

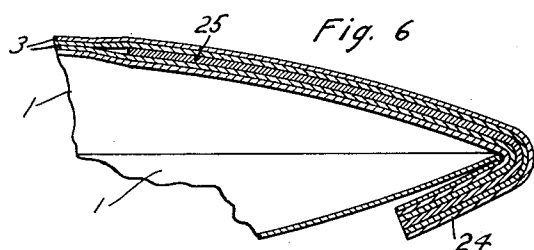
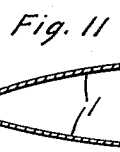
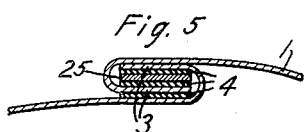
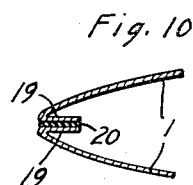
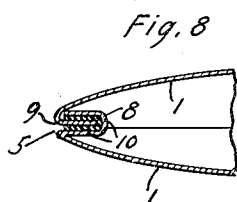
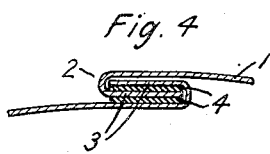
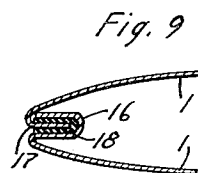
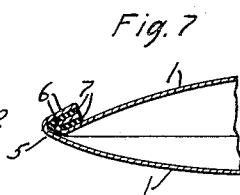
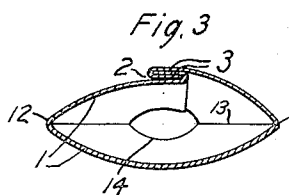
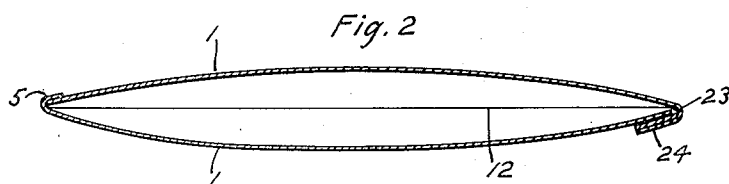
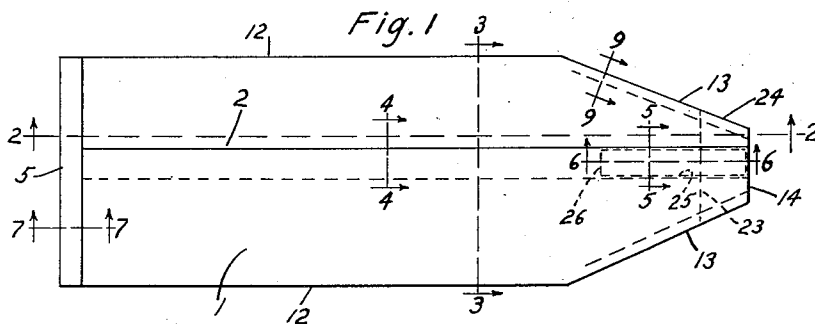
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1,625,968

L. WARE

DISPENSING CONTAINER FOR LUBRICATING GREASE, ETC

Filed May 25, 1925



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DISPENSING CONTAINER FOR LUBRICATING GREASE, ETC.

Application filed May 25, 1925. Serial No. 32,634.

This invention relates to containers for substances of a semi-solid nature which are capable of being extruded, such as greases or heavy oils, pastes of various kinds, etc., and the main object of the invention is to provide a container for this purpose which is serviceable, convenient, and at the same time of such cheap construction as to permit it to be used in large quantities and to be thrown away after use if so desired.

The invention comprises in general a container formed of paper and tapered at one end toward a restricted opening at that end through which the material may be introduced to fill the container and through which it may be subsequently extruded by squeezing the container. The invention further comprises means whereby said opening may be conveniently closed after the container is filled to prevent loss or contamination of the contents until such time as they are to be used.

My invention is especially adaptable to the needs of mines, quarries or open cuts where many drilling machines are in use. The operation of machine drills in the greater part of all mining operations is in periods or shifts of a few hours duration. An important object of this invention is to supply grease or other lubricants in small paper containers of various sizes such as are adaptable to the needs of the various types of drilling machines for such periods of operation, or longer. The invention is not limited to use with grease, however, as it may be used in connection with any material capable of being extruded, and the expression "grease or similar materials" should be understood to include any such materials.

The accompanying drawings illustrate embodiments of my invention and referring thereto:

Fig. 1 is a plan view of a dispensing container.

Fig. 2 is a longitudinal section on line 2—2 in Fig. 1, with the container in the position which it occupies when filled.

Fig. 3 is a transverse section on line 3—3 in Fig. 1.

Figs. 4 and 5 are partial transverse sec-

tions on lines 4—4 and 5—5 respectively in Fig. 1.

Fig. 6 is a section through the sealing means on line 6—6 in Fig. 1, but with the sealing means in position to close the container.

Fig. 7 is a partial section on line 7—7 in Fig. 1 showing one method of forming the closed end of the container.

Fig. 8 is a view similar to Fig. 7 showing a modified method of forming the closed end of the container.

Fig. 9 is a partial section on line 9—9 in Fig. 1 showing one method of forming the tapering portion of the container.

Figs. 10 and 11 are views similar to Fig. 9 showing modified methods of forming the tapering portion of the container.

The container according to my invention is preferably formed of paper or similar material and for use in connection with grease or heavy oils I prefer to form the same of oiled or waxed paper of sufficient strength and thickness to withstand usage and prevent leakage of material there-through. Said container may be formed as shown in the general shape of a paper bag or sack, having two plane side wall portions 1 directly united at their two longitudinal edges and at one end. I prefer to form the container from a single paper blank and to fold and fasten the same so as to provide a bag; for example, the two edges of such blank may be conveniently joined together at the middle of one of the sides of the container as indicated at 2. For this purpose the two edges of the blank may be bent over and caused to interlock with one another as indicated at 3 in Figs. 3 and 4, the interlocking portions being secured together by means of glue or other adhesive material indicated at 4. The container is further closed at one end by bending up the edges and fastening the same as indicated at 5. Said end fastening may be accomplished by simply folding over the two edge portions 6 of the side members and fastening by means of glue as shown at 7 in Fig. 7, or as shown in Fig. 8 one of the side members 1 may be provided with a doubled back portion 8 adapted to interlock with a bent over

portion 9 at the edge of the other side member, said portions 8 and 9 being secured together with glue at 10.

The folds or creases 12 between the two side members may extend substantially parallel throughout the greater portion of the length of the container so as to provide a substantially uniform width throughout such portion of the length. At one end however the container is tapered as indicated at 13 so as to provide a restricted opening 14 at this end of materially less width than the width between the substantially parallel edge portions. When forming the container from a single blank the tapering portion may be formed by cutting away portions of the blank and bending over the edges and gluing such bent over edge portions together. For example as shown in Fig. 9 one edge may be provided with a doubled back portion 16 adapted to engage or interlock with a bent over portion 17 on the other edge, said portions 16 and 17 being secured together with glue at 18. Or as shown in Fig. 10 each of said edges may be bent over as at 19 and the two opposing sides of such bent over portions fastened together with glue as at 20, or the two edge portions may be bent over one another and secured together with glue as indicated at 21 in Fig. 11.

Provision may be made for closing the open end of the container by bending back or folding over the two side walls of the container, for example along the line 23, so as to form a closing flap 24, and if desired any suitable temporary securing means may be provided for holding said flap in such bent over position and thus preventing loss of the contents. I prefer however to provide means whereby when the ends of the side portions are bent over as indicated at 24 they will be caused to retain this position without necessity of applying any fastening means, and for this purpose I prefer to provide a strip 25 of soft metal, extending along one side of the container and across the line 23 at which the same is to be folded for closing. Said metal strip may extend for example from the open end of the container to any suitable distance beyond the line 23, for example the position indicated at 26 in Fig. 1. This metal strip may be formed of any suitable metal which is sufficiently soft or pliable to permit it to be readily bent and should be of such thickness as to permit of such bending but to retain any position into which it is bent so as to hold the end of the container in bent over or closed position. Said re-enforcing metal strip may advantageously be located, as shown, between the interlocking edge portion 3 of the container.

The paper container may be formed in any suitable manner which will provide

the flexibility and the tapering outlet required for the operation of the device for the purpose stated. In particular, the seams may be located at any part of the bag, either at the edges or sides, and may be formed and fastened in any suitable manner.

In application of this container the grease or other material for which it is to be used is charged into the container in any suitable manner for example by inserting the spout of an extruding machine into the opening 14 and applying pressure to the material so as to force the same into the container. It will be understood that the container is preferably so formed as to lie flat throughout before use, with the two plane side portions including the tapered portions thereof resting against one another substantially throughout. This is of considerable practical advantage as it permits a maximum number of the containers when empty to be piled in a given space for storage or for shipping purposes. It may be opened up for filling by pressing on the two edges 12 so as to open the container into the position shown in Fig. 3, whereby the opening 14 is enlarged sufficiently to permit insertion of the spout of the extruding machine or other means to be used in filling the container. The charging of the material into the container under pressure serves to still further expand the same for example to the position shown in Fig. 2. The closing flap 24 may then be bent over as above described so as to close the container at this end and retain the material therein and the metal strip 25 serves to hold said flap in any position to which it may be bent. Whenever it is desired to extrude a portion of the contents from the container the closing flap 24 is again bent out to open position and by pressure on the sides of the container any desired amount of the material contained therein may be extruded. When the desired amount of material has been removed the closing flap may again be bent back to closed position. When the container is empty it may be thrown away, the cheapness of the container resulting from its being formed of paper being of especial advantage in this connection.

The above described container is particularly intended and adapted for use in dispensing and applying greases or heavy oils and is especially useful for supplying grease to the drilling machines in mines, quarries, etc., or in any case where grease must be continually supplied in small amounts to a large number of mechanical units distributed at many points throughout a large plant or organization. The procedure in such cases would be to fill a large number of these containers of various sizes each containing for example sufficient grease for use on some drill or other piece of mechanical

equipment for one shift's operation. The usual requirement for a day's operation by one drill operator is about 4 to 8 ounces. Each operator of such a machine upon coming to work is supplied with one of these packages of grease of the proper size for his particular machine. From time to time during the day's operation the lubricant is fed from the container to the machine by pressure upon the container, the open end of the container being for example inserted into the grease cup or other opening into which the grease is to be fed. When the container is empty of grease it may be discarded. The number of these containers thus used and thrown away in a day, in a large organization, is very great and it is therefore of the utmost importance that they should be of the cheapest possible construction. The container formed, according to my invention, of oiled paper, and fabricated by simple methods from a single blank, is therefore highly advantageous from this point of view.

In all mines, quarries or open cuts where numerous expensive drilling machines are in use great losses are incurred to such equipment because of insufficient lubrication. The nature of mine workings, where faces are drilled by machine drills is such that it has been difficult to supply lubricants to the machine drill operators in such a manner that is convenient to carry to the working places and use. It is the general custom to furnish oil or grease in bottles or cans of various types and such methods have proven highly unsatisfactory. Containers of this type are expensive and the cost of maintaining such a scheme of distribution of lubricants is high. The drill operators lose them or they become easily damaged due to the rough character of the working places. In most cases, faces that are being drilled are isolated and the care of the drilling equipment is left entirely to the drill operator. The oil containers or other accessories to the machine drills cost him nothing and the proper care of such parts requires effort on his part. The machines and accessories are heavy and difficult to handle; the drifts, stopes or other working places of mines are usually dirty and hot or of such character that it is difficult to keep small parts clean and in good condition. The equipment is often left too near the blast and lubricant containers are broken and damaged beyond use by the force of the explosion. Lubricant containers are often left lying in the muck or broken material and dirt gets into the lubricant rendering it unfit for use. All bottles or can containers consist of two parts; a large portion and a stopper or covering of some kind. These parts easily become lost and containers without stoppers or cover-

ings permit contamination of the contents. The places to be drilled are usually widely separated and access to the working places is difficult. Supplies of all kinds must be carried to the places from supply bases at some distance and sometimes through workings that are difficult to pass through. Drill operators do not like to carry accessories to the working places that may be only partly necessary to their day's work and it is difficult to get sufficient lubricants taken to the drilling locations. This is especially true if lubricants are furnished in heavy, awkward containers that are difficult to carry and inconvenient to use. There is also a great waste of lubricants due to the use of containers that do not permit easy injection of the material into the machine. Oil poured from bottles or cans is inefficient, sometimes more than half of the oil being spilled. If grease or other lubricant is scraped into the machine, dirt is likely to get mixed with it with resultant damage to the machines.

The inadequate lubrication of machine drills has constantly been a source of expense and one of worry to the drill manufacturer as well as to the purchaser of such machines, since both are desirous of best possible performance. Various kinds of containers and schemes have been devised, but no method has been developed which would permit of economical use of lubricants and supply it in a manner convenient to transport to working places and use. This object, however, is accomplished by the use of the container above described, as it permits efficient and economical use of the lubricant and is of the utmost convenience for transporting and using and results in better care of the machine drills.

I claim:

1. A dispensing container formed of a sheet of flexible material folded flat along two lines to form two parallel side walls of the receptacle whose inner faces normally lie in contact with one another, the edges of the sheet being fastened together along a line intermediate the said fold lines and the lower edges of said sheet being folded over and secured to form the lower end of the container, the upper portion of the container being formed with converging edges extending upwardly from the aforesaid fold lines to the upper end of the container, so as to form a container opening at such upper end, such upper end portion of the container being adapted to be folded to close the upper end of the container.

2. A container as set forth in claim 1 in which the upper end portion of the container is provided with a flat strip of pliable material secured thereto and extending lengthwise of the container for the purpose set forth.

3. A dispensing container comprising two flat side walls of flexible material which are substantially parallel throughout and which are directly connected to each other at two lateral edges and at one end so that their inner faces lie in contact with one another substantially throughout, said side walls being free from connection to one another at the other end so as to provide an opening, and said lateral edges tapering, throughout at least a portion of the length, inwardly toward said opening.

In testimony whereof I have hereunto subscribed my name this 16th day of May, 1925.

LOUIS WARE.