E. W. GLOVER.

MAIL-BAG.

No. 186,827. Patented Jan. 30, 1877.

Fig. 1.

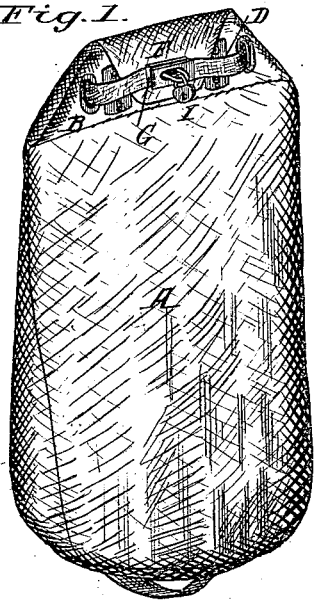


Fig. 2.

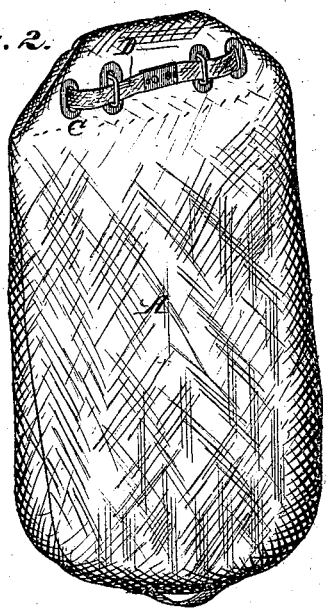


Fig. 3.

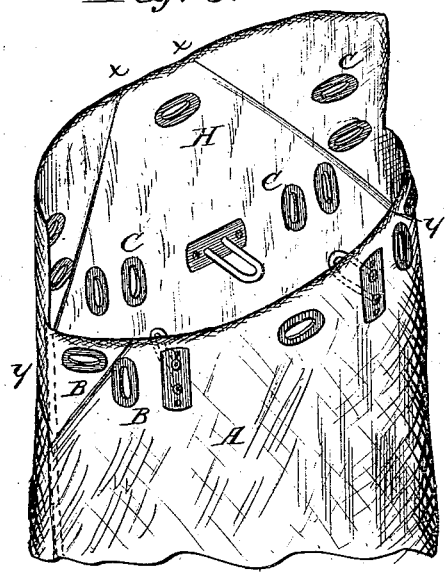
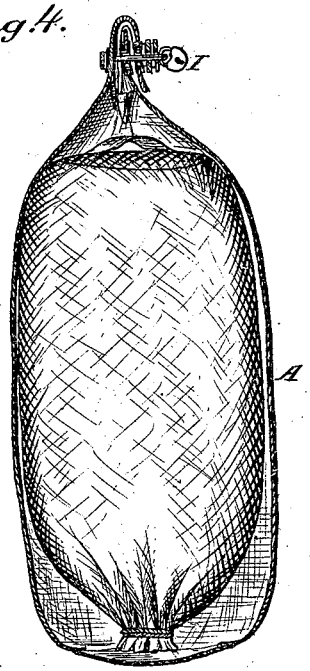


Fig. 4.



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UNITED STATES PATENT OFFICE.

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IMPROVEMENT IN MAIL-BAGS.

Specification forming part of Letters Patent No. **186,827**, dated January 30, 1877; application filed January 19, 1877.

To all whom it may concern:

Be it known that I, EDWARD W. GLOVER, of Malden, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Fire-Proof Mail Bags or Pouches, of which the following is a specification:

This invention relates to certain improvements in mail bags or pouches, its object being to provide a fire-proof receptacle for the transportation of mail-matter that will protect the same from destruction by fire incident to railroad accidents; and to this end the invention consists, first, in a pouch or bag composed of a fabric of vegetable or mineral nature, such as flax, hemp, cotton, mineral wool, or asbestus, treated with certain chemicals to resist the action of fire, said pouch or bag being adapted to inclose an inner bag or mail-pouch, as more fully hereinafter specified; second, in a pouch or bag composed of two thicknesses of material, or consisting of an inner and outer bag, leaving an air-tight space between the two, either or both of said bags or pouches being treated chemically, so as to be fire-proof, as hereinafter more fully set forth.

In the drawings, Figure 1 represents a front elevation of my improved bag or pouch. Fig. 2 represents a rear view of the same. Fig. 3 represents a view of the upper part of the bag or pouch, with the mouth open; and Fig. 4, a sectional view of the bag, showing a separate bag or pouch inclosed.

The letter A represents a bag or pouch, constructed of a fabric composed of vegetable or mineral fiber, such as flax, hemp, cotton, mineral wool, or asbestus, or any other material which will absorb and hold the chemicals necessary to render the bag fire-proof. The rear side of the bag is made somewhat longer than the front side, in order that it may be folded over to form a comparatively air-tight seal to the bag, as more fully hereinafter explained. The bag may be made of one thickness of fabric; but it is preferably made of two thicknesses, or constructed of an inner and outer bag, which may be united at the mouth, leaving an air-tight space between the two, for greater security of the contents against destruction by fire. The fabric of either or both of the bags is rendered fire-proof by treatment with any of the ordinary fire-proofing materials or chemicals, such as tungstate of soda, silicate of soda, sulphate of ammonia, or other salt, or a combination of one or more of said salts. In practice, I have found a compound of three parts of borax and two and one-half parts of epsom-salts in twenty parts of water answers well as a fire-proofing material, the fabric or bags being saturated with said solution and allowed to become dry. A compound consisting of one part of sulphate of ammonia and two parts of gypsum also forms an excellent fire-proofing material, being applied to the fabric or bags mixed with water. These fire-proofing materials form protective coatings, which inclose or seal up the fibers of the fabrics, and render it very difficult to set fire to them, and when subjected to an intense heat form a glazing or glassy coating, which protects the bag and its contents from destruction.

In order to securely protect the opening at the mouth of the bag and form an air-tight seal for the same, the bag or pouch, at its rear, is formed with an extension or flap projecting beyond the mouth, which, together with the upper portion of the front of the bag at the mouth, is folded over at each corner on the lines *x y*, Fig. 3, partially closing the mouth, after which the angular flap thus formed is turned down over the front of the bag or pouch, as shown in Fig. 1, securely and tightly closing the bag. The front and rear portions of the bag or pouch are provided with oblong eyelets B C, arranged in such relation to each other that when the mouth of the bag is folded and secured, as above mentioned, the eyelets of the rear and front will fall opposite each other, and form passages for the lock-strap D, which is secured at its center to the back of the bag in such manner that its free ends can be passed through the eyelets and united over a staple, F, at the front of the bag, being provided with eyelet-plates G for the purpose. The rear flap of the bag is provided with an eyelet, H, which is also secured over said staple, the whole being confined thereon by means of a padlock, I, or a fastening device of any other suitable description.

The bag as thus prepared and constructed may be used directly as a receptacle for mail-

matter; but I prefer to use an inner bag of lighter material, or to employ the bag as a receptacle for the ordinary mail-pouches, as a further safeguard against fire. In case the inner bag is employed it is generally made of lighter material, and may be simply tied at its mouth, as the outer bag is securely locked at its mouth. To prevent abstraction of letters or loss should the mouth of the outer bag become partially opened, either through accident or design, the inner bag is preferably placed in the outer one, mouth downward, as shown in Fig. 4.

By means of the peculiar method and devices for fastening the bag or pouch it will be seen that it will be impossible for the bag to become wholly opened without cutting or breaking both ends of the lock-strap, securing the contents, in a great measure, from accidental loss, as it can rarely happen that both ends of the strap would wear or break at the same time, and even should they break, the mouth of the bag will still retain its folded condition unless opened by actual violence.

The material of the bag being rendered fire-proof, and the mouth secured in such manner as to make it nearly air-tight, it is evident that in case of fire it would require considerable time before the contents of the bag would be reached and destroyed, giving ample time for the removal of the bags before the letters or other mail-matter could be destroyed, the bag thus proving an almost absolute safeguard against fire.

The advantages of constructing the interior bag so as to adapt it to be placed in the mail bag or pouch proper are many, and among such may be mentioned, that the interior bag being light, it can be manipulated with ease and facility while putting up or discharging mail-matter, as the design is that it is to be employed in all cases, except for transportation. When it is to be employed for transportation it is placed within the mail bag or pouch proper, by which means it is not only protected against rough usage, but is also protected against fire.

By means of impregnating or applying the chemicals named, or their equivalents, to the fabric composing the bag, the fabric becomes coated with borate of magnesia, which is insoluble in hot or cold water, and repels fire or heat, and the bag is not only rendered fire-proof, but, when brought to a high temperature, the chemicals named will form volatile ammonia or carbonic-acid gas sufficiently to extinguish or smother the fire around or near the bag by destroying or overcoming the oxygen of the air, which will prevent combustion and absolutely prevent the burning of the bag. The silicate of soda forms a glassy coating to the bag, which renders the same air-tight, avoids the escape of moisture in the bag, and prevents the oxygen of the air from coming in contact with the same to produce combustion.

What I claim, and desire to secure by Letters Patent, is—

1. A mail bag or pouch composed of fabric of vegetable or mineral nature, such as cotton, flax, hemp, or asbestus, chemically treated to resist fire, substantially as described.

2. A mail-bag composed of two or more thicknesses of chemically-prepared fabric, leaving an air-tight space between the two for the protection of the contents against fire, substantially as described.

3. The mail-bag herein described, composed of a fabric or fiber chemically treated, to render it fire-proof, and constructed substantially as described, and adapted to receive and hold an interior bag to create an intervening space between the two, substantially as specified.

In testimony that I claim the foregoing I have hereunto set my hand in the presence of the subscribing witnesses.

EDWARD W. GLOVER.

Witnesses:

JAMES L. NORRIS,

JOS. L. COOMBS.