2 Sheets—Sheet 1.

T. G. OTTERSON.

FRUIT-JAR.

No. 190,612. Patented May 8, 1877.

Fig. 1

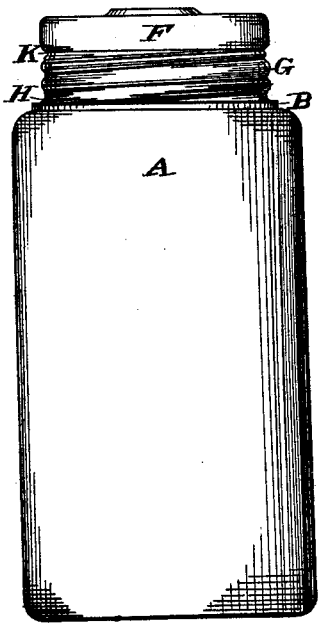


Fig. 2

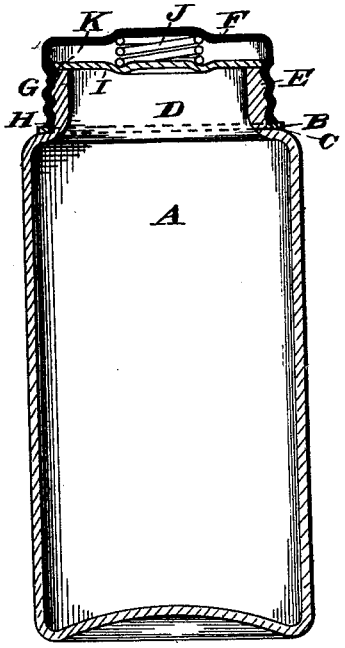


Fig. 3

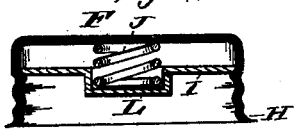
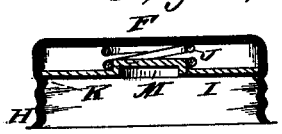


Fig. 4.



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2 Sheets—Sheet 2.

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FRUIT-JAR.

No. 190,612. Patented May 8, 1877.

Fig. 5.

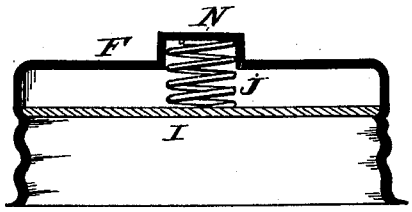


Fig. 6.

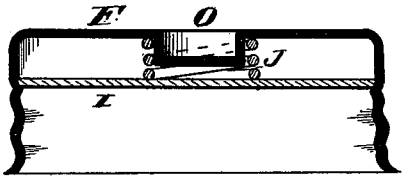


Fig. 7.

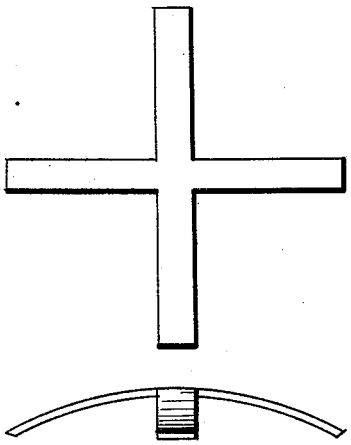
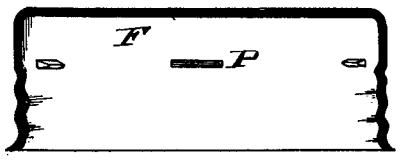


Fig. 8.



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UNITED STATES PATENT OFFICE.

THOMAS G. OTTERSON, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN FRUIT-JARS.

Specification forming part of Letters Patent No. **190,612**, dated May 8, 1877; application filed April 12, 1877.

To all whom it may concern:

Be it known that I, THOMAS G. OTTERSON, of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Fruit-Jars; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to an improvement in caps or covers for jars or cans used in preserving fruits and vegetables. Heretofore fruit-jars provided with caps secured to the neck of the jar by screw-threads, inclines, or other means, and the joint made by the lower flange of the cap pressing against an elastic gasket resting on the outer shoulder of the jar, have been found objectionable in use for two reasons: First, the caps or covers are necessarily of greater length than that of the neck of the jar, in order that the depending flange of the cap may be forced firmly against the rubber gasket resting upon the outer shoulder of the jar, and hence, when the caps are secured in place, a space is formed between the upper edge of the neck and the under side of the cap. This space, above mentioned, allows the sirup contained in the jar to flow over the top of the neck, and in between the screw-threads of the metal cap or cover and the thread of the jar neck, and to stick or cement the cap so tightly to the neck that it is difficult to remove the cap when it is desired to obtain access to the jar. To enable the caps to be removed they are ordinarily provided with nibs or lugs for the attachment of a wrench; but it is often the case that the lugs are torn off in attempting to start the cap, and in such case the cover or cap must be destroyed before access can be had to the interior of the jar.

Fruit-jars as ordinarily constructed are defective for another reason, and that is the contents of the jar come in direct contact with the zinc or other material composing the cap or cover, and the acidulous portions of the sirup attack the metal, which results in tainting and imparting an unpleasant taste to the entire contents of the jar. It has been attempted to remedy this latter defect by rigidly securing a porcelain lining to the under side of the metallic cap or cover, and thus prevent the sirup from coming in contact with the cover; but such construction is impracticable and defective, for the reason that a space is necessarily provided between the porcelain lining and the top of the jar, in order that the lower flange of the cap may be forced tightly against the rubber gasket resting on the shoulder of the jar. This space, left unprovided with lining, allows of the direct contact of the contents of the jar with the metallic cap, and hence, as heretofore stated, the sirup or contents of the jar are often tainted and rendered unpleasant to the taste.

The object of my invention is to provide a fruit-jar of such construction as to obviate the objectionable features above noted; and to that end my invention consists, first, in a fruit-jar wherein the lower flange of the cap is forced against a gasket resting on an outer shoulder; the combination with the cap of a yielding lining, whereby the lower flange of the cap may be firmly pressed against the rubber gasket, and at the same time the yielding lining located within the upper portion of the cap or cover will seat itself upon the neck of the jar, and effectually prevent the passage of the sirup to the threads between the cap and neck of the jar; secondly, in a fruit-jar wherein the lower flange of the cap is forced against a gasket resting on an outer shoulder, the combination with the cap of a porcelain lining, secured to the cap in a yielding manner, whereby the contents of the jar are prevented from entering between the threads of the cap and jar, and also prevented from coming in contact with any portion of the metallic cap; thirdly, in the combination, with a fruit-jar cap or cover, of a lining of porcelain, glass, or other equivalent material, and a spring located between the top of the jar-cover and the lining; fourthly, the combination, with a fruit-jar cap or cover, of a yielding lining, permanently secured within the cap by means of a rib, either continuous or made in sections in the cap, whereby the cap may be handled without any danger of losing or displacing the lining of the same.

In the drawings, Figure 1 represents a side elevation of a fruit-jar provided with my improved cap or cover. Fig. 2 is a vertical section of the same. Figs. 3, 4, 5, 6, 7, and 8 are modifications.

A represents a fruit-jar; B, a rubber gasket resting upon the shoulder C, which is located below the neck D, provided with screw-threads E, these several parts being of the ordinary form and construction. F is the cap or cover, which is made of any desired material, and provided with screw-threads G, adapted to fit corresponding threads E on the neck of the jar. The lower edge of the cap is turned outwardly at H, forming a flange, which engages with the gasket B on the jar, and when the parts are forced together they constitute an air-tight joint. A disk, I, formed of porcelain, glass, or other equivalent material, is placed within the cap or cover F, and between said disk and the top of the cap a spring, J, is secured, in any desired manner.

The spring serves to force the disk or lining I firmly against the top of the jar-neck, and thus effectually prevent the contents of the jar from flowing between the threads of the cap and neck of the jar. Also, the disk or lining I serves to seal the mouth of the jar, and prevent the sirup from coming in contact with any metallic substances, and thus preserves the same free from taint or unpleasant taste.

In order that the porcelain or other disk I may be permanently secured within the cap F, and the latter handled without danger of losing or displacing the disk or lining, the jar cap or cover F is formed with an inwardly-projecting rib or flange, K, which latter may be continuous, and extend entirely around the cap; or the rib may be made in sections and effect the same result. This form of construction serves to retain the lining in place, and renders the cap, with its yielding lining, always ready for use when desired.

It is evident that many slight changes may be made in details of construction without departing from the spirit of my invention, which, as heretofore stated, consists broadly in a cover or cap for fruit-jars provided with an inner yielding lining.

For instance, the disk or lining I may be formed with a depression, L, for retaining the spring J, as shown in Fig. 3; or the disk may be made with a raised portion, M, around which the spring would rest, and thus be retained in place, as illustrated in Fig. 4. If desired, the cap may be formed to retain the spring in place, as it may have a pocket, N, as shown in Fig. 5, or depression O, (shown in Fig. 6,) and thus serve to retain the spring J against displacement.

Again, I would have it understood that I do not limit myself to any particular form of spring, as it is evident that any form of flat spring may be employed in lieu of a spiral spring. One form of such style of springs is shown in Fig. 7, and the same consists of suitable sheet metal pressed into any desired form, which may be inserted between the disk and jar cover and top, and operate to force the disk or lining snugly against the top of the jar-neck.

Instead of forming a continuous rib, K, around the cap for the purpose of retaining the lining in place, the same result may be accomplished by means of depressions P of any desired number, as illustrated in Fig. 8.

Again, the lining may be retained in place by means of the threads formed in the cap when double threads are formed therein, as illustrated in my patents dated March 14, 1876, and November 21, 1876. Fruit jars or cans provided with caps or covers embodying my improvement are, when closed, protected by a double joint, the outer one formed by the engagement of the lower flange of the cap with the rubber gasket, and an inner joint, formed by the lining or disk being firmly pressed against the mouth of the jar. While the outer joint serves its ordinary purpose of preserving the contents of the jar from contact with the atmosphere, the inner joint effectually excludes the sirup from coming in contact with the threads, or any portion of the cap or cover, and thus enables the jar to be readily opened without the aid of a wrench or like device, and also preserves the contents of the jar from being tainted by contact with metallic substances.

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination, with a fruit-jar cap or cover which is screw-threaded, and provided with a lower flange for engagement with an elastic gasket on the shoulder of the jar, of a yielding disk or lining, secured within the upper portion of the cap or cover, substantially as and for the purpose set forth.

2. The combination, with a fruit-jar cap or cover, of a glass or porcelain disk or lining, secured to the cap in a yielding manner, substantially as and for the purpose set forth.

3. The combination, with a fruit-jar cap or cover, of a disk or lining, made of glass or equivalent material, and a spring interposed between the cap and disk or lining, substantially as and for the purpose set forth.

4. The combination, with a fruit-jar cap or cover, of a disk or lining of glass or equivalent material, and a spring interposed between the disk and cap, said cap being provided with a continuous rib, or two or more depressions, for holding the lining in place, substantially as and for the purpose set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 9th day of April, 1877.

THOMAS G. OTTERSON.

Witnesses:

Z. DUNCAN ROSS,

WILLIAM S. TOLAND.