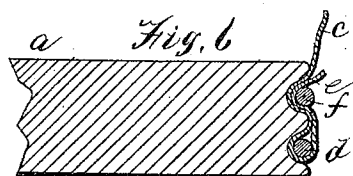
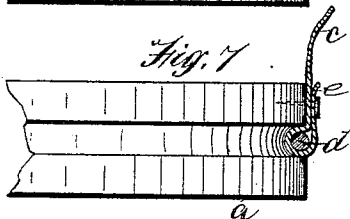
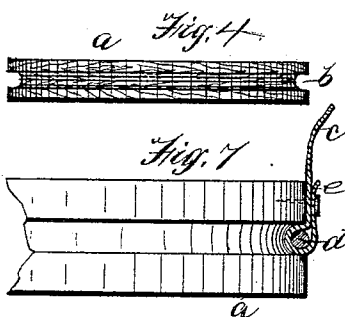
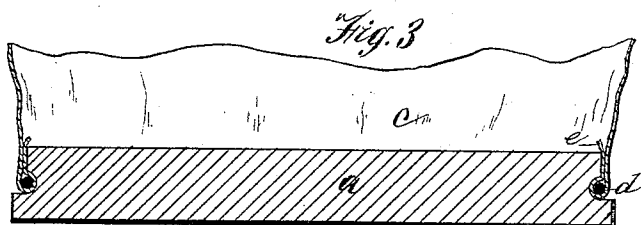
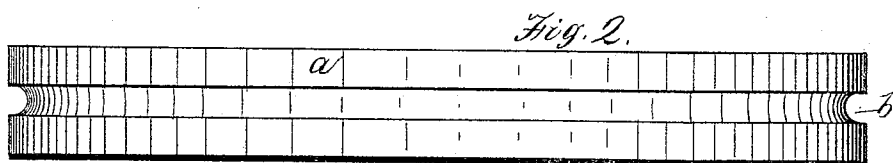
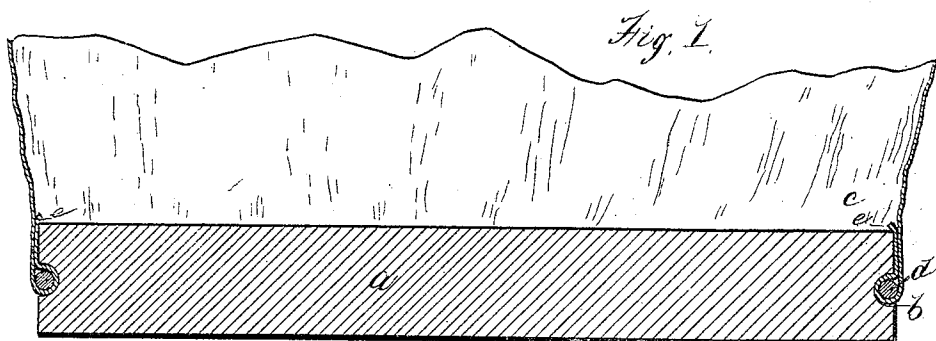


(No Model.)

J. N. BULL.
BAG.

No. 529,478.

Patented Nov. 20, 1894.



Witnesses
Fred A. Bearse
Ernest Clifford

Inventor
Jeremiah N. Bull
By Allen Webster
Attorney :

UNITED STATES PATENT OFFICE.

JEREMIAH N. BULL, OF SPRINGFIELD, MASSACHUSETTS.

BAG.

SPECIFICATION forming part of Letters Patent No. 529,478, dated November 20, 1894.

Application filed October 25, 1893. Serial No. 489,106. (No model.)

To all whom it may concern:

Be it known that I, JEREMIAH N. BULL, of Springfield, in the county of Hampden and State of Massachusetts, have invented new and useful Improvements in Bags, of which the following is a specification, reference being had to the accompanying drawings and letters of reference marked thereon.

My invention is especially designed for feed bags but the same construction may be advantageously employed in the manufacture of bags for other purposes.

The object of my invention is to provide a simple, inexpensive, secure and practical fastening between the flexible side walls and rigid bottom of a bag, and I accomplish these objects by the construction herein shown.

In the accompanying drawings in which like letters of reference indicate like parts, Figure 1 is a sectional view of the preferred form of construction. Fig. 2 is a side view of the bottom before the side walls are attached thereto. Fig. 3 illustrates a modification in the form of the bottom wherein the lower portion of the bottom projects beyond the plane of the side walls at its junction with the bottom. Fig. 4 illustrates a modification wherein the bottom is made of two pieces of wood the grain of one crossing the grain of the other. Fig. 5 illustrates another modification wherein the bottom is made up of three pieces or disks, the two outer ones being of the same diameter and the central one being of less diameter. Fig. 6 illustrates a further modification wherein two holding grooves are formed in the periphery of the bottom, and Fig. 7 illustrates a further modification wherein the manner of folding the overturned end or portion of the sides is reversed from that shown in Fig. 1.

In detail *a* indicates the bottom; *b*, a groove therein; *c*, the side walls; *d*, the binding wire or cord; and *e* the over-lapping portion of the sides.

The construction will be readily understood on reference to the drawings.

The simplest form of construction is to provide a disk of wood with an annular groove wherein the lower portion of the side walls is pressed by drawing a wire or cord tightly against the same, which wire or cord are suit-

ably fastened by tacks, staples or other means, after which the bag is turned to bring the binding means and projecting end *e* of the side walls upon the inside thus firmly doubling the cloth upon itself and effectually preventing danger of its being drawn outwardly or separated. It will be seen also that the binding means serve to strengthen the bottom and prevent splitting.

In some instances I prefer to form the bottom with its lower portion of greater diameter than the upper portion thus forming a protecting flange which will prevent the rubbing off of the sides at the junction with the bottom, so that the sides will not come in contact with the ground when the bag is resting upon its bottom.

Where a very strong bottom is required I prefer to construct two or more separate disks of wood suitably secured together with the grain of one crossing the grain of the other. In this case the separate pieces chamfered or recessed at the edges thus forming an annular recess in the periphery when they are secured together.

In Fig. 5 I have illustrated a bottom made of three pieces the two outer pieces being of greater diameter than the intermediate piece, and each being arranged across the grain of the other. It will readily be seen that with this construction the turning of an annular groove or channel in the periphery may be avoided.

In Fig. 6 I illustrate a modification wherein two holding wires or cords are employed the overturned edge of the side wall being carried under the binder *f*.

In Fig. 7 I illustrate a simple method of uniting the side walls and bottom which avoids the necessity of turning the bag as first described with reference to Fig. 1, the turned over parts of the side walls being carried upwardly and held in position by tacks or staples.

It will be readily seen that various forms or grooves and kind of size of wire or cord may be employed without departing from the spirit of my invention, and that a metal disk may be substituted for the wooden ones herein illustrated.

Although this invention is especially de-

signed for feed bags yet it will readily be seen that it may be employed in the construction of bags for handling coal or grain or other purposes wherein it is desirable that a bag be employed having flexible sides.

The great advantage in a grooved bottom will be readily seen from the fact that all danger of slipping of the binder in either direction is avoided as the groove or annular channel has walls upon each side. I do not wish to have it confused with a bottom having a rabbet formed at the edge, as I make no claim to a bottom having a rabbeted edge.

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

1. In a bag, the combination of a bottom having a grooved edge, a wire adapted to lie in said groove, and flexible side walls having the end turned over the wire, the portion turned over lying within the walls and about the bottom above the groove, the wire being

tightened in the groove to retain the walls in position, substantially as described.

2. In a bag, the combination of flexible side walls, a wire about which the end of the side walls is turned, and a bottom having its edge grooved to receive the wire, which being tightened retains the walls in position, the portion of the bottom below the groove projecting horizontally or radially beyond the walls to serve as a fender for the same, substantially as described.

3. The combination of flexible side walls and the disk bottom the latter being formed of two or more separate pieces of wood arranged with the grain of one crossing the grain of the other and secured together substantially as and for the purposes stated.

JEREMIAH N. BULL.

Witnesses:

ALLEN WEBSTER,
E. C. STICKNEY.