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SEAM FOR BAGS

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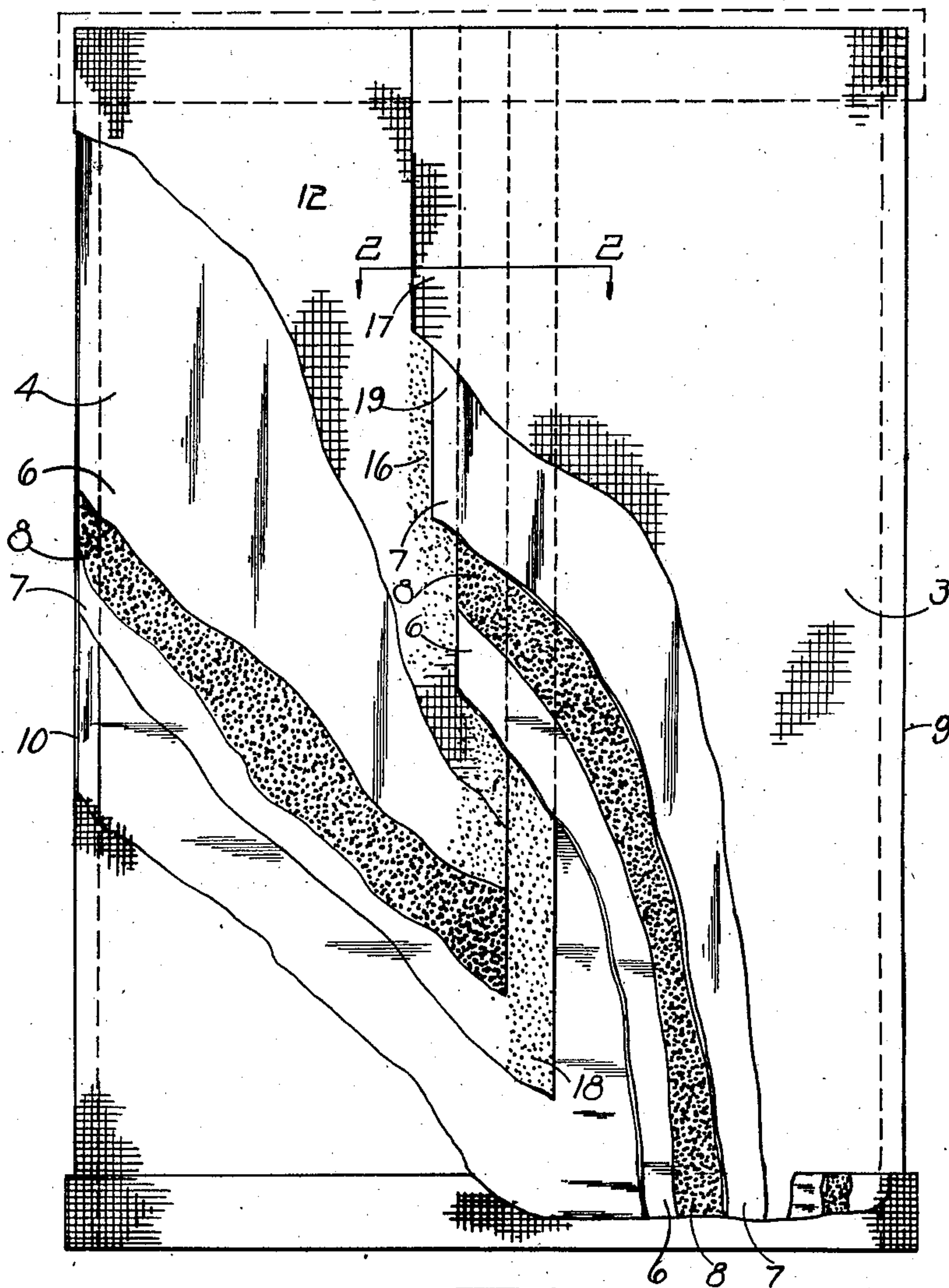


Fig-1

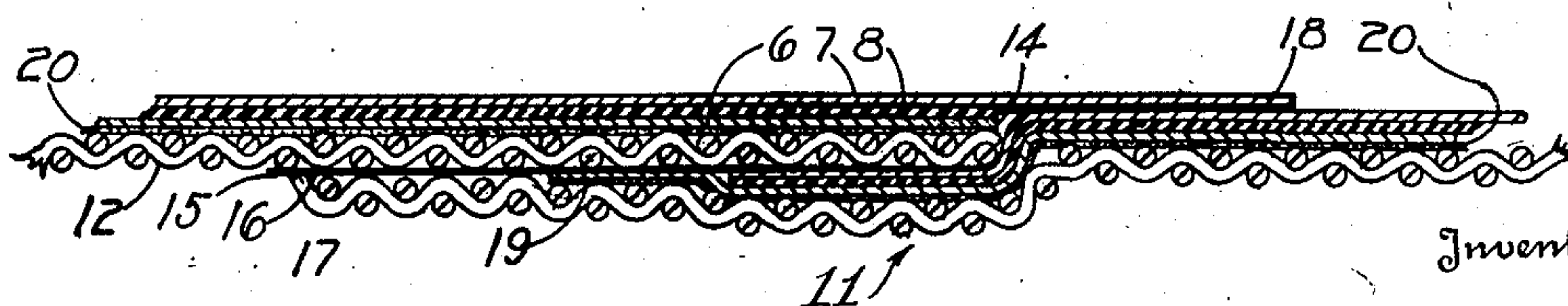


Fig-2

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# UNITED STATES PATENT OFFICE

2,022,501

## SEAM FOR BAGS

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### 1 Claim. (Cl. 150—1)

My invention relates to bags or sacks and is an improvement pertaining more particularly to lined heavy duty bags in which the body of the bag is composed of an outer covering and an inner preferably air tight and liquid tight stretchable lining. The outer covering of such bags is ordinarily made of textile fabric such as burlap to withstand rough handling whereas the inner lining consists of a sheet of creped paper or other similar material ordinarily connected to the outer covering by a waterproof binder such as asphaltum.

Bags of the type described herein are frequently subjected to intense heat, and it has been found that the asphaltic material, connecting the lining to the burlap, would soften as a result of the heat, penetrate the burlap and permit of the liner being partly separated from its covering, and then quickly deformed and destroyed.

It is the primary object of this invention to eliminate the difficulty mentioned above by providing a lined, sturdy and waterproof bag of the type referred to with a multi-ply waterproof liner, which liner is secured to the covering by means of a paste which will not be softened by heat.

The liner is made of a plurality, usually two, of sheets of creped paper or other suitable material between which is interposed a layer of suitable waterproofing material, usually of an asphaltum nature. However, these sheets, which are slightly shiftable with respect to each other especially when the bag is subjected to heat, and the asphaltic material softened, should be so secured to each other as to insure their compound action and should also be secured to the outer covering so as to properly protect and cover the seam of the outer covering.

It is therefore another object of this invention to provide a lined, sturdy and waterproof bag of the type referred to with a multi-ply waterproof liner in which each ply is secured to the covering and to one of the plies by means of a suitable paste such as a latex adhesive having a greater resistance to the softening action of heat than asphaltum which will not be softened by heat. This desideratum is obtained by overlapping sheets of the liner so that there are no end portions of the liner which are secured in place only by the asphaltic material but by paste means which will not be softened by heat.

With the foregoing and other objects in view, the invention comprises the novel construction, combination and arrangement of parts herein-

after more specifically described and illustrated in the accompanying drawing, wherein is shown a preferred embodiment of the invention.

The novel features that I consider characteristic of my invention are set forth with particularity in the appended claim.

In the drawing:

Figure 1 is a plan view of a multi-ply paper lined burlap bag according to the invention, the different layers of the outer covering and inner multi-ply lining member being partly broken away to disclose the construction of the bag and its seam; and

Figure 2 is an enlarged fragmentary sectional view through the seam of the bag, the section being taken on line 2—2 of figure.

The bag is formed from a composite sheet including an outer layer of woven fabric 3, such as burlap. This outer layer carries an inner two-ply lining member 4 fastened thereto by means of a layer of waterproof binder. The liner 4 preferably consists of two smooth sheets of tough, thin and creped paper 6 and 7, which sheets are secured together by means of an interposed layer of waterproof binder 8, such as asphaltum.

The web of material from which the bags are made from tube sections formed in tubing machines of old and well known construction comprises the outer burlap covering 3 and the lining member 4. This web is folded at 9 and 10 and joined by an overlapping seam 11, arranged in the middle of the seamed side wall 12 of the bag. In this seam the edges 14, 15 of the outer fabric layer 3 overlap each other and are pasted together by means of a layer 16 of a waterproof binder or paste, which will not be softened by heat. To facilitate the overlapping of the layer or covering 3 and the pasting together of the edges 14 and 15, the layer 3 and the lining member 4 are laterally offset with respect to each other, that is, one edge of the fabric extends beyond the corresponding edge of the liner to form an unlined marginal portion 17, which is folded upon and pasted to the other edge of the fabric.

In the liner 4, made from the sheets 6 and 7 secured together by the asphaltic binder 8, the outer sheet 7 is somewhat wider than its companion sheet 6 to provide extended portions or strips 18 and 19 at opposite ends of said outer sheet. These strips project beyond the asphaltic binder 8 between the sheets 6 and 7 and are connected by waterproof, heat resisting paste 20 to the outer



face of the liner and the outer face of the covering, as will be seen from inspection of Figure 2.

When the bag constructed in accordance with the invention is formed the previously prepared covering 3 and the properly pasted sheets 6 and 7 of the liner 4 are folded in a tubing machine so that the side edges of said sheeting material may be brought together. The paste bearing faces of the sheets 6 and 7 and of the fabric 3 are then pressed together and thus form the above described seam of the bag. After making of the seam in the way described, the bottom and neck portions of the said bag are formed in any desired manner.

From the foregoing it is plain that the end portions of the sheets of the liner and of the covering are permanently secured in place by means of paste, which will withstand intense heat and consequently the bag will stand up under abusive wear and extensive heat, present for example in filling the bag with hot cement by filling machines, all as now generally practised. The fact that the waterproof asphaltic binder is enclosed by sheets of paper is of great importance, as this construction prohibits penetration of the fabric material with asphaltic paste. Such penetration of the fabric material with paste would weaken the waterproofness of the bag and make same sticky and hard to handle. The thickness of the seam of a bag constructed in accordance with the invention is hardly increased, as the overlap-

ping areas of the liner are widely spread. The lining of a bag of this type is much stronger and will more easily give under stresses due to the fact that the two ply paper liner permits of a higher degree of relative movements of the liner with respect to the cover than a single liner which is directly pasted to the outer covering.

Although I have shown and described certain specific embodiments of the invention, I am fully aware that modifications thereof are possible. My invention, therefore, is not to be restricted except insofar as is necessitated by the prior art and the spirit of the appended claims.

Having thus described my invention:

What I claim is:

A double walled bag formed of textile fabric and a multiply, creped paper lining the plies of which are secured together by a layer of asphaltic material, said fabric and paper lining being secured together over their entire opposed surfaces by a binder having a greater resistance to the softening action of heat than asphaltum, said textile fabric and liner being laterally offset with respect to each other to provide a fabric to fabric seam having its layers secured together by a layer of said heating resisting binder, and one of said plies of paper being wider than the other to form extending strips of paper, said extending strips of paper being secured to said ply and to the fabric by a layer of said heat resisting binder.

JOSEPH D. CRAMER.