not in use, to securely retain the weights within the closed container against displacement from stored positions therein, in the event of upsetting, dropping, or other accidental displacement of the container from a normal disposition.

Within the scope of this invention, the container may, broadly, comprise a body section and a cover section, the latter being either separable from the former or suitably hinged thereto, and may be formed from either thermosetting, thermoplastic or other suitable material.

To hold the set of weights within the closed container against displacement, it is an object of this invention to provide the container with a body section having a horizontal top wall that is formed to include at least one longitudinally extending ramp that is upwardly offset relative to the top wall of said body section and is shaped to incline upwardly from one end of said top wall (e.g. the left end, as shown), said ramp having a succession of dependent weight receiving wells or sockets sized to accommodate selected sizes of weights in such disposition that the extremities of their finger pieces will be disposed in a common horizontal plane, whereby they are adapted to impinge the underside of the container cover section, when the latter is closed relative to the body section, and thus to be held by the closed cover section against displacement from their stored positions. Said body section can be further provided with a second longitudinally extending ramp upstanding from said body section top wall and shaped to incline downwardly from the same end of the body section top wall and parallel to said first mentioned ramp, said second ramp also including a succession of dependent weight receiving wells or sockets sized to accommodate other selected sizes of weights in such disposition that the extremities of their finger pieces will also be disposed in the same horizontal plane as that in which the finger pieces of the aforesaid first mentioned weights are disposed and thereby likewise adapted to impinge the underside of the cover section, when the latter is in closed condition relative to the body section, and thus also to be held by the closed cover section against displacement from their stored positions.

More specifically, it is a further object of this invention to form the container sections from a thermoplastic material, such as polypropylene, wherein the cover section is integrally hinged to the body section so as to provide a one-piece molded structure, and whereby the resultant one-piece container will possess good impact strength; will

withstand high temperatures, e.g. in excess of 250° F.; will have very low moisture absorption characteristics; and will be resistant to most acids and alkalis. Such one-piece molded construction being adapted to be produced at a considerable savings in cost and labor.

The above stated and other objects will become apparent from a reading of the following description of an illustrative embodiment of this invention in connection with the accompanying drawings thereof, in which drawings:

FIG. 1 is a top plan view of a storage container for laboratory weight sets according to this invention, the container being shown in open condition with the weights occupying their stored positions therein; and FIG. 2 is a front elevational view of the same.

FIG. 3 is a bottom plan view of the container in closed condition.

FIG. 4 is a longitudinal vertical sectional view, taken on line 4—4 in FIG. 1, but showing the container in closed condition; FIG. 5 is a similar view, taken on line 5—5 in FIG. 1; and FIG. 6 is a transverse vertical sectional view, taken on line 6—6 in FIG. 1, but showing, in full lines, the cover section closed, and, in broken lines, the cover section open.

Like characters of reference are applied in the several above described views, to indicate corresponding parts.

Referring to the drawings, the container comprises a downwardly open rectangular hollow body section 10 bounded by a front wall 11, a back wall 12, respective end walls 13, and a top wall 14. Suitably spaced below the top wall 14, to extend around the body section 10, is an externally projecting stop flange 15. Between this stop flange 15 and the top wall 14, the body section 10 is formed to provide a male rabbet shoulder 16.

Inwardly of the rabbet shoulder 16, to project upwardly from the top wall 14 at one end of the body section 10 (as shown, the left end), is a forward transverse ramp end wall 17 of suitable height. Extending from said forward ramp end wall 17 is an upwardly inclined hollow ramp 18 for accommodation of a succession of relatively small weights. This upwardly inclined ramp 18 terminates in an upwardly projecting rear end wall 19 of greater height than said forward end wall 17. This ramp 18 extends longitudinally adjacent to one side of the container body section 10, and narrows in width from its forward end toward its rearward end.

Parallel to the ramp 18, to extend longitudinally from said left ramp end wall 17, along the opposite side of the container body section 10, is a second downwardly inclined hollow ramp 20 for accommodation of a succession of relatively large weights. This ramp 20 terminates in an upwardly projecting rear end wall 21 of less height than said forward end wall 17 and that is disposed inwardly of the rabbet shoulder 16 at the opposite end of the container body section 10.

Dependent from the top wall of the upwardly inclined ramp 18 are a succession of upwardly open well members 22, which provide weight receiving sockets or chambers 23. These sockets or chambers vary in size, i.e., in diameters and depths, according to respective body sizes of relatively small weights to be removably supported therein; the succession thereof terminating at the high rear end of the ramp in one sized to accommodate the smallest weight.

In like manner, dependent from the top wall of the downwardly inclined ramp 20 are a succession of upwardly open well members 24 which provide weight receiving sockets or chambers 25, that vary in size, i.e., in diameters and depths, according to respective body sizes of relatively large weights to be removably supported therein; the succession thereof terminating at the low

rear end of this ramp in one sized to accommodate the largest weight.

Each weight of the set thereof, desired to be stored in the container, comprises a preferably but not necessarily cylindrical body W of selected lateral and height dimensions adapted, with its finger piece F, to provide a desired weight value. The finger pieces F project freely upward from the ramp tops and are desirably proportioned to the mass of the weight bodies, both in size and height, whereby when the weights, comprising the set thereof, are deposited in the appropriate sockets or chambers **23** and **25** of the respective ramps **18** and **20**, the upper free ends or extremities of said finger pieces F will all be aligned in a common horizontal plane that is suitably spaced above and parallel to the top wall **14** of the container body section **10** (see FIGS. 2, 4, 5 and 6).

To normally close the body section **10**, the container is provided with a downwardly open hollow cover section **26** comformable to said body section, the same comprising side and end walls **27** and a horizontal top wall **28**. Formed in connection with the free margins of said cover side and end walls **27** is a female rabbet shoulder **29** which, when the cover section is closed, telescopes over the male rabbet shoulder **16** of the body section **10**, to close upon and abut the stop shoulder **15** of the latter. The depth of the hollow cover section **26** is such that, when closed upon the body section **10**, its top wall **28** will impinge upon the horizontally aligned free ends or extremities of the finger pieces F of the weights W as stored in the body section **10** (see FIGS. 4, 5 and 6). It will therefore be obvious that when the cover section **26** is closed, it will retain the set of stored weights W against displacement from their stored positions, in the event of upsetting, dropping or other accidental displacement of the container from a normal standing disposition.

It will be obvious that the container of this invention may be molded or otherwise produced from either thermosetting, thermoplastic or other suitable material, and that the cover section **26** may be either separable from the body section **10**, or suitably hinged to the latter. When the cover section is hingedly connected to the body section, suitable means may be provided, if desired, for releasably latching the former to the latter in closed relation thereto.

From the standpoint of involving minimum expense in production of the container, it is desirable and a specific object of this invention to produce the container in a one-piece structure, including a hinging means between and integral with the cover and body sections. To this end, the container, as a whole, can be molded, by a single operation, from a thermoplastic material, such as polypropylene. In such case, the molding operation is designed to produce a flexible and foldable hinge leaf or connection **30** between rear meeting edges of the body section **10** and cover section **26** (see FIGS. 1, 3 and 6). Not only does such thermoplastic material, such as polypropylene, afford a material suitable for the desired one-piece molding production, but such material also provides desirable characteristics of good impact strength; ability to withstand high temperature in excess of 250° F.; low moisture absorption; and resistance to most acids and alkalis.

When the container is produced in the one-piece molded thermoplastic structure above described, a means for releasably latching the closed cover section **26** to the body section **10** may comprise a flexible latch leaf **31** depending from the forward edge of the cover section; this latch leaf having inwardly projecting chamfered latch nosing means **32** at its lower free end. The front wall of the body section **10** and the associated stop flange **15** is indented to provide a recess **33**. This recess terminates, at its top end, in an exposed latching shoulder **34**, that is adapted to be releasably engaged by said latch nosing means **32**, when the cover section **26** is closed upon the body section **10** (see FIG. 6). This latching means is illustrative, therefore any other suitable form or design of latching means may be provided.

Having now described my invention, I claim:

1. A container containing a set of laboratory weights of graduated weight indicating size and of graduated diameter and height having straight-sided body portions and upstanding finger pieces, said container comprising a downwardly open hollow body of one piece molded construction having a horizontal top wall and sides extending downwardly from the periphery of said top wall, the lower edges of said sides serving as a base for said container, at least one inclined ramp upstanding from said top wall and having a plurality of dependent upwardly open straight-sided weight receiving wells therein of graduated diameter and depth, each of said wells corresponding in size to one of said weights and receiving said weights in sliding fit therein, the bottoms of said wells being disposed at relative levels such that the free extremities of the finger pieces of the weights of graduated height will be disposed in a common horizontal plane when said weights are stored in their respective wells, said wells being arranged in said ramp in progression according to size with the largest and deepest well located at the lower end of the ramp and the smallest and least deep well located at the upper end of said ramp, whereby due to the incline of said ramp each of said wells encompasses substantially the entire body portion of the weight stored therein, and a downwardly open hollow cover closeable over said body, the top wall of said cover impinging upon the finger pieces of said stored weights to retain said weights against displacement from their normal stored positions within said wells of the ramp.

2. A container according to claim **1**, wherein the body and cover are molded from a thermoplastic material to provide a one-piece structure including a flexible foldable hinging connection between said body and cover.

3. A container according to claim **1**, including means to releasably latch the cover in closed relation to the body.

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