April 21, 1942. N. BECK ET AL 2,280,519

CONTAINER AND HOLDER FOR AIR GUNS

Filed Jan. 23, 1940

Fig. 1

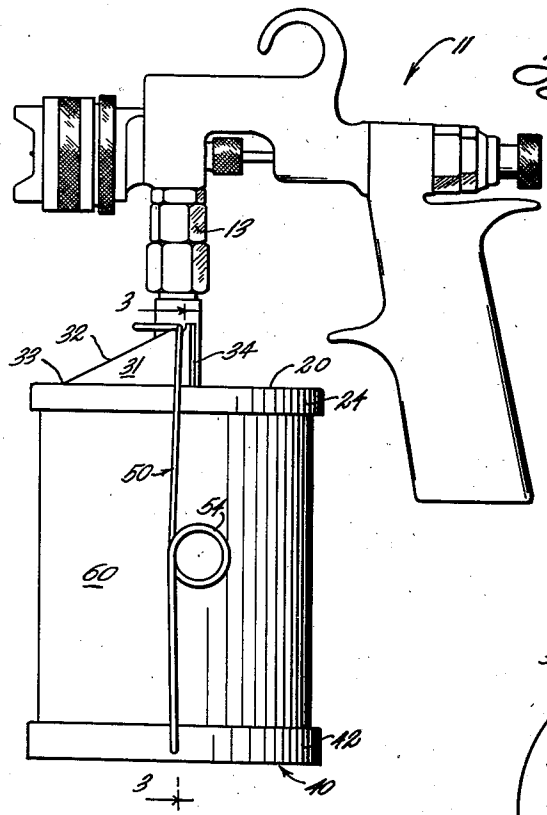


Fig. 2

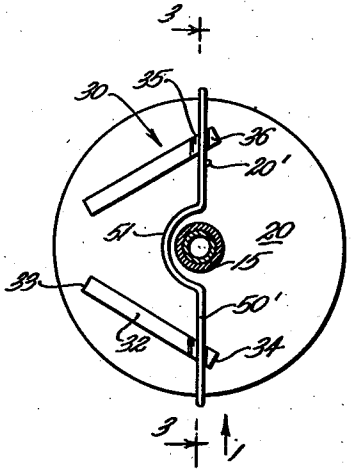
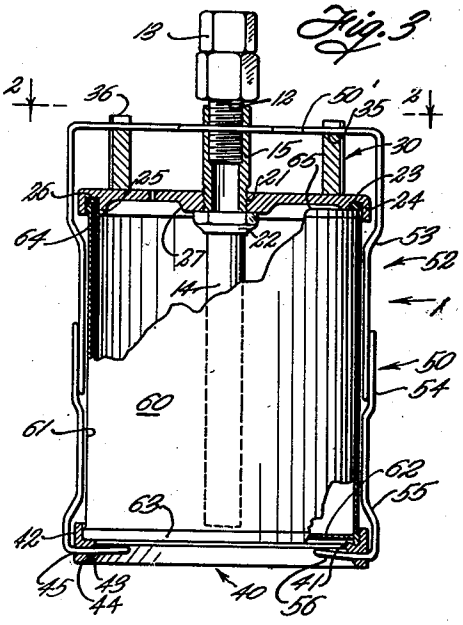


Fig. 3



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CONTAINER AND HOLDER FOR AIR GUNS

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4 Claims. (Cl. 220—25)

Our invention relates to an assembly with an air paint gun featuring a holder and a special type of paint container used therewith. Our invention pertains to the suction type of paint spray gun in which a paint suction tube or pipe extends through a cover into a paint container, hence by the suction created by an air flow the paint is removed from the container and by the usual and conventional spray equipment applied to the surfaces to be coated.

In the practical use of this type of air paint spray gun or so-called air brush, certain problems arise such as in the usual apparatus cleaning the paint containers or cans in order to use different colors or types of paint in the same container. Another problem is in large shops taking care of the large number of different colors and shades of paint which have been un-used in particular jobs and in the usual practice removed from the container associated with the air gun and stored for further usage at some future time. A further objectionable characteristic to the present type of containers is that these are quite expensive and unless the painter relies on cleaning these frequently to change a color of paints, it is necessary to have on hand a relatively large number of quite expensive containers. Another objection to the usual type of container is that this is much heavier and the equipment for attaching the same to the air gun is also much heavier than necessary to support the weight of a suitable vessel and the paint therein. Certain of the objects and features of our invention is the attempt to solve all of the above specifically identified problems and others rising in painting with the air brush type. To this end our construction includes a support and attaching means for paint containers by which the containers or paint vessels can readily and quickly be attached to the air gun and after completion of work the container removed therefrom. Further, the construction of the holder and the attaching equipment is such as to allow use of a very inexpensive type of container. In fact, containers which are ordinarily waste material may be utilized. Hence, our invention provides for the use of empty cylindrical type containers with the usual closure head at one end cut out providing an open top to engage the underside of the cover attached to the paint gun. This improvement allows use of the ordinary empty tin cans of a suitable diameter and heighth such as a proper size of the conventional canned vegetable container or the cans used for dispensing lubricating oil and many other types.

Therefore by the provision of equipment for using containers of which the cost is negligible, there is no necessity of cleaning a can to use another or different color paint therein, a new can being used for every different color or type of paint and if desired, the old cans when empty being discarded. Further, by our invention the retaining and storing of the left-over paints is satisfactorily taken care of by leaving the remaining portions each in its own tin can. These can be properly labelled and stored indefinitely for even if a paint scum forms on the surface, the paint remains a good quality after this film is removed. A further result in economy by the use of our equipment resides in combining of colors to secure the correct shade of a particular paint job for when the former remaining colors have been kept in the tin cans properly labelled, even if the amount is insufficient to complete a particular job, nevertheless it is much simpler to secure the correct shade when the painter has a sample of such shade in the already mixed paint.

It will therefore be seen that by the use of our invention there is not only a material saving in the cost of the containers but also in the time of the painter usually devoted to cleaning the present type of paint vessels and in addition a decided saving in the quantity of cleaner liquid utilized. In fact, with our invention no cleaner need be used on the cans and the only amount required is for cleaning the paint gun at the end of a day's job.

Another characteristic of our invention from the mechanical standpoint is that it requires an addition to the cover attached to the paint gun, the holder or base to receive the canister and resilient straps to attach the holder base to the top or cover. In this connection the holder base is preferably made in the form of a ring with an inturned shoulder engaging the lower peripheral edge of a cylindrical can. The cover which is attached to the paint gun is provided with wedge surfaces and the resilient straps which are pivoted to the holder ring have an upper section engaging the cam or cams so that these straps may readily be tensioned and thus confine a paint can between the holder and the top. As a further detail facilitating the placement and removal of the paint can, the straps are preferably pivoted to the holder ring by having the lower ends pivotally connected thereto. Such straps have a coil forming a spring and at the

top a horizontal cross member to engage the cam or cams. A further detail feature resides in providing these cams on the cover with a uniform upward slope, the cams preferably converging towards one side of the cover and then at the top having a slight recess to engage the horizontal section of the straps. This facilitates centering the straps as to the cam or cams and the device is operative whether or not there is a correct centering.

Our invention is illustrated in connection with the accompanying drawing, in which:

Fig. 1 is a side elevation taken in the direction of the arrow 1 of Figs. 2 or 3.

Fig. 2 is a horizontal section on the line 2—2 of Fig. 3 thereby showing the cover and cams in plan.

Fig. 3 is a vertical section on the line 3—3 of Fig. 1 in the direction of the arrows.

In the illustrations the spray paint gun 11 may be of any standard and conventional type. These are usually provided with a nipple 12 extending downwardly with threaded couplings 13 for attachment to the body of the air gun. The particular form of attachment varies considerably in different makes but may readily be adapted to our construction. The suction tube 14 which extends into the point container is illustrated as attached to or formed integral with a coupling tube 15 connecting to the nipple 12.

In our invention we employ a cover or lid 20 having an air vent 20'. This is illustrated as being substantially flat on the main portion of its upper surface and having internal threads 21 to which the connecting pipe 15 is threaded and secured in place by a lock nut 22. An annular gasket receiving space 23 is formed between the downturned external rim 24 and the internal annular shoulder 25. This therefore gives an annular space for a gasket 26 of the desired thickness and width. There may be a central boss 27 if desired to give additional strength at the center. Either formed integral or attached to the cover are cams 30. These are illustrated as formed of small triangular blocks 31, the bottom edge either being formed integral or attached to the upper surface of the cover 20. Each of these has a similar construction with a straight sloping upper surface 32 merging at the lower end 33 with the top of the cover and having a verti cal rear edge 34. A notch or recess 35 at the upper end of each cam is designed to form a seat for the strap hereunder detailed, there being an upwardly extending nub 36 adjacent the edge 34 to restrain the movement of the straps past the notches 35.

The holder base 40 is preferably made in the form of a ring provided with an internal upwardly sloping shoulder 41, an outer upwardly extending rim 42, there being a bevel 43 on the inside surface terminating at the base edge 44. There are two diametrically opposite perforations extending slightly upwardly indicated at 45 located below the shoulder 41.

The holder straps 50 are preferably made of spring wire in the form of a yoke with an upper horizontal section 50', an outward bowed portion 51 at the center, the side straps 52 extending over the edge or periphery of the rim 24 of the top 20 having a slight clearance. There is an inset bend 53, a spring coil 54, a slight outward bend 55 adjacent the lower end having a clearance in regard to the rim 42 of the holder 40. The lower ends of the straps are bent inwardly and form pintles 56 extending through the perforations 45. On account of these perforations being sloped slightly upwardly the pintles are thus inclined and thus tend when under stress to hold in a snug position in reference to the base and the top or cover. The straps must be sufficiently long and the cams of sufficient height so that the straps may rotate on their pintles with a sufficient clearance for the horizontal upper portion 50' to clear the edge of the top 20.

The paint vessel 60 which is suitable for our purpose may be of a suitable size of the conventional receptacle used for canned vegetable, fruit or other produce. These have a cylindrical wall 61, a bottom 62 secured to the sides by a bead 63, both ends being secured in the same manner but when the end is cut out by the shearing type of can opener, it leaves a clean inner edge 64 at the top 65, the bead which is severed from the top being on the outside of the cylinder, thus giving sufficient strength to the upper edge of the container. With the use of this construction therefore, the lower beaded edge may be placed in the holder 40 having a sufficiently close fit. The upper edge engages the gasket 26, the straps 50 with the yoke are then rotated on the pintles 56, the horizontal sections sliding upwardly on the two cam surfaces 32 until engaging in the notches 35. The resiliency of the straps then retains the holder base and the canister in the desired position forming a paint tight joint. The coils or spring portions 54 are the main parts of the straps which develop the resiliency, however there is also a certain amount of stretch provided by the bends 53 and 55 in the upright part of the straps and also in the horizontal section 50' at the top. It is manifest therefore that should there be any wear in the cams or should the canisters be of slightly different height that the use of different thicknesses of gaskets will afford a paint tight seal for quite a variation in the vertical height of canisters. It is of course obvious that our invention is not restricted to the use of the particular discarded type of container above mentioned, but where desired may be used with a conventional press type of paint can top in which when this top is removed the upper edge will fit the gasket space.

Various changes may be made in the details of the construction without departing from the spirit or scope of the invention as defined by the appended claims.

We claim:

1. In a device as described having a vented cover, a tube extending therethrough and an annular gasket positioned on the lower side of the cover combined with an annular holder base having an annular shoulder to engage and center the circular bottom of a paint can, a pair of cams sloping upwardly from the upper surface of the cover and secured thereto, said cams sloping upwardly and in diverging relation to each other and terminating with stop means positioned in a diametric line with respect to the cover means, a resilient yoke having a pair of straps, means pivoting said straps to opposite parts of the holder base, the yoke having a transverse section at the upper end of the straps adapted to engage the said cams and ride upwardly thereon to the limit of the said stop means, the yoke in its pivoting having a clearance between the sides of the can and the peripheral edge of the cover whereby a paint can may have its upper open edge engage the said gasket and be retained in position between the base and the cover.

2. In a device as described having a vented cover, a tube extending therethrough, means on the lower side of the cover to receive a gasket combined with the cover having a pair of upwardly sloping cams on the cover each having a notch at their upper portions, the notches being arranged on a diameter of the cover, a base holder having means to engage and center the bottom of a container, a yoke formed of wire having an upper transverse section and a pair of depending straps, means pivoting the straps to diametrically opposite sides of the base holder, the straps having a spring incorporated therein, the transverse section extending between the upper ends of the straps and being adapted to ride upwardly on the said cams and to engage in the said notch to thereby mount a container between the base and a gasket on the underside of the cover.

3. In a device as described a cover for a container having an under-surface with a gasket to engage the upper edge of the container, the upper surface having a pair of cams sloping upwardly from adjacent one edge and diverging at the upper portions one from another with means forming a stop at the upper ends of the cams, the stops at the upper ends of the cams being arranged on a diameter of the cover, the base having means to engage the bottom of a container and to center such container, resilient attaching means pivotally connected to the base and having means to engage the cams, the two cams producing a stretch in the attaching means and such attaching means having a clearance at the periphery of the cover whereby the container may be tightly clamped between the cover and the supporting base.

4. In a device as described a cover for a container having a tube extending downwardly therethrough and an air vent, the cover on its undersurface having a gasket combined with a pair of cams on the upper surface of the cover, such cams sloping upwardly from adjacent one edge of a cover and diverging from the center of the cover, the highest points of the cams being on a diameter line, there being a stop means on each cam adjacent the upper portion, an annular base with means to engage and center the bottom of a container, a yoke having a pair of resilient straps, means pivotally connecting the straps at their lower ends to the base, the yoke having a transverse section at the upper ends of the straps to engage the cams, the transverse section being adapted to slide on the cams in movement to the high point and to the said stop, the high point of the cams engaging the transverse section of the yoke closely contiguous to the two straps, such straps having a clearance in a pivoting movement at the sides of the cover.

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