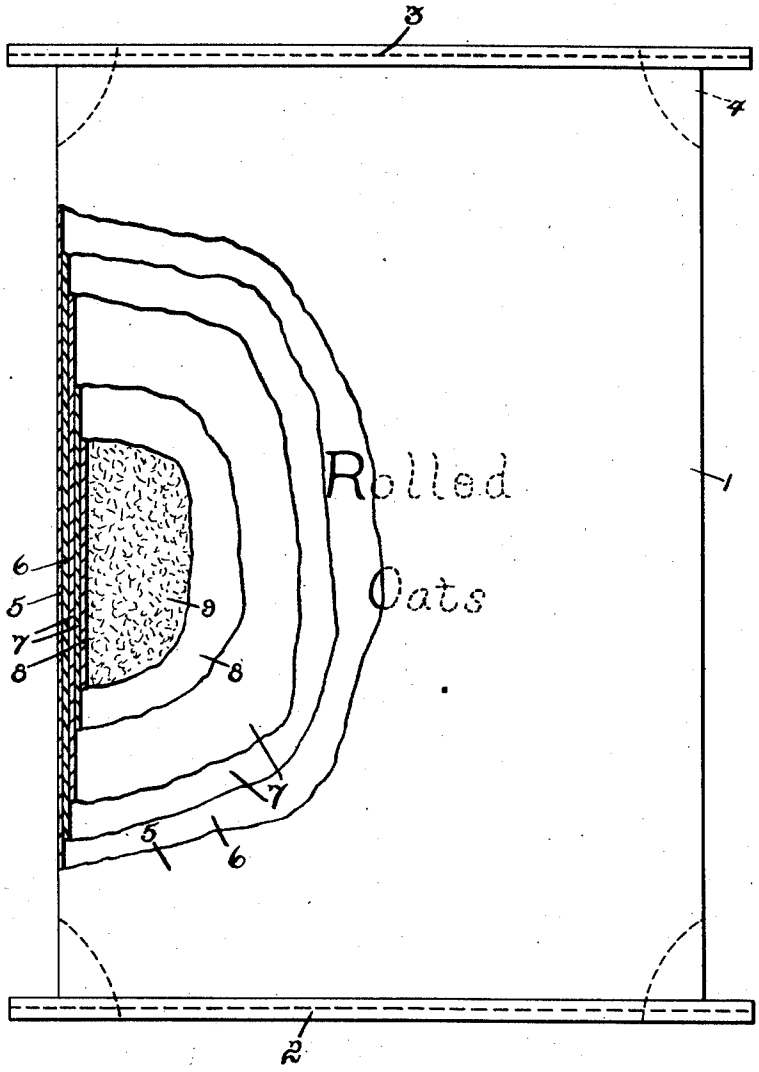
Jan. 17, 1928.

1,656,368

A. M. BATES ET AL

MULTIPLY PAPER BAG

Filed Nov. 30, 1925



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Patented Jan. 17, 1928. 1,656,368

UNITED STATES PATENT OFFICE.

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MULTIPLY PAPER BAG.

Application filed November 30, 1925. Serial No. 72,148.

Our invention relates to bags and particularly to bags having a plurality of layers of paper used for strength.

The object of our invention is to provide a bag which may have one or more layers especially prepared to meet the needs of its use and having paper walls of sufficient strength to enable the bag to carry heavy charges and withstand rough usage. Details of our invention will appear as the description proceeds.

In the accompanying drawing forming a part of this specification, we have shown a face view of a bag embodying our invention, parts being broken away to show the interior layers of the wall.

The bag comprises a tubular portion 1 formed of a plurality of layers, the ends of the bags being closed by reinforcing seams 2 and 3. We prefer to fold in the walls of the bag at each corner to form a pocket 4, as indicated by dotted lines. The bag is indicated as having an outer waterproof layer 5, which may be semi-transparent, and a layer of paper 6 within this outer layer, which may have any desired printing matter thereon, and additional layers 7 sufficient to provide necessary strength.

The inner layer 8, which contacts the contained material 9, may be of a different color from the other layers in order to give the desired appearance to the bag when opened, or it may be treated in any desired manner to make it impervious or to give other qualities desirable for its particular use. Desired characteristics other than being waterproof may be given to the outer layer, the particular feature of our invention being the especial treatment of one or more layers to give the surfaces of the wall the desired characteristics, while the portion of the wall which furnishes the necessary strength is built up of a plurality of layers of paper.

Heretofore, bags have been used having especially treated inner layers or outer layers, but, so far as we are informed, a single layer has been depended upon for such additional strength as is needed, with the result that paper has been depended upon for the strengthening layer only where the bags are comparatively small or where the strain is not severe.

Where the strain on the walls is severe, a single layer of paper thick enough to provide the necessary tensile strength is comparatively stiff and can not be bent and folded in the customary manner without weakening it excessively along the fold lines. Therefore, we use paper thin enough to bend and fold readily without excessive weakening and employ as many layers of such paper as required to furnish the necessary tensile strength. The use of a plurality of plies of paper to provide the necessary strength is advantageous not only along the fold lines, but also because closures formed by sewn seams do not weaken walls formed of a plurality of layers as much as they would single walls of approximately the same total thickness.

Our invention makes possible the use of bags of large sizes with specially treated layers and allows the substitution of paper for cloth in many instances.

Various changes may be made in the form of the bag and in the nature and arrangement of the layers, and any such changes within the scope of the appended claims will not depart from the spirit of the invention.

What we claim is:

1. A bag comprising a tubular portion closed at the end by a sewn seam, the wall of said tubular portion comprising a layer of paper having characteristics especially adapting it for its particular use, and a plurality of other relatively movable layers of paper providing the necessary strength.

2. A bag having a tubular portion closed at one end by a sewn seam, the wall of said tubular portion comprising one layer of waterproofed paper and a plurality of relatively movable layers of paper pervious to water.

3. A bag comprising a tubular portion closed at one end by a sewed seam, the wall of the tubular portion comprising one layer of specially colored paper and a plurality of other relatively movable layers of paper of a different color.

In testimony whereof, we have hereunto signed our names to this specification.

ADELMER M. BATES.
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