Feb. 16, 1954 C. P. CAMPBELL 2,669,406

CONTAINER FILLING DEVICE

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Fig. 1.

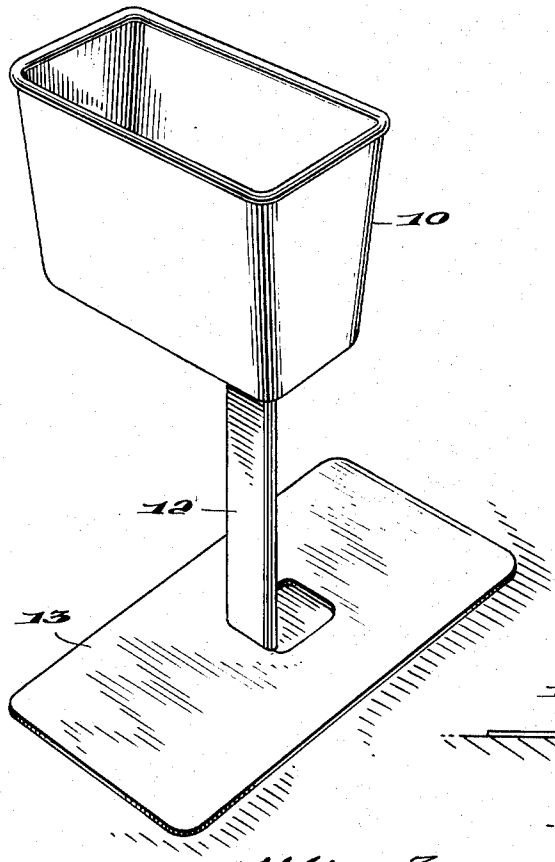


Fig. 2.

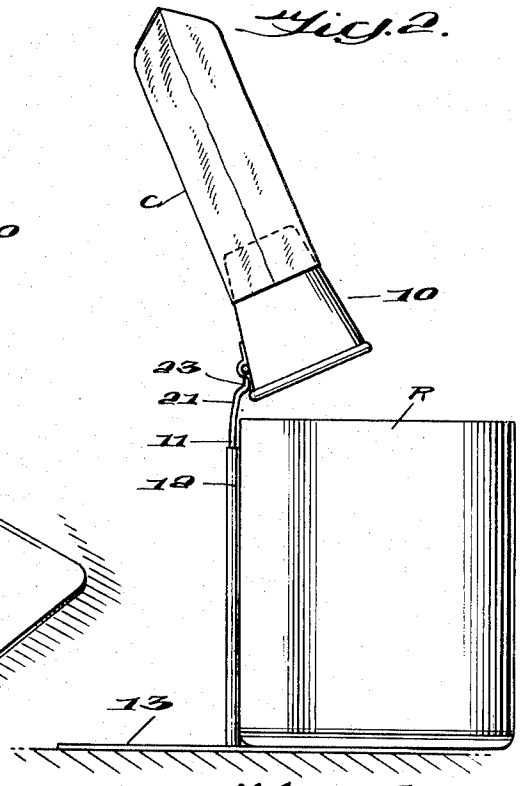


Fig. 3.

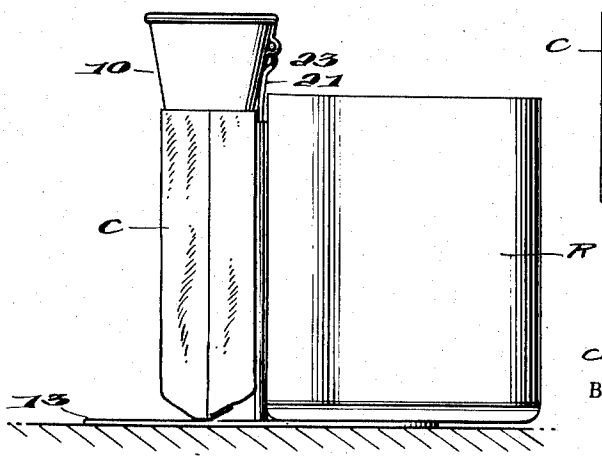
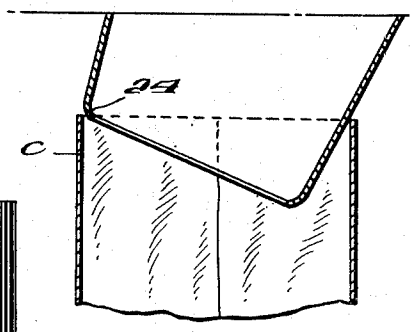


Fig. 4.



INVENTOR.
CHARLES P. CAMPBELL,
BY
Parry & Miller
ATTORNEYS

Feb. 16, 1954

C. P. CAMPBELL

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Fig. 5.

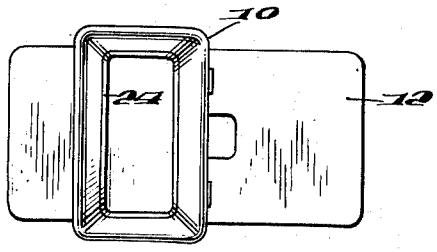
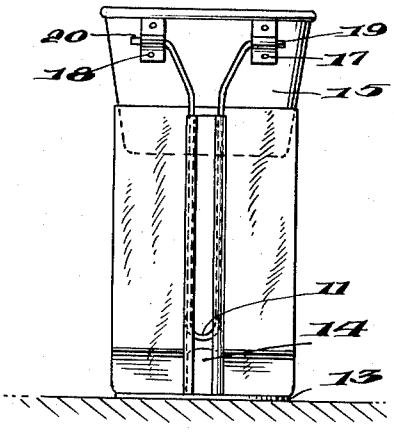


Fig. 6.



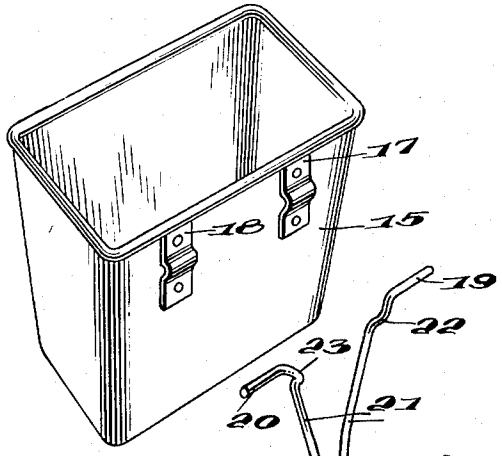


Fig. 7.

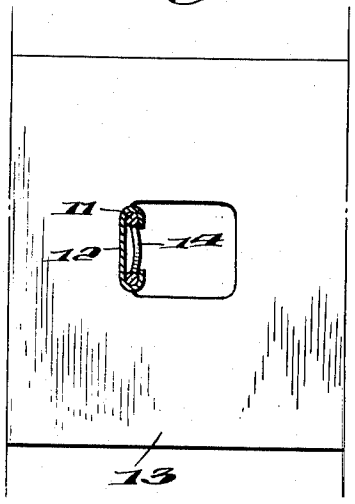
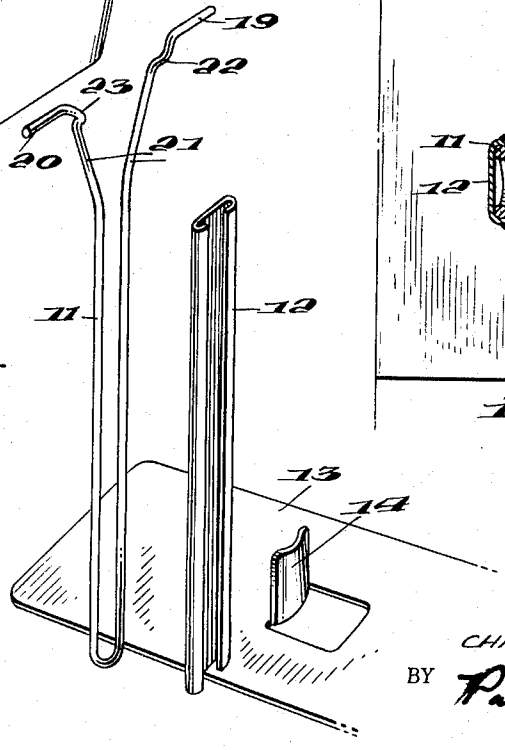


Fig. 8.



INVENTOR.
CHARLES P. CAMPBELL,
BY Parry & Miller
ATTORNEYS

Patented Feb. 16, 1954

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CONTAINER FILLING DEVICE

Charles P. Campbell, East Greenville, Pa., assignor to Perkiomen Products, East Greenville, Pa., a partnership

Application September 27, 1949, Serial No. 118,170

2 Claims. (Cl. 248—94)

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This invention relates to the filling of portable containers and involves an improved device therefor. While capable of other uses the improved device is particularly useful in facilitating the introduction of foods into paper bags and cartons in which they are to be frozen and preserved.

One object of the invention is to provide a container filling device to which containers can be conveniently applied preparatory to filling and which can be readily withdrawn from the containers after they are filled.

Another object of the invention is to provide a container filling device which will avoid soiling of the mouths of containers.

Another object of the invention is to provide a container filling device which is invertible from upright container filling position to an upside down position removed from filling position. In the latter position containers may be readily applied to the device and also residual material in the device may be drained therefrom.

In the art of home freezing foods are placed in paper bags and cartons in which they are subsequently frozen for preservation in low temperature refrigeration units. The paper bags are specially processed so that after filling the mouths may be heat sealed. In order that a perfect seal may be secured it is important that soiling of the interior of the bag mouths be avoided. Such soiling is likely to occur with conventional filling devices by contact with the lower edge upon which residual food is likely to accumulate. Again, if a funnel or equivalent filling device is maintained in fixed position residual food therein is likely to drain downwardly between filling operations on to the supporting surface for the containers with the result that the bottoms of the containers are likely to be soiled.

The filling device of the present invention has been designed with these considerations in mind. Furthermore, the device is designed to be employed with different size food containers and is made in knock-down form so that when disassembled the parts will occupy a relatively small space, a real advantage both from the standpoint of packaging and storage. The various features and advantages of the invention will be fully understood from the illustrative embodiment shown in the appended drawings and the description thereof to follow.

In such drawings:

Fig. 1 is a perspective view of one form of my improved filling device;

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Fig. 2 is a side elevation with the device in container applying and draining position;

Fig. 3 is a corresponding side elevation with the device in position for filling containers;

Fig. 4 is an enlarged fragmentary cross-section showing the interior bottom construction of the filling device and its relation to a container as it is being removed from the mouth of a container after the container has been filled;

Fig. 5 is a top plan view of a filling device;

Fig. 6 is a rear elevation thereof;

Fig. 7 is a horizontal section looking down showing details of the lower portion of the device; and,

Fig. 8 is an exploded view of the filling device with the parts in disassembled position.

The filling device includes a funnel 10 of generally rectangular cross-section and with downwardly tapering sides adapted to telescope into the mouth of bags for frozen food and except for its special features may be generally similar to funnels for such purpose now on the market. The same will be preferably constructed of stainless steel. Aluminum may be employed but it is not as desirable because it is subject to attack by the acids contained in various foods.

Funnel 10 is demountably supported by an adjustable length standard adapted to support the funnel in suitable positions for filling different height food bags. Such standard includes a member 11 formed of a double length of stiff wire and a channeled metal member 21 in which member 11 is telescopically slidable. Such parts are best shown in Figs. 7 and 8. The standard is demountably supported by base 13, preferably formed of sheet metal with an upturned ear 14 formed thereon to telescopically fit the lower end of standard member 12. The base is desirably made of general rectangular shape and so as to provide supporting platforms on opposite sides of the standard. A direct hinge connection is provided between the funnel and the upper end of standard member 11 so as to adapt the funnel for vertical swinging movement from upright bag filling position on one side of the standard to an inverted position on the opposite side of the standard. While any suitable hinge connection may be employed serving such purpose I prefer to employ the simple detachable hinge connection best shown in Fig. 8 comprising a pair of hinge bearings 17 and 18 secured near the top of funnel side 15 and hinge pins 19 and 20 formed integrally with the upper end of standard member 11. By pressing the legs of member 11 together such hinge pins may be readily inserted in and removed from the hinge bearings.

A stop or rest for holding the funnel in upright position is provided by inclined portions 21 integral with the upper part of the legs of standard member 11, such stop portions being engageable with side 15 of the funnel as shown in Fig. 3. Further stop portions or rests 22 and 23 are formed by lateral bends in the legs of member 11, intermediate portions 21, and hinge pins 19 and 20, which engage the upper area of funnel side 15 to support the funnel in inverted and preferably slightly inclined position as shown in Fig. 2.

The lower end of the funnel is provided with an inwardly curving lip 24 as shown in Figs. 4 and 5. This serves to prevent drops of food adhering to the lower edge extremity of the funnel from contacting and soiling the interior of the mouth of a bag through an application to the funnel or swinging movement of the funnel upwardly out of the bag after filling. The amount of inturn of lip 24 need not be great but must be sufficient in relating to the swinging radius above the hinge axis to assure clearance of the funnel bottom edge on the side of the funnel opposite the hinge axis.

In using the filling device of the invention the funnel 10 will be swung to inverted position and a bag C to be filled telescoped over the lower portion as shown in Fig. 2. The bag may be preliminarily housed in a cardboard carton (not shown) or the same may be inserted in such a carton after filling. When the bag has been correctly applied to the funnel the two are swung to upright position as shown in Fig. 3 so that the bag rests on base 13 beside the standard. Members 11 and 12 of the standard may be telescopically adjusted vertically according to the length of the bag so that the bag is supported by the base and the mouth of the funnel extends a sufficient distance into the mouth of the bag to support it in upright position.

A receptacle R containing the food to be packaged and frozen is disposed upon the base 13 on the opposite side of the standard from the bag and food therefrom is ladled into the funnel until bag C has been filled to the proper level. The funnel is then swung upwardly out of the mouth of the bag as indicated in Fig. 4 and back to its inverted position shown in Fig. 2. The angular offset provided by stop portions 21 of standard member 11 serve to locate the top of the funnel in transversely spaced relation to the vertical line of the standard. By placing receptacle R close to the standard any residual food in the inverted funnel may drain back into the receptacle preparatory to the next bag filling operation.

The mouth of the filled bag C is collapsed and heat is applied to provide a hermetical seal. By reason of the manner of mounting the bag in the carton, the swinging movement of the funnel out of the bag after filling and the inturned bottom lip on the funnel there is no danger that food will accidentally soil the mouth of the bag. A proper seal throughout the dimensions of the bag mouth is therefore possible. The bag is now installed in a cardboard carton if this has not been done previously and the packaged food is ready for freezing. It will be apparent that the filling device is extremely simple and admirably suited for bag filling operations in the manner explained. After such operations are completed the device may be disassembled into its separate parts as shown in Fig. 8 and packed in a small box or other container for future use.

The detailed construction of my improved filling device here illustrated and described may be varied considerably. Accordingly, the scope of the invention is to be determined from the appended claims.

I claim:

1. A container filling device comprising a base, an extensible standard comprising a hollow lower standard member of relatively flat cross-section upstanding from the base, an upper wire standard member formed with spaced legs integrally connected at their lower ends and making slidable fitting engagement with the inner surface of the hollow lower standard member and having integral transversely extending hinge pins at their upper ends, a funnel and hinge bearings on one side of the funnel receiving said hinge pins and mounting the funnel on the standard for vertical swinging movement.

2. A container filling device according to claim 1 wherein the wire upper standard member has bent portions forming stops adapted to support the funnel in upright position on one side of the standard and in inverted position on the other side of the standard.

CHARLES P. CAMPBELL.

References Cited in the file of this patent

UNITED STATES PATENTS

Number	Name	Date
129,633	Wasson et al.	July 16, 1872
156,506	Smith	Nov. 3, 1874
216,367	Allison	June 10, 1879
247,220	Smith	Sept. 20, 1881
861,007	Wilhelm	July 23, 1907
993,696	Manson	May 30, 1911
1,627,652	Kornicker et al.	May 10, 1927
1,830,644	Dietsch	Nov. 3, 1931
1,918,112	Kronquest et al.	July 11, 1933
2,047,075	Kremen	July 7, 1936
2,524,243	Wicklund	Oct. 3, 1950

FOREIGN PATENTS

Number	Country	Date
111,206	Australia	Aug. 15, 1940