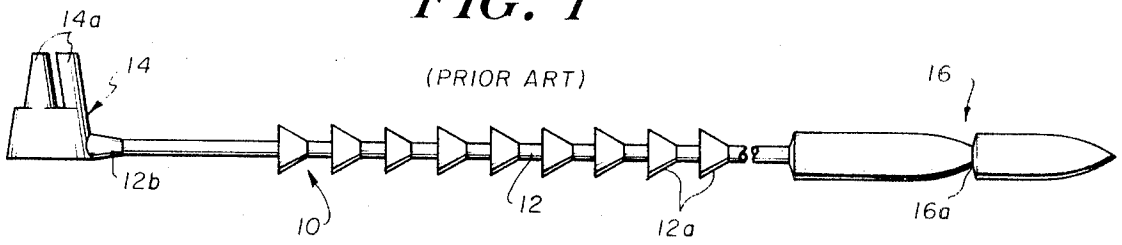
June 29, 1971 S. M. MOBERG 3,588,963

PLASTIC SEAL WITH LOCKING PORTIONS ENCLOSED TO OPPOSE TAMPERING

Filed March 25, 1970

FIG. 1

(PRIOR ART)



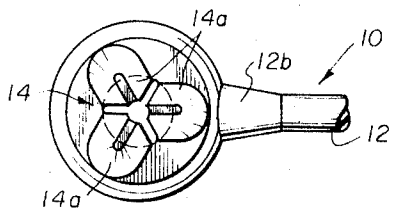


FIG. 2

(PRIOR ART)

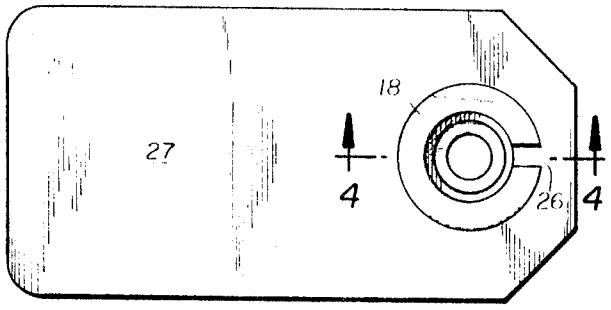


FIG. 3

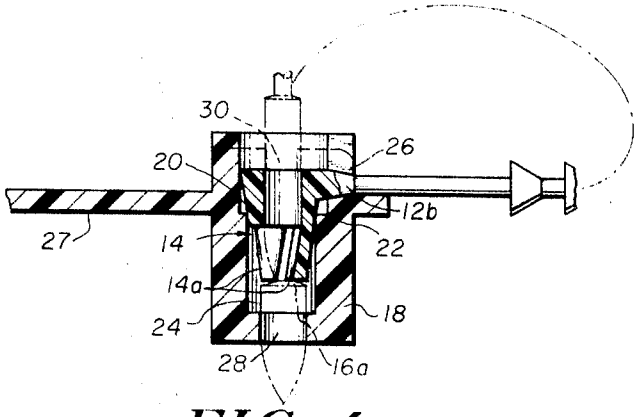


FIG. 4

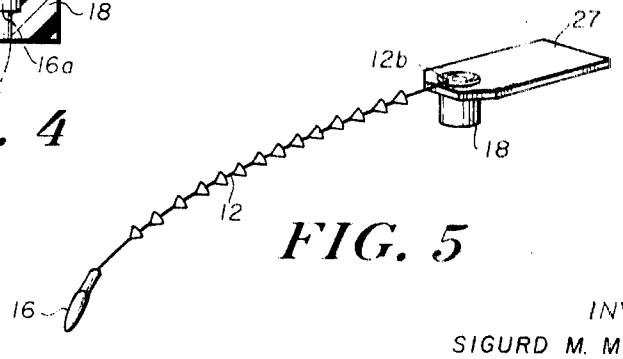


FIG. 5

INVENTOR:
SIGURD M. MOBERG
BY Robert Henderson
ATTORNEY

United States Patent Office 3,588,963 Patented June 29, 1971

3,588,963

PLASTIC SEAL WITH LOCKING PORTIONS ENCLOSED TO OPPOSE TAMPERING

Sigurd M. Moberg, East Orange, N.J., assignor to E. J. Brooks Company, Newark, N.J.

Filed Mar. 25, 1970, Ser. No. 22,582
Int. Cl. B65d 63/00, 55/06; G09f 3/16
U.S. Cl. 24—16PB 8 Claims

ABSTRACT OF THE DISCLOSURE

Plastic seals, hitherto having exposed locking portions, are guardingly enclosed within a separate, plastic, guard housing which is secured to the seal by being crimped thereupon. The guard housing is shown as including an integral tag for reception of indicia.

BACKGROUND OF THE INVENTION

Seals have hitherto been employed for various security purposes, as for example, application upon garments or other goods for sale. A common usage involves a plan whereby a garment sold, for example, with such a seal applied thereto is not returnable to the seller if the seal has been removed. Various prior seals have been such that their locking portions have been exposed for possible tampering, hence, they could be removed without being broken or damaged. Thus, after some use of the garment by a buyer, the removed seal could be reapplied to the garment, making it appear falsely that the garment had not been used.

This invention comprehends a novel guard housing which may be fixedly coupled to such prior seals to oppose access to the seal's locking portions, and, also, the combination of such a seal and a guard housing therefor.

BRIEF DESCRIPTION OF THE DRAWING

FIG. 1 is a side elevational view of such a prior seal.

FIG. 2 is a plan view of the locking portion of the seal as viewed from the bottom of FIG. 1.

FIG. 3 is a plan view of a tag and housing which, according to this invention is to be fixed about the seal's locking portion to substantially enclose and guard the latter against tampering.

FIG. 4 is a sectional view of said tag and housing substantially at the plane of line 4—4 of FIG. 3, including, also, a sectional view, at the same plane, of the seal's locking portion disposed within said housing; said locking portion being shown inverted in this figure as compared to FIG. 1.

FIG. 5 is a perspective view of the seal, combined with the housing; with which an integral tag is shown as optionally included.

DETAILED DESCRIPTION OF A PRIOR SEAL

FIGS. 1 and 2 show only one of various kinds of prior seals which may be included as a part of the present invention, but should serve to illustrate this invention's principle of providing an added housing to locking portions of a seal for improved security.

The prior seal **10** is a single piece of molded plastic comprising a pliant shackle **12** having an integral, female locking portion **14** at one end thereof and a male locking portion **16** at its opposite end. These parts are of such related shapes and dimensions that the shackle may be locked into the form of an enclosed loop by pushing the locking portion **16** downwardly, as shown in broken lines in FIg. 4, into the locking portion **14** wherein it is held by engagement of the ends of resilient fingers **14***a* in back of a shoulder **16***a* of the male locking portion. As the surface of the mentioned plastic is quite slippery,

the shackle **12** may be formed with an annular shoulder **12***a* or a series of such shoulders to facilitate the mentioned pushing of locking portion **16** into locking portion **14**.

It should be understood that the interlocking described in the next preceding paragraph hereof is an attribute of the prior art seal per se, irrespective of its combination with other instrumentalities as hereinafter described.

It will be evident that, with the prior seal as thus far detailed, the fingers **14***a* are exposed and could be spread and held open by a variety of small picks or other tools to open the seal; and the seal would still be available for reuse.

DETAILED DESCRIPTION OF A HOUSING COMBINED WITH THE PRIOR SEAL ACCORDING TO THIS INVENTION

Referring to FIGS. 3 and 4, and particularly to the latter figure, there is illustrated a cylindrical housing **18** of molded plastic material formed with a primary cylindrical recess **20** narrowing, at a circular shoulder **22**, into a secondary recess **24**. An open side slot **26** is provided at one circumferential point in the upper part of the wall of the recess **20**, this slot preferably being opposite to an optionally provided plastic tag **27** molded integrally with the housing **18**. The secondary recess **24** adjoins a narrower opening **28** in the bottom, as viewed in FIG. 4, of the housing.

The seal **10** is fixed to and partly into the housing **18** by introducing the seal's female locking portion **14** downwardly into the housing, as viewed in FIG. 4. The thicker part of said locking portion is accommodated within the primary recess **20** and the tapering fingers **14***a* extend downwardly into secondary recess **24**, there being enough clearance between the wall of the latter recess and said fingers to enable the latter to be momentarily spread apart in locking the seal as hereinafter described.

Downward movement of the seal's locking portion **14** is limited by engagement of its thicker part with the shoulder **22**. In the introduction of the locking portion **14** into the housing **18**, an end portion **12***b* of the shackle seats in the slot **26** so that the seal's locking portion **14** cannot turn in relation to the housing **18**. With the parts of the seal associated with the housing as just described, the upper end of the housing is mold-rolled inwardly over the adjacent end of the seal's locking portion **14** as indicated in broken lines in FIG. 4; the stock of plastic material at the upper end of the housing being such as to leave an opening **30** in the top of the housing.

The described combined device appears as shown in FIG. 5, assuming that the optional tag **27** has been provided; and it is in that condition, either with or without the tag, that the combined device is supplied to users.

In use of the seal, the user passes the male end of the shackle through some part of the article to be sealed, and then pushes the male locking portion into the housing causing the seal to become locked as already described. As shown in broken lines at the bottom of FIG. 4, an extremity of the locking portion **16** fits closely within the bottom opening **28** and the opening **30**, likewise, is closed by a part of the shackle. Thus, the interlocked portions of the seal are inaccessible for tampering.

I claim:

1. A plastic housing for enclosing a female locking portion of a plastic seal, said housing comprising a body portion formed with a primary recess of such dimensions as to snugly receive, seated therewithin, a relatively large part of said locking portion, leaving a collar portion of the wall of the primary recess extending clear of said locking portion, said housing being formed also with a secondary recess of less diameter than said primary recess

and communicating with the latter, said secondary recess being of such dimensions as to freely receive locking fingers of said locking portion therewithin; and said collar portion being crimpable inwardly over marginal areas of said large part of the locking portion to hold the latter firmly in place within the housing.

2. A plastic housing according to claim 1, wherein said collar portion is formed with a slot for receiving a part of a shackle portion of said seal therewithin.

3. A plastic housing according to claim 1, further including a plastic tag molded integrally with said housing.

4. The combination of a plastic seal and a plastic housing for enclosing a part of said seal therewithin; said seal comprising an elongate, bendable shackle, a male locking portion at one end of said shackle and a female locking portion at the opposite end of said shackle, said female locking portion being formed with a passage extending therethrough for receiving said male locking portion therewithin; and said housing being formed with a recess in which said female locking portion is disposed, a generally cylindrical portion, of the housing's wall which defines said recess, having a lip extending radially inwardly in overlapping relation to said female locking portion to hold the latter firmly within the housing, and said lip being clear of said passage to permit insertion of said male locking portion into said passage.

5. The combination according to claim 4, said female locking portion including plural locking fingers which are resiliently expandable and contractable into locking engagement with said male locking portion, and the wall of said recess being spaced sufficiently from said fingers

to permit the latter to expand freely in receiving said male locking portion therewithin.

6. The combination according to claim 4, said recess having a larger diameter cylindrical portion and a smaller diameter cylindrical portion coaxial with the larger diameter portion, the two latter portions communicating with each other at a circular shoulder, and said female locking portion comprising a cylindrical base, held firmly between said lip and said shoulder, and locking fingers, integral with said base and extending freely within the smaller diameter cylindrical portion of said recess.

7. The combination according to claim 4, further including a flat, plastic tag member, rigidly integral with said housing.

8. The combination according to claim 7, the seal's said shackle extending laterally in one direction from said female locking portion, and said tag member extending laterally in the opposite direction from said female locking portion.

References Cited

UNITED STATES PATENTS

D 214,153	5/1969	Merser	24—150FPUX
1,742,982	1/1930	Wittstein	40—21A
3,429,065	2/1969	Long et al.	40—21R
3,467,427	9/1969	Moberg	24—16PBX

DONALD A. GRIFFIN, Primary Examiner

U.S. Cl. X.R.

24—150FP; 40—21R