March 20, 1951 C. SANDS 2,545,531

GREASE GUN FILLER WITH SPRING BIASED EXPANSIBLE FOLLOWER

Filed Nov. 2, 1949

FIG 1

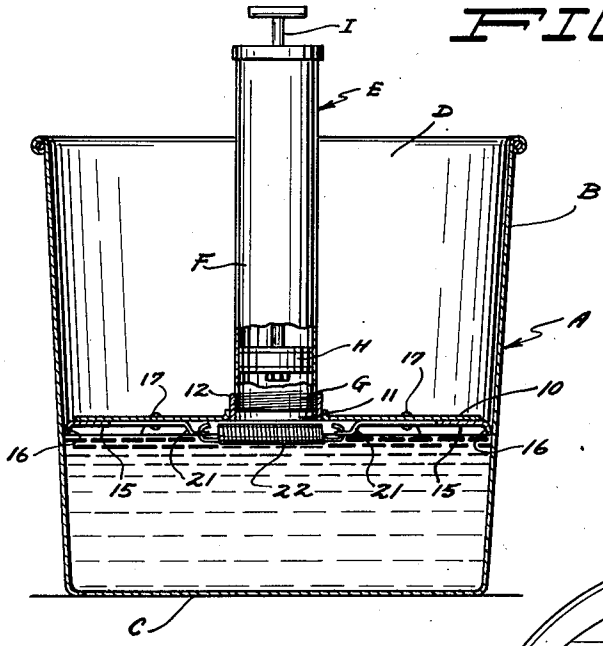


FIG 3

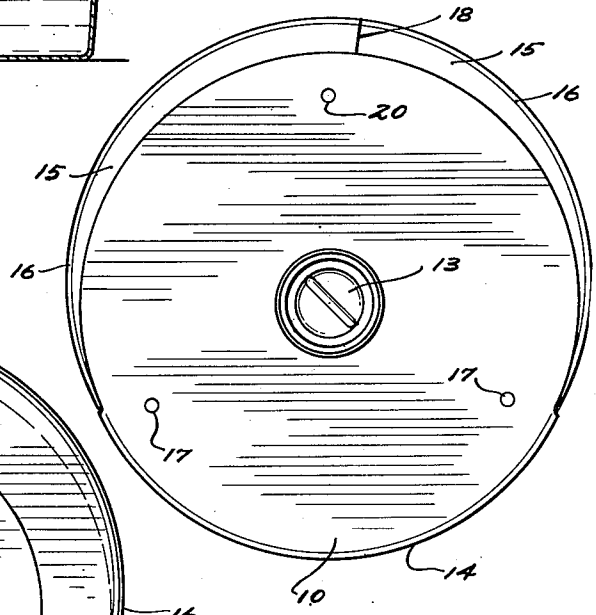
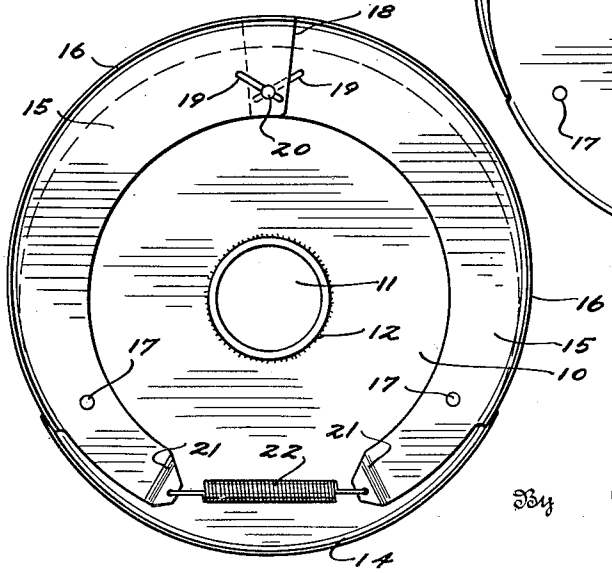


FIG 2



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Patented Mar. 20, 1951 2,545,531

UNITED STATES PATENT OFFICE

2,545,531

GREASE GUN FILLER WITH SPRING BIASED EXPANSIBLE FOLLOWER

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Application November 2, 1949, Serial No. 125,007

5 Claims. (Cl. 226—125)

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My invention presents improvements in devices for filling conventional grease guns, so widely used for greasing machinery of all kinds, from the pails in which the grease is usually supplied.

To the present time, there has been no really practical and universally applicable means for filling such guns from the grease pails, although many expedients have been proposed and some used to a certain extent. Probably the best means thus far provided consists of a plate which may be placed in the grease pail, with an opening on which the open end of the gun may be placed while the gun handle is pulled up on a suction stroke to draw the grease into the gun barrel through said opening. The plate acts as a follower to prevent grease from getting onto the gun barrel and on the hands and the plate is intended to wipe the inside wall of the pail of grease as the plate descends and the grease is used up. But it is found in actual practice that the plate will not fit many pails, will not work in pails which have been dented as is so often the case, will not work in pails which are tapered, and many times the plate will sink of its own weight into the grease, particularly where the grease is of a light consistency.

It is accordingly the primary object of my invention to provide an improved device of this nature which is self-adjusting to grease pails of varying size, within limits, of course, and which will work with facility in grease pails having the usual dents in their side walls.

Another object is to provide a device for the purposes stated which will operate with a constant wiping or scraping effect on the pail walls as the grease is used up and which will work on tapered pails which gradually diminish in diameter toward their bottoms.

Still another object is to provide a grease gun filler which is completely foolproof and embodies spring biased expanding elements which not only make it accommodate itself to pails of differing sizes, but ensure a wiping or scraping action on the pail walls and hold the device frictionally in place so that it will not sink into the grease.

These and other more detailed and specific objects will be disclosed in the course of the following specification reference being had to the accompanying drawings, in which—

Fig. 1 is a vertical sectional view through a grease pail with the grease therein partially used, showing my invention in use for filling a grease gun.

Fig. 2 is an inverted plan view or bottom view, on a larger scale, of the device making up my invention.

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Fig. 3 is a top plan view.

Referring now more particularly and by reference characters to the drawing, A designates a conventional grease pail having a cylindrical wall B extending upwardly from a closed bottom C and with an open upper end D. The upper end of the pail is usually closed by a removable cover which is here not shown, a conventional grease gun is also shown, designated generally at E, and said gun includes a cylindrical barrel F having a filling end G exteriorly threaded as indicated. When in use the filling end of the gun is closed by the usual discharge cap (not shown) but, for filling, such cap is, of course, removed. The gun also includes the usual plunger H which may be reciprocated by a plunger or handle I for ejecting the grease when the gun is in use, or for pulling up the plunger to draw in a charge of grease through the filling end when the gun is being filled, all as will be understood and as is well known to those skilled in the art. The grease pails A many times are tapered, that is, decrease in diameter downwardly, as here shown, and almost invariably the wall B is more or less dented.

My invention comprises a generally circular plate 10 of metal or the like, centrally of which there is formed an opening 11 with an upstanding tapped collar 12 into which the threaded end G of the grease gun barrel may be screwed. When not so in use, the opening 11 may be closed by a plug 13 screwed into the collar as shown in Fig. 3. As best shown in Fig. 2, the plate 10 has a marginal flange 14 around approximately a third of its periphery, this flange depending downward from what in use is the lower side of the plate.

The plate 10 is smaller in diameter than the smallest grease pail it is to fit, it being understood, of course, that the plates may be made in a number of sizes to fit pails of markedly different sizes, and within reason the device will then fit a number of pail sizes. I find that conventional grease pails vary in diameter over the country, due largely to the fact that the pails are manufactured at different points to take care of the trade over certain well defined geographical and trade areas.

Associated with the plate 10, in order to fit it to the grease pails, is a pair of expander elements or wings 15 each having marginal flanges 16 and being arcuate in shape. Adjacent one end each, expander element 15 is pivoted at 17 to the plate

10 while at their opposite ends the elements overlap, as seen at 18 and are angularly (or arcuately) slotted at 19 to slidably engage a headed rivet 20 on the plate. The pivoted ends of the expander elements are extended beyond the pivots themselves and bent downwardly away from the plate at 21 and apertured to engage the ends of a retractile coil spring 22. It will be noted that the pivots 17 and rivet 20 are all spaced apart about one-third around the plate and that the flanges 16 extend inside the ends of the flange 14.

The spring 22, by drawing the ends of the expander elements together, expands their opposite ends as will be understood, swinging them about their pivots, and the flanges 14 and 16 thus form a larger circle than the plate 10 itself. To then put the device to use, the expander elements are forced in and the device inserted into the pail with the flanges downward, the spring immediately expanding said elements, causing the flanges all to engage the inside of the pail with a frictional, self-adjusting fit, which will obviously accommodate itself to irregularities such as dents, etc. in the pail wall. The frictional engagement is further such that the device will not sink into the grease, and when the grease gun is to be filled, it may be screwed into the collar 12 and grease readily pulled into the gun barrel without getting it on the gun itself. The accommodating or compensating action of the spring biased expanders makes the device perfectly usable in tapered grease pails and, as to the desirable scraping or wiping action which cleans the inside walls of the pail of grease, as the device descends therein, this is facilitated not only by the spring bias in the expander but by the fact that the flanges 14 and 16 interfit immediately adjacent the pivots 17 about which the expanders swing so that no gaps result between the flanges.

It is understood that suitable modifications may be made in the structure as disclosed, provided such modifications come within the spirit and scope of the appended claims. Having now therefore fully illustrated and described my invention, what I claim to be new and desire to protect by Letters Patent is:

1. A device for filling a grease gun from a grease pail, comprising a plate adapted to fit into the pail and having an opening and means for holding the grease gun while grease is drawn up from the pail through said opening, and spring urged expander elements mounted on the plate and operative to automatically adjust and compensate the effective diameter of the device according to the size of the pail, the said expander elements being pivoted adjacent one end to the plate and having slots at their opposite ends, and rivet means on the plate in said slots.

2. A device for filling a grease gun from a grease pail, comprising a plate adapted to fit into the pail and having an opening and means for holding the grease gun while grease is drawn up from the pail through said opening, and

spring urged expander elements mounted on the plate and operative to automatically adjust and compensate the effective diameter of the device according to the size of the pail, the said expander elements being pivoted adjacent one end to the plate and having slots at their opposite ends, and rivet means on the plate in said slots, the slotted ends of the expander elements being overlapped.

3. In a device of the character described, a generally circular plate having grease gun engaging and filling means, said plate having a marginal flange around approximately one-third of its periphery, a pair of expander elements each arcuate in shape and pivoted adjacent one end to the plate near the point at which the flange thereon ends, the opposite ends of the expander elements being overlapped and angularly slotted, a headed rivet in the plate engaging in said slots, and the expander elements also having marginal flanges.

4. In a device of the character described, a generally circular plate having grease gun engaging and filling means, said plate having a marginal flange around approximately one-third of its periphery, a pair of expander elements each arcuate in shape and pivoted adjacent one end to the plate near the point at which the flange thereon ends, the opposite ends of the expander element being overlapped and angularly slotted, a headed rivet on the plate engaging in said slots, the expander elements also having marginal flanges, and a spring engaged with the expander elements to swing them apart on their pivots.

5. In a device of the character described, a generally circular plate having grease gun engaging and filling means, said plate having a marginal flange around approximately one-third of its periphery, a pair of expander elements each arcuate in shape and pivoted adjacent one end to the plate near the point at which the flange thereon ends, the opposite ends of the expander elements being overlapped and angularly slotted, a headed rivet on the plate engaging in said slots, the expander elements also having marginal flanges, the pivoted ends of the expander elements having extended and offset portions, and an expansion coil spring stretched between said portions to spread the expander elements.

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