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2,619,696

BAG SEAL

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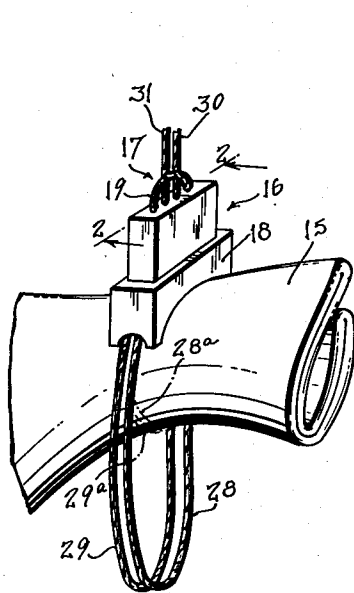


FIG. 1.

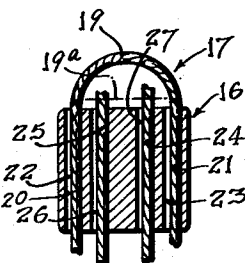


FIG. 2.

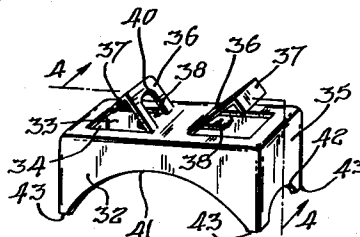


FIG. 3.

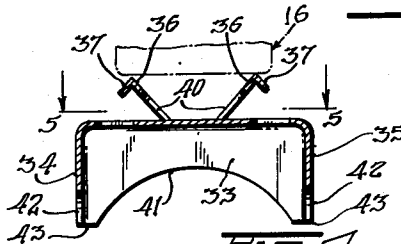


FIG. 4.

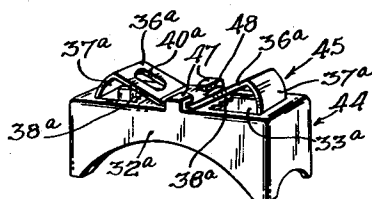


FIG. 5.

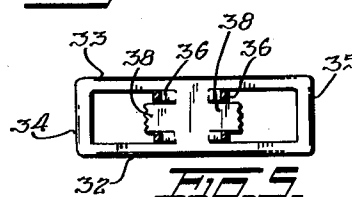


FIG. 6.

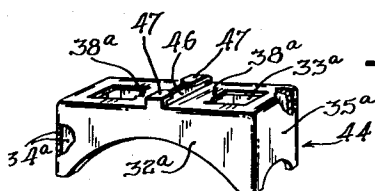


FIG. 7.

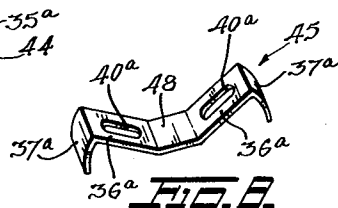


FIG. 8.

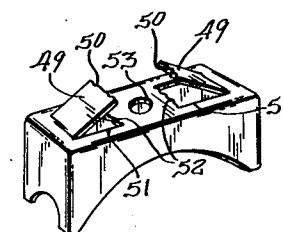


FIG. 9.

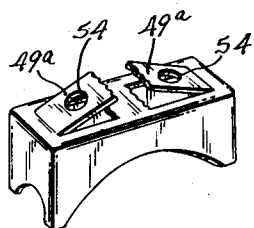


FIG. 10.

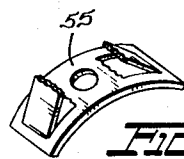


FIG. 11.

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BAG SEAL

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3 Claims. (Cl. 24—30.5)

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This invention relates to new and useful improvements in bag seals, as for the bags, usually of canvas or other textile material, in which coins or other valuables are contained for transportation, and, more particularly, the aim is to provide a novel and valuable seal means of an improved character in that the same cannot be surreptitiously opened or loosened while in transit by an unauthorized person without certainly fully severing or so fraying or otherwise plainly injuring the tie cord served by the sealing means as to make detection of the attempted tampering a matter of the most casual inspection.

According to the invention there is provided the combination of said tie cord, for encircling tightly the closely gathered or bundled mouth-opening-adjacent material of the bag, a seal of the type incorporating a block of compressible material, as lead, through which portions of the cord are threaded and which may be compressed by a suitable tool to pinch and immovably grip the cord, and, for interposition between the seal and the bag, an auxiliary gripper of an improved type.

Said gripper, which may be a simple prefabricated structure, of steel or other suitable hard and preferably temperable metal, has openings therethrough for being traversed by portions of the cord and incorporating shearing edges so functioning, after sealing the bag, that these edges are pressed against the last-named cord portions in a way to insure that anyone seeking to obtain access to the interior of the bag, by any action on the cord short of severing it between the seal and the gripper (which severing must be done by the person authorized to open the bag when it arrives safely at its destination), the cord will be sheared. Nevertheless, the auxiliary gripper is of trifling manufacturing cost, being capable of being comprised of merely one stamping or of a plurality thereof.

For further comprehension of the invention, and of the objects and advantages thereof, reference will be had to the following description and accompanying drawings, and to the appended claims in which the various novel features of the invention are more particularly set forth.

In the accompanying drawings forming a material part of this disclosure:

Fig. 1 is a perspective view, showing a tie cord and a lead seal through passageways in which the cord is preliminarily loosely threaded, and indicating the relative locations of the new auxiliary gripper, the gathered or bundled neck

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of the bag, and bight portions of the cord as finally drawn tightly around said neck.

Fig. 2 is a detail section, taken on the line 2—2 of Fig. 1.

Fig. 3 is a perspective view, showing one now favored embodiment of the new auxiliary gripper.

Fig. 4 is an enlarged section taken on the line 4—4 of Fig. 3, with the bottom portion of the lead seal indicated in dot and dash lines.

Fig. 5 is a section taken on the line 5—5 of Fig. 4.

Fig. 6 is a view similar to Fig. 3, but showing another now favored embodiment.

Fig. 7 is a perspective view, partially in section showing one of the two stampings forming part of the gripper of Fig. 6.

Fig. 8 is a perspective view showing the other of said stampings.

Figs. 9, 10 and 11, all views similar to Figs. 3 and 6, are, respectively, illustrative of various other now favored embodiments of the gripper of the invention.

Referring to the drawings more in detail, in Fig. 1 the bag, the lead seal and the tying cord are respectively designated 15, 16 and 17. The depiction 18 may be taken as representative of any of the embodiments of the invention, for instance, those illustrated in Figs. 3, 6, 9 and 10.

One way of threading the cord 17 through the seal (see also Fig. 2) is to have the central portion 19 of the cord looped as shown, thence to have extensions 20 and 21 from such loop extend downward through passageways 22 and 23 in the seal, and also to have further cord extensions 24 and 25 extend upwardly through passageways 26 and 27 in the seal, and so to provide two bight portions 28 and 29 of the cord for being drawn tightly around the neck of the bag, as indicated in Fig. 1 at 28^a and 29^a, by pulling hard on the two terminal portions 30 and 31 of the cord; this operation also drawing taut the cord portion 19 as indicated at 19^a in Fig. 2.

With the cord 17 thus drawn tight, which may be readily manually done, since, as will be noted from Fig. 2, the passageways 22, 23, 26 and 27 are of greater diameter than that of the cord, the lead seal 16 is compressed by the quick application of a pliers-type hand tool, thereby to cause the portions 20, 21, 24 and 25 to be immovably gripped by the seal 16.

Referring to the new auxiliary gripper as shown in Figs. 3–5, the same is illustrated as comprising a single stamping, as one of steel, incorporating a main hollow body having like side walls 32 and 33, like end walls 34 and 35, and a

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top wall having a pair of openings resulting from the striking up of a pair of leaves each formed to include a basal outwardly upwardly inclined plate 36 and a downwardly outwardly inclined lip 37, with each of such leaves thus presenting a structure which is of inverted V extension. Also, in forming said stamping, a pair of blades 38 are provided, each of which may be uniplanar with the top of the gripper, and both serrated across their free ends as shown; the material for these blades resulting from the provision of an opening 40 in each of the plates 36.

The side walls 32 and 33 have curvilinearly extended bottom edges 41, desirably of a radius suitably conforming to the rotundity of the bag neck when gathered or bundled for application of the sealing means, and the end walls 34 and 35 are cut away at their lower portions, for instance, as indicated at 42, 42; thereby providing presser fingers 43 at the four bottom corners of the gripper, for obtaining a good, tight frictional grip on the bag exterior. It is to be noted that said fingers are not pointed, so that they do not constitute prongs to pierce the bag material; but instead, have end areas of L-shaped extension.

Preparatory to giving the bag its sealed closure, and incidental to threading the cord 17 through the lead seal 16, said cord, with its intermediate portion 19 and its extensions 20 and 21 arranged relative to the lead seal as shown in Fig. 2, and so now with its bight portions 28 and 29 not yet established and with its terminal portions 30 and 31 freely depending, these cord portions 30 and 31 are passed downward through one of the openings 40, thence under the blades 38, thence upward through the other of the openings 40, and thence upwardly through the passageways 26 and 27 in the lead seal. The cord 17 after, at its bight portions 28 and 29, being looped around the neck of the bag, is now drawn tight, as already explained, thereby forcing the bottom of the lead seal down against the leaves 36—37, thereby in turn to grip each of the two stretches of the cord traversing each of the openings 40, between the upper end of the associated opening 40 and the outer end of the associated plate 33. Then the lead seal is compressed, also as already explained.

Any deliberate severe tugging at the cord, at the only place where it may be grasped, that is, beyond the outer end of the seal 16, will sever or badly fray the four stretches of the cord 17 passing through the openings 40; but, on the other hand, when the sealed closure of the bag is to be opened by an authorized person, a knife may be readily inserted between the top of the new gripper and the bottom of the lead seal and given a single shearing motion.

With the gripper stamped of thin sheet steel, the same may be hardened and tempered, to give resiliency to the leaves 36—37 and to provide sharp cutting edges not only at the upper ends of the openings 40, and, indeed, completely peripherally of such openings, but also at the outer ends of the blades 38.

Referring to the modification illustrated in Figs. 6 to 8, this shows a gripper pursuant to the invention made up of two separate stampings, these marked generally 44 and 45. The parts to which are applied reference numerals with the suffix *a* correspond, respectively, to the parts to which have been applied the same reference numerals but without a suffix; and, as will be noted, some of said parts are included in the stamping 44 and others in the stamping 45. The stamping 44 is also provided with a slot 46, and

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the material removed to provide such slot is shaped to present two clamping lugs 47. The stamping 45 has its plates 36^a joined by a flat portion 48. With the two stampings positionally arranged as indicated in Fig. 6, the lugs 47 are clenched, thereby locking the two stampings in the desired assembly, and providing an auxiliary gripper pursuant to the invention having all the functional advantages of the gripper of Figs. 3—5.

In Fig. 9, a single-stamping modification is illustrated, wherein, in lieu of the elements 36, 37 and 40 of Figs. 3—5, two tongues 49 are struck up as shown, each having a serrated edge 50 across its free end and so as to provide an opening 51 therebelow having a serrated edge as at 52. Between the openings 51 is a circular hole 53. In using this gripper, the tying cord may be so arranged that one of the bights 28 and 29, or one of the stretches of each of said bights, may pass through said hole 53, and the other bight, or the other of the stretches of both said bights, may pass through the two openings 52.

In Fig. 10 also is shown a single-stamping embodiment, this like the gripper of Fig. 9 except that, as will be noted, the hole 53 is not present, but, instead, each of the tongues 49^a has a circular hole 54. In using this gripper, the tying cord may be so arranged that one of the bights 28 and 29, or one of the stretches of each of said bights, may pass through one of the holes 54, and the other bight, or the other of the stretches of both said bights, may pass through the other opening 54.

In Fig. 11, the single-stamping gripper shown is not shell-like, as in the previously described forms of the invention, but is comprised merely of a longitudinally curved member 55 carrying portions structurally and functionally equivalent to the explained portions of the gripper of Fig. 9.

While I have illustrated and described the preferred embodiments of my invention, it is to be understood that I do not limit myself to the precise constructions herein disclosed and the right is reserved to all changes and modifications coming within the scope of the invention as defined in the appended claims.

Having thus described my invention, what I claim as new, and desire to secure by United States Letters Patent is:

1. A gripper to be mounted on the cords which close the mouth opening of a bag between the bag and the lead seal which seals the cords in position, comprising a hollow body adapted to be positioned on the cords between the bag and the seal, a wall closing said hollow body at its end adjacent the seal, opposed leaves stamped from the material of said wall to have free outer ends, said leaves being bent out of the plane of said wall to diverge toward the seal, and opposed blades cut from the material of said leaves at their junction with said wall, said blades being left in the plane of said wall when said leaves are bent out of the plane of said wall leaving holes in said leaves through which the cords freely pass from the interior of said hollow body to the seal, so constructed and arranged that when the seal is drawn up tight on the cords and against said wall said leaves will be pressed into the plane of said wall causing the cords to be gripped between the free ends of said blades and the material of said leaves surrounding said blades.

2. A gripper to be mounted on the cords which close the mouth opening of a bag between the bag and the lead seal which seals the cords in position, comprising a hollow body adapted to be po-

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sitioned on the cords between the bag and the seal, a wall closing said hollow body at its end adjacent the seal, opposed leaves stamped from the material of said wall to have free outer ends, said leaves being bent out of the plane of said wall to diverge toward the seal, and opposed blades cut from the material of said leaves at their junction with said wall, said blades being left in the plane of said wall when said leaves are bent out of the plane of said wall leaving holes in said leaves through which the cords freely pass from the interior of said hollow body to the seal, so constructed and arranged that when the seal is drawn up tight on the cords and against said wall said leaves will be pressed into the plane of said wall causing the cords to be gripped between the free ends of said blades and the material of said leaves surrounding said blades, and serrations on the free ends of said blades for obtaining a good grip on the cords when said leaves are pressed back into the plane of said wall.

3. A gripper to be mounted on the cords which close the mouth opening of a bag between the bag and the lead seal which seals the cords in position, comprising a hollow body adapted to be positioned on the cords between the bag and the seal, a wall closing said hollow body at its end adjacent the seal, opposed leaves stamped from the material of said wall to have free outer ends, said leaves being bent out of the plane of said wall to diverge toward the seal, and opposed blades cut from the material of said leaves at their junction with said wall, said blades being left in the plane of said wall when said leaves are bent out of the plane of said wall leaving holes

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in said leaves through which the cords freely pass from the interior of said hollow body to the seal, so constructed and arranged that when the seal is drawn up tight on the cords and against said wall said leaves will be pressed into the plane of said wall causing the cords to be gripped between the free ends of said blades and the material of said leaves surrounding said blades, said hollow body having spaced side walls and spaced end walls, said side walls having arcuate recesses in their edges remote from said first wall so that said side walls will fit snugly about the side of the bag when closed, said end walls having arcuate recesses in their edges remote from said first wall providing clearance when said hollow body is fitted against the bag for the cords to pass from the interior of said arcuate recesses and about the bag, said recesses being formed in said side and end walls intermediate the ends thereof forming L-shaped presser fingers at the four corners of said hollow body for obtaining a good frictional grip on the exterior surface of the bag.

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