

No. 783,303.

PATENTED FEB. 21, 1905.

T. G. PALMER.
CLOSURE FOR MOUTHS OF BAGS.
APPLICATION FILED DEC. 19, 1904.

Fig. 1.

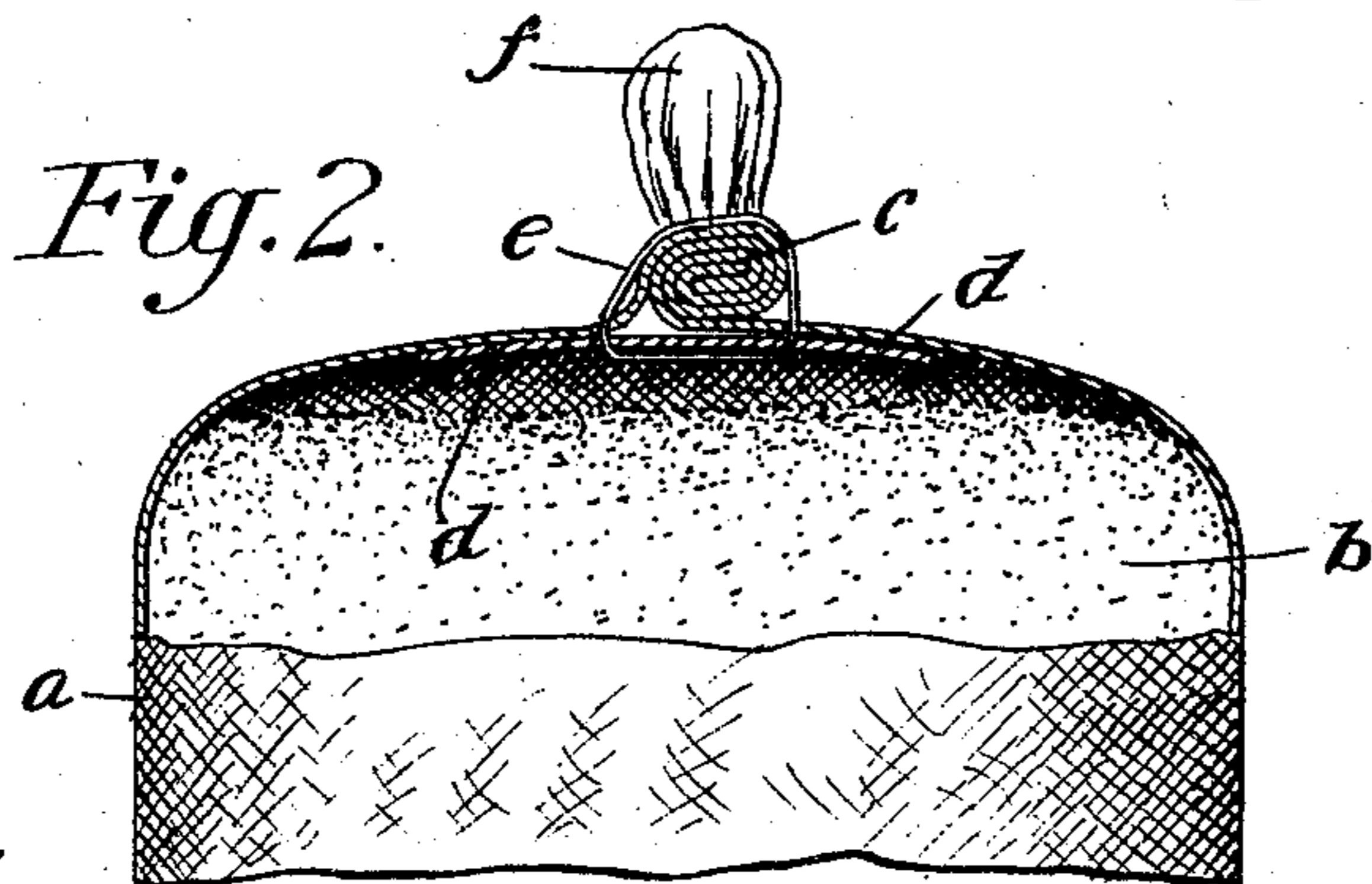
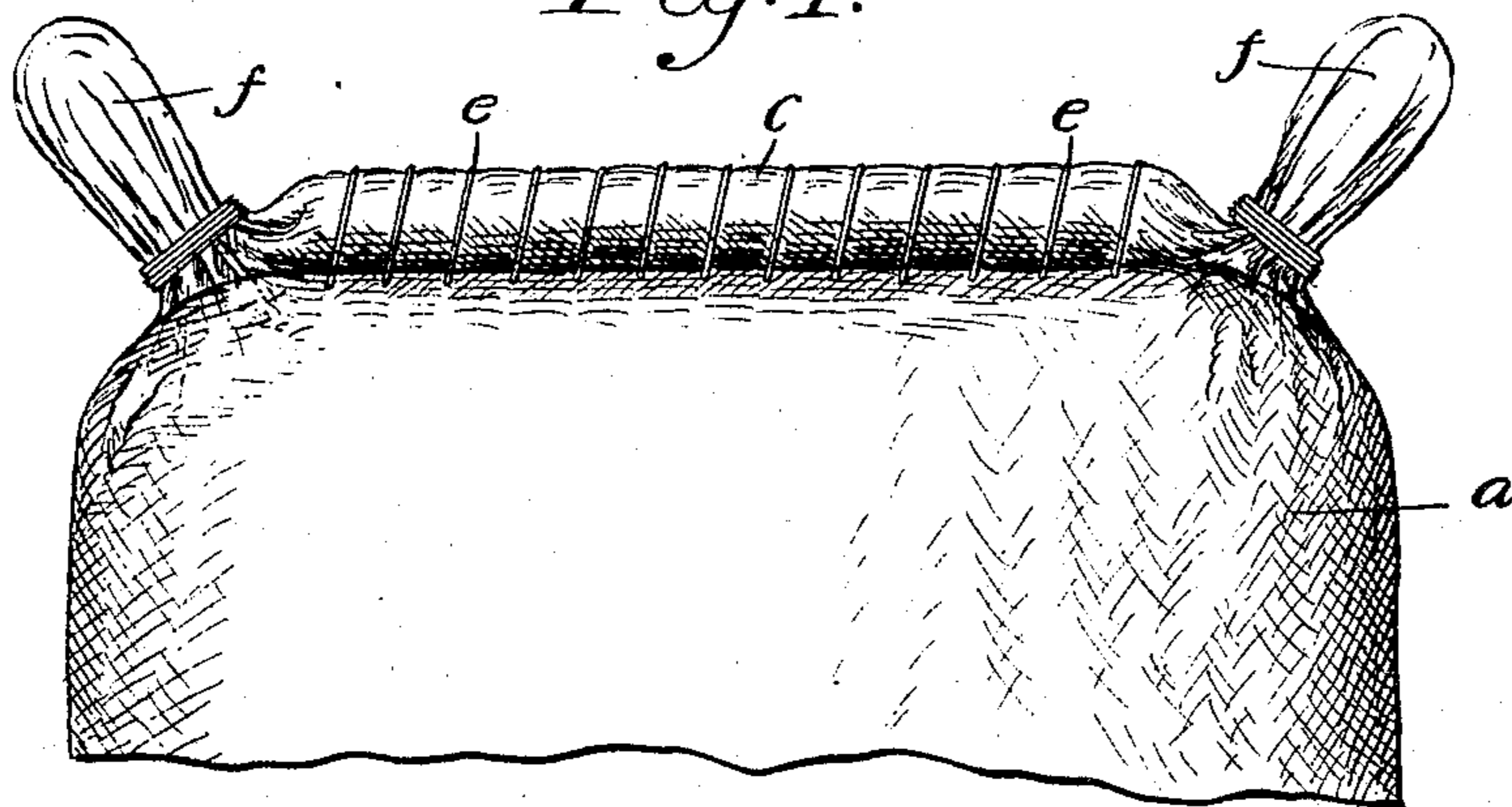
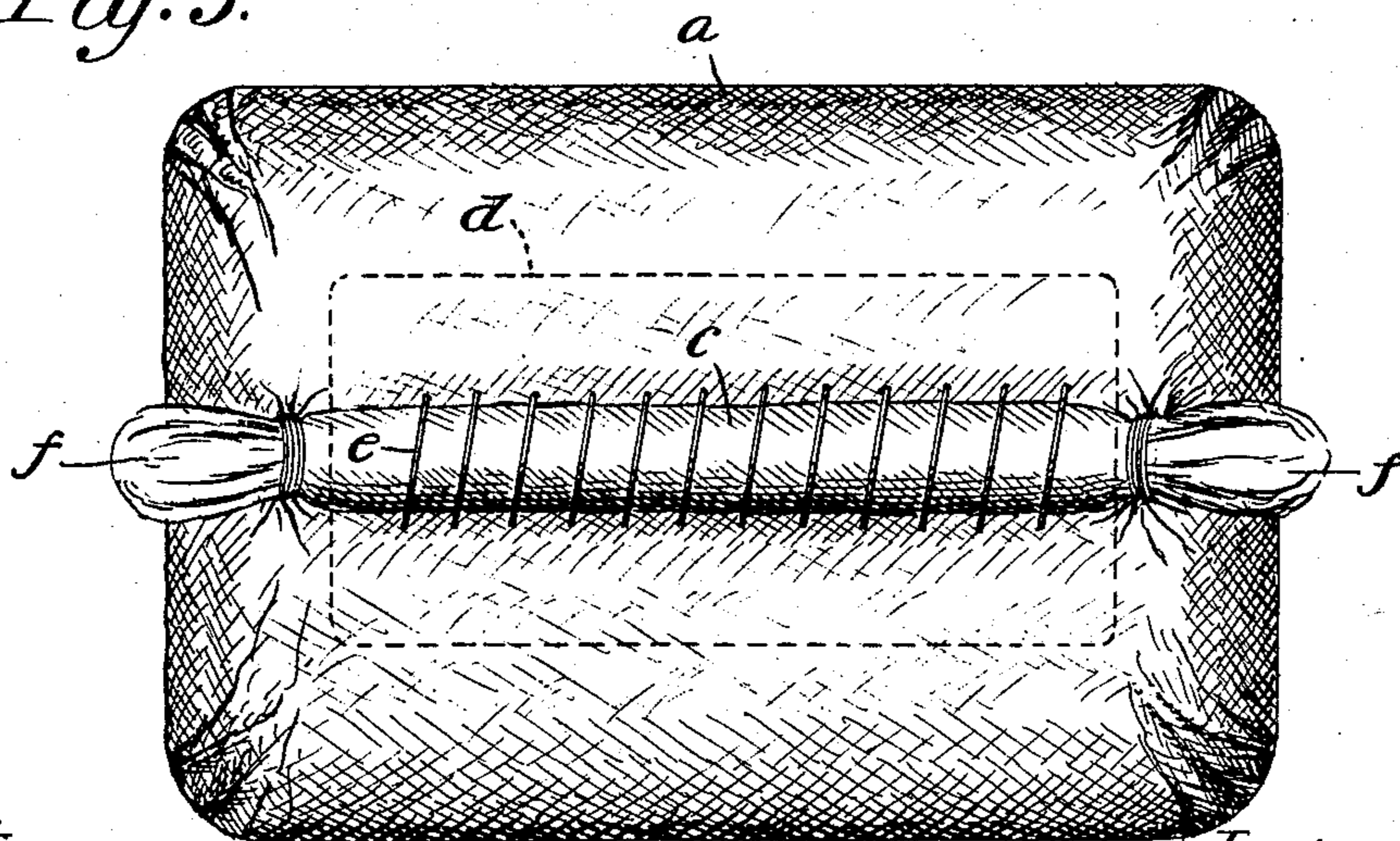


Fig. 3.



Witnesses:

D. W. Edlin.

E. C. Schuermann

Inventor:

Frederic G. Palmer

By his attys,
Purdie & Goldsborough

UNITED STATES PATENT OFFICE.

TRUMAN GARRET PALMER, OF CHICAGO, ILLINOIS.

CLOSURE FOR MOUTHS OF BAGS.

SPECIFICATION forming part of Letters Patent No. 783,303, dated February 21, 1905.

Application filed December 19, 1904. Serial No. 237,500.

To all whom it may concern:

Be it known that I, TRUMAN GARRET PALMER, a citizen of the United States, residing in Chicago, county of Cook, State of Illinois, have invented certain new and useful Improvements in Closures for Mouths of Bags; 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 appertains to make and use the same.

In the patent granted to me on the 18th of October, 1904, No. 772,629, I have described and claimed a bag for the transportation and shipment of sugar and other granular or pulverulent material, the particular purpose of which is to reduce the cost of handling the material by enabling the usual inner bag or lining of cotton, paper, or other light material to be dispensed with.

Bags intended for the purpose above referred to are made almost exclusively of bur-lap or other cheap woven material having a comparatively coarse or open mesh, and they are usually closed at the mouth by bringing the two edges of the fabric together and folding or rolling them over upon themselves, after which the closure is completed by a line of stitches extending over and over the fold to near the corners of the bag, which corners are, however, not included in the rolled edges, but are left free to form ears to handle the bags by. During the handling, loading, and unloading of the bags various and unequal strains are brought on the stitches forming the closing-seam. This is particularly true where, as is generally the case, the settling of the contents leaves an unfilled space at the top of the bag, and the fabric of which the bag is composed not being a closely-woven material stretches considerably and allows the stitches of the seam to pull the threads apart at the points where they pierce the fabric, thus forming little orifices or holes through which the granular contents of the bag would escape were it not for the inner bag or lining. In my patented bag, where no lining or inner bag is employed, the tendency of the strains to open the meshes of the fabric at the points where the stitches come is greatly lessened, because the treatment to which the bag is sub-

jected strengthens the fabric, in addition to imparting the other advantages explained in the patent. Still the very act of forming the closing-seam unavoidably leaves little perforations in the bag caused by the passage of the coarse needles with which the sewing is necessarily done, and the material having but little elasticity in the first instance and the treatment to which the bag is subjected imparting a slight stiffness to the fabric, so that it has little or no power of self-closing these openings, I have thought it desirable to provide some means to protect that part of the bag where the stitches of the closing-seam come. The present improvement is therefore one outgrowth of the previously-patented invention and while not limited to bags treated in accordance with the patent, has nevertheless been designed with the view of supplementing the invention of the patent, so as to enable the greatest benefit to be derived from the use of bags treated in accordance therewith.

To this end, the present improvement consists in the employment of a protecting-strip in the bag underlying its mouth and located between the upper surface of the bag's contents and the under side of the mouth-closing seam, the strip being secured in place in a novel manner, so that it is free to move to a limited extent, yet is always in position to cover any holes in the bag fabric that may be formed by the needle or that may be caused by the lateral pulling of the fabric on the stitches in handling the bag. The strip is preferably formed of textile fabric or some other material having a sufficiently close weave or mesh to give it enough elasticity for the holes that are formed by the passage of the needle to be self-closing. The strip is not attached to nor does it form part of the bag, but is loosely inclosed within the bag in the act of sealing it up and is secured in place by passing the stitches of the mouth-closing seam through it. The strip is free to move within the bag to a limited extent, and the object of passing the stitches through it, as just described, is only to hold it against such displacement as to uncover the seam-stitches and not to attach or secure it to the bag itself.

The improvement is illustrated in the accompanying drawings, forming part of this specification, in which—

Figure 1 is a side elevation of the upper part of a filled bag with its mouth closed according to the present plan. Fig. 2 is a vertical cross-section of the same, showing in detail how the seam is formed and how the protecting-strip is held in place; and Fig. 3 is a top plan view showing more particularly the size of the protecting-strip as compared with the cross-sectional area of the bag.

Referring to the views, *a* denotes a bag of burlap or other woven fabric that has preferably been treated with a thin application of an agglutinant to mat down and stiffen the fibers or fuzz on the surface of the fabric in accordance with my patent above referred to, and *b* in Fig. 2 indicates the granular or pulverulent contents thereof. The mouth of the bag is closed by bringing the edges together and folding or rolling them over upon themselves, as best shown at *c* in Fig. 2; but neither the present improvement nor the invention of the patent is limited to this or any other way of closing this mouth or securing the edges of the bag together.

The protecting-strip is denoted at *d*. As already described, it preferably consists of textile or other material having a certain degree of elasticity, for a purpose already explained. It may, however, be formed of any material, the particular manner of fastening and holding it in place being entirely novel without regard to the kind of material out of which it is composed. This strip need not cover the entire top of the bag's contents, but may be considerably smaller than the cross-sectional area of the bag, both as to length and width, as best shown by dotted lines in Fig. 3, it being understood from the previous description that it is only intended to underly that part of the top of the bag where the stitches of the seam come.

The mouth-closing seam is indicated at *e*. It consists of a thread or cord passed through the fabric of the bag on each side of the fold *c* and extending over and over the fold in the form of a lacing. On reference to Fig. 2 it will be noticed that the stitches do not extend through the fold *c* from side to side, which is the usual arrangement, but that they pierce the bag fabric outside of the fold, forming lines of stitch-holes running along each side of the fold to near the end, where the usual ears *f* are formed.

In filling the bag the contents are poured in up to the desired point, and the protecting-strip *d* is laid loosely on the top thereof, extending across the center. The edges of the mouth are then brought together and rolled or folded in the manner shown or in any other preferred way, and the closure is completed by running the seam as already described, and I utilize this seam as the means

for securing or holding the protecting-strip in position by passing the stitches thereof down through the same on one side of the folded edges of the bag and up through the same on the opposite side of the fold, as clearly shown in Fig. 2, leaving the strip unattached to the fabric of the bag and free to buckle up in the center and to have its edges move laterally with respect to the fabric of the bag, as peculiar and unequal strains may come on the stitches of the seam either through the act of sewing the bag up or through the handling or transportation of the same afterward.

The construction of the improved closure and the arrangement and manner of securing the protecting-strip in place being as thus described, it is to be specially noted that the strip forms no part of the bag and that in manufacturing the bag it is not even necessary to make any provision for the strip, as it is not attached to the bag, except after it has been filled and when in the act of making the closure. It is also to be noted that inasmuch as the strip is unattached to the fabric of the bag and that both bag and strip are free to move independently of each other in the event that lateral strains on the bag open up further the stitch-holes the strip, by following up the stitches, as it were, or by not moving at all with the stretching of the bag fabric, keeps the openings constantly covered on the under side and effectually prevents leakage of the contents therethrough. Finally, it is to be noted that the preferred character of the strip itself insures that there will be no holes or openings left therein through which leakage could occur, for although the coarse needles employed in sewing the seams leave large holes in the fabric they are immediately closed up tightly on the thread or cord by the natural elasticity of the fabric itself, so that the strip presents a practically imperforate apron or sheet covering the top of the bag's contents at the central part where the seam and the stitches come.

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

1. A closure for the mouths of bags for granular and pulverulent materials, consisting of a seam the stitches of which pass over the closed edges of the mouth and through the bag on each side thereof, and a protecting-strip underlying the mouth and held in place in the bag by the stitches of the seam.

2. A closure for the mouths of bags for granular and pulverulent materials, comprising the folded edges of the bag, a seam the stitches of which pass through the bag on each side of the fold, and a protecting-strip underlying the stitch-openings and held in place by said stitches.

3. A closure for the mouths of bags for granular and pulverulent materials, comprising a fold formed by the rolled-over edges of the

bag, a seam the stitches of which overlap the fold and pass through the bag on each side thereof, and a protecting-strip in the bag underlying the stitch-openings, said strip being
5 held in place by the stitches of the seam.

4. A closure for the mouths of bags for granular and pulverulent materials, comprising a protecting-strip of textile material in the bag, underlying the mouth, and held in place by
10 the stitches of the seam that closes the mouth.

5. A closure for the mouths of bags for granular and pulverulent materials, comprising a protecting-strip in the bag underlying the mouth-closing seam and held in place by the
15 stitches of the seam, said strip being formed of a material having a sufficient elasticity to substantially close the needle-openings upon the thread after the needle has passed through.

6. A closure for the mouths of bags for granular and pulverulent materials, comprising a protecting-strip in the bag underlying the mouth-closing seam and held in place by the
20 stitches of the seam, said strip being unattached

at its edges and being free to move with respect to the fabric of the bag. 25

7. A closure for the mouths of bags for granular and pulverulent materials, comprising a protecting-strip in the bag underlying the mouth-closing seam, and held in place by means passing across the closed edges of the
30 bag's mouth and through the bag and strip, leaving the outlying portions of the strip unattached and free to move.

8. A closure for the mouths of bags for granular and pulverulent materials, comprising a protecting-strip in the bag underlying the mouth-closing seam, and held in place by means of stitches passing through the central
35 portion of the strip so as to leave the outlying portions of the strip free to move. 40

In testimony whereof I affix my signature in presence of two witnesses.

TRUMAN GARRET PALMER.

Witnesses:

J. A. GOLDSBOROUGH,
EDWIN S. CLARKSON.