

W. B. CARLOCK.
Grain-Bags.

No. 143,876.

Patented Oct. 21, 1873.

Fig:1.

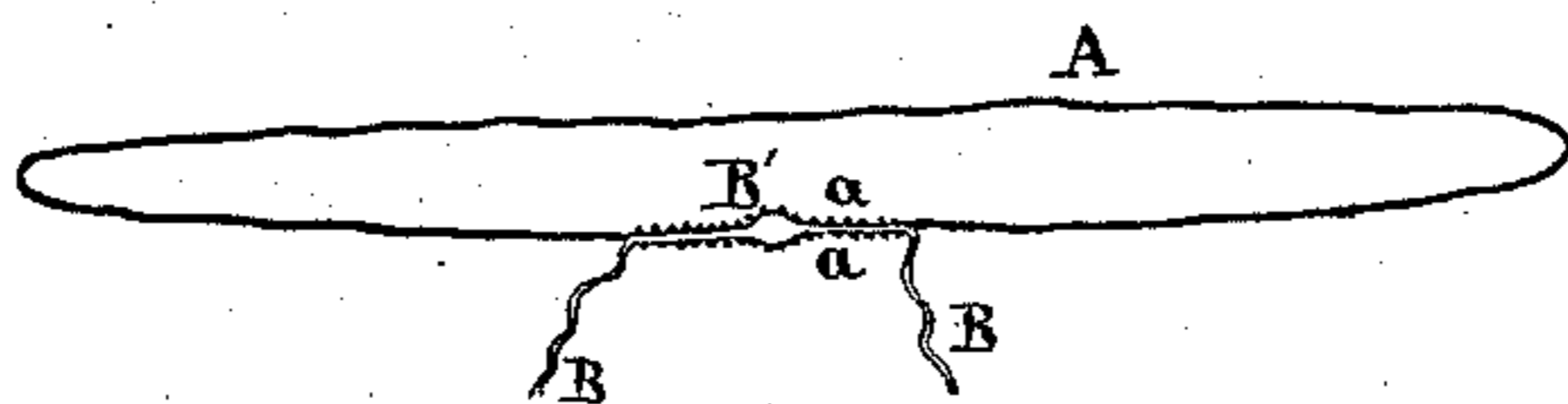
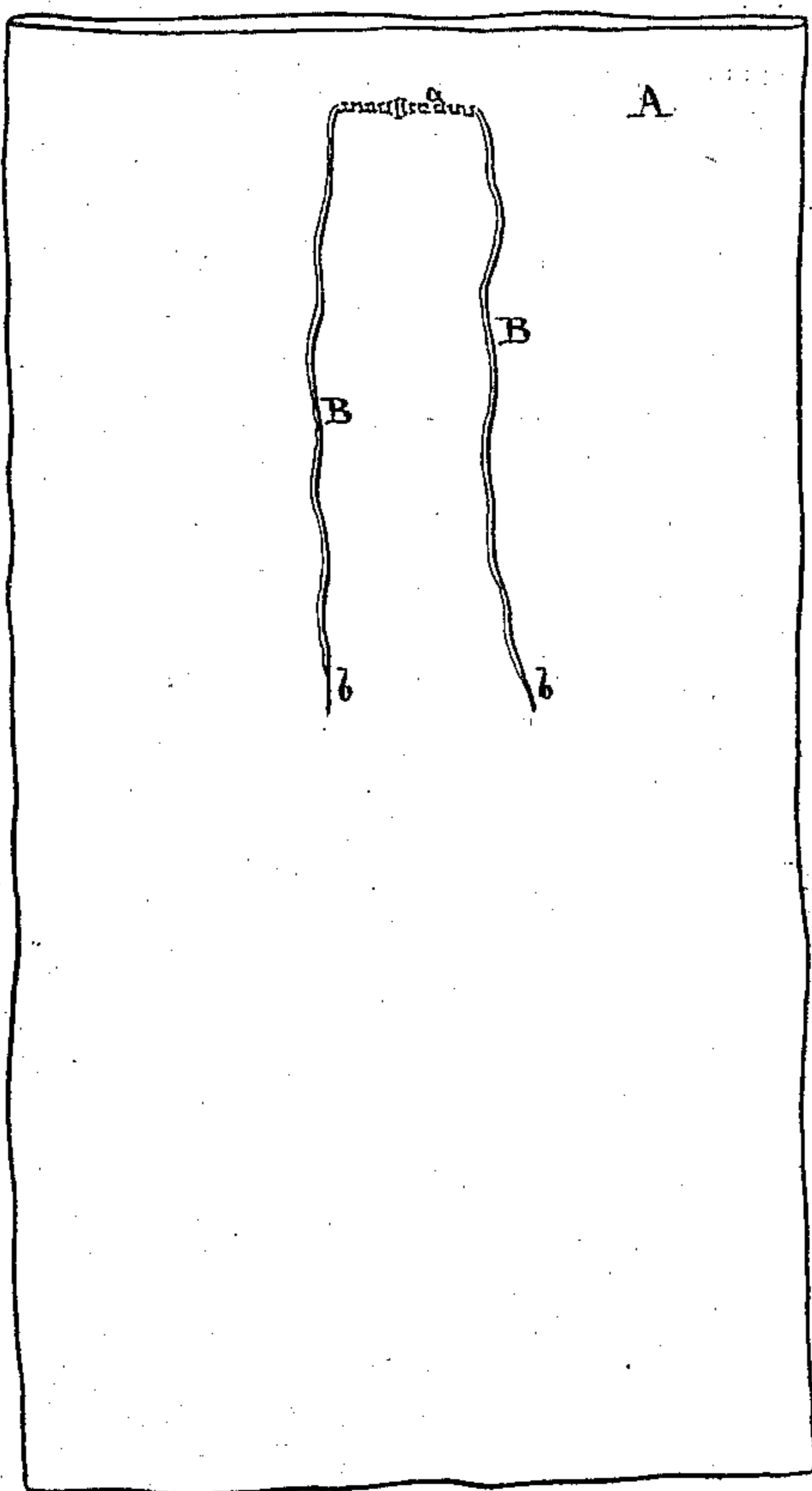


Fig:2.



Witnesses;

Arnold Hornum.

Wm C Dey

Inventor;

Wm B. Carlock,
by his attorney

J. L. Stearns

UNITED STATES PATENT OFFICE.

WILLIAM B. CARLOCK, OF WORSHIAM, VIRGINIA, ASSIGNOR TO HIMSELF
AND JOHN GRAHAM, OF NEW YORK CITY.

IMPROVEMENT IN GRAIN-BAGS.

Specification forming part of Letters Patent No. 143,876, dated October 21, 1873; application filed
March 25, 1873.

To all whom it may concern:

Be it known that I, WILLIAM B. CARLOCK, of Worshiam, Prince Edward county, in the State of Virginia, temporarily residing in New York city, in the State of New York, have invented certain new and useful Improvements relating to Grain-Bags, of which the following is a specification:

Of the immense quantity of grain annually produced in the United States a larger proportion would be shipped in bags except for certain practical difficulties attending their use. The convenience of handling and other advantages have been proved to more than compensate for the interest on the cost and ordinary depreciation.

Improvements in looms and other facilities have produced very perfect bags at moderate cost. I was the inventor of those improvements, and never realized any profit therefrom. But the means for closing the mouth are yet capable of improvement.

If the extreme upper edge, or a portion adjacent thereto, is made heavy and stiff, ordinary strings may be used with success; but in practice, with large numbers, strings are liable to be lost or misplaced. Strings have never been permanently attached by any means which are at the same time reliable and cheap.

My invention is intended to accomplish this result. I prepare suitable rough strings, with a knot in the middle of each, and with the ends defended against unraveling, and incorporate them into the bag in the process of weaving. The operation involves so little labor as to be practically without cost, and the strings are secured with absolute permanence. The attachment makes it certain that the strings cannot slip off over the mouth, and the economy, in the absence of a necessity for thickening or other preparation of the bag at the mouth, makes an appreciable amount of saving.

The accompanying drawings form a part of this specification, and illustrate what I consider the best means of carrying out the invention.

Figure 1 is a horizontal section in the plane

of the line where the string is woven in, and Fig. 2 is a general side elevation.

Similar letters of reference indicate like parts in all the figures.

A is a bag, and B a stout rough string, preferably a cabled cotton or hemp cord. The ends of the strings B are tagged, as indicated by *b b*, and the center is formed in a knot, as indicated by *B'*, or formed with an equivalent bunch. The string *B B'* is inserted through a portion of the bag by being introduced between the warps *a*, in addition to the ordinary filling. It is allowed to extend along in this manner between the warps for the distance of about two inches. Beyond this the string is allowed to project. The entire length of the string may be twenty inches, so that each end will project about nine inches.

In weaving the bags, an additional harness is introduced, and half of the warp-yarns for the space of two inches in width is carried in this extra harness. When the bag is woven to the right point this extra harness is thrown upward to a greater height than usual, and the string is inserted by hand or by other means. Then the harnesses are again worked together, and the lay or batten, striking up with force, works the ordinary filling in tightly, so that the bag looks, and is, very perfectly woven, with the ends of the string projecting from the outer face of the bag to the proper extent, at points two inches apart.

With a little more labor and skillful attention the strings may be introduced by hand through the warps with ordinary harness. The string is preferably tarred before its insertion.

There is very little strain on the string tending to pull it endwise through its fastening in the bag. The roughness, and especially the knot *B'*, will, with the tightness of the weaving, be sufficient to insure against any displacement in that direction. The whole strength of the warps is available to prevent its removal any other way. A few stitches or other fastenings may be added after the bag is finished to give increased security against the slipping of the string endwise, but my experiments have not indicated any necessity therefor.

If a greater length than two inches is inclosed in the bags the security of the string may be thereby increased; but a limit will soon be reached in this direction, because that portion of the bag which is woven around the string must necessarily remain unpuckered or ungathered when the bag is tied up.

I claim as my invention—

A woven bag having a knotted or bunched

string placed under and secured by the warps in the process of weaving, as herein specified.

In testimony whereof I have hereunto set my hand this 19th day of March, 1873, in the presence of two subscribing witnesses.

WM. B. CARLOCK.

Witnesses:

WM. C. DEY,

CHAS. RAETT, Jr.