Nov. 7, 1939. C. SCHEIDEGGER 2,178,611

GNAW-PROOF CONTAINER

Filed July 6, 1937

Fig. 1

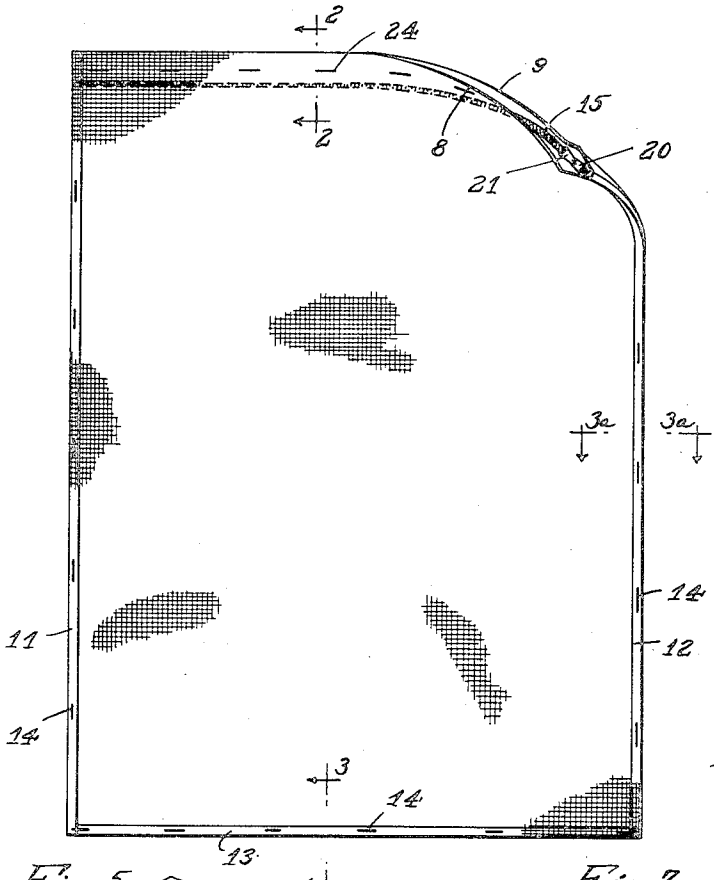


Fig. 2

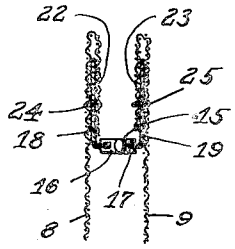


Fig. 3

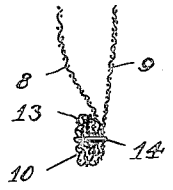


Fig. 4



Fig. 5

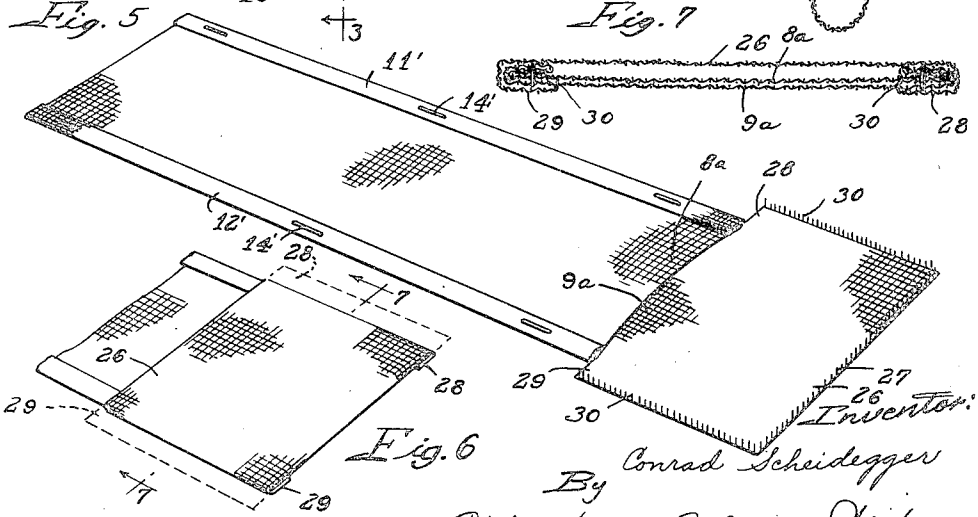


Fig. 7

Fig. 6

Inventor:
Conrad Scheidegger
By
Wilson, Dowell, McInnis & Hintercorn
Attys

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GNAW-PROOF CONTAINER

Conrad Scheidegger, Rockford, Ill.

Application July 6, 1937, Serial No. 151,972

1 Claim. (Cl. 150—3)

This invention relates to a gnaw-proof container designed to meet the problems presented by mice and rats on the farm, in the household, and in industry, by protecting articles and materials placed therein from these and other pests.

The principal object of my invention is to provide envelope type containers made substantially entirely of wire cloth or equivalent material which by reason of the metal construction is absolutely gnaw-proof, and by reason of the perforations permits complete aeration of the contents, and which by reason of its pliability and indestructibility permits it to be folded readily in forming closing seams which may be stapled for permanence, the material in addition being available at such low cost that its use as a protective covering for things of even moderate value, such as seed corn, is entirely reasonable and feasible.

Another important object of my invention is to provide improved closures for containers of the kind mentioned, which in the case of large containers preferably takes the form of slide fasteners, such as "zippers", whose cloth attaching tapes are secured in the mouth of the container so as to be completely covered by the wire cloth and thus protected from gnawing.

The invention is illustrated in the accompanying drawing, in which—

Figure 1 is a front view of one of the larger gnaw-proof containers showing one portion of the mouth thereof turned forward to reveal the slide fastener closure;

Fig. 2 is a section on the line 2—2 of Fig. 1, on a larger scale;

Fig. 3 is a section on the line 3—3 of Fig. 1, which so far as the construction is concerned corresponds also in appearance to a section on the line 3*a*—3*a*;

Fig. 4 is a section similar to Fig. 3, showing a modified or alternative construction;

Fig. 5 is a perspective view of a container of a smaller type showing the flap thereof open;

Fig. 6 is a perspective view of the same container with the flap closed, and

Fig. 7 is a section on the line 7—7 of Fig. 6.

Similar reference numerals are applied to corresponding parts throughout the views.

Referring first to Figs. 1 to 3, the container shown here is made of two pieces 8 and 9 of wire cloth, hardware cloth, or any other similar foraminate or perforate metallic material. The side and bottom edges of these two pieces are folded together one or more times, as clearly indicated at 10 in Fig. 3, to form closing seams 11, 12, and 13 lengthwise of the opposite sides and bottom of the container. Wire staples 14 are preferably passed through the seams at intervals to permanently close the same. These folding and stapling operations can be performed by machinery at extremely low cost, thus making the container available at as low cost as its use in most instances will necessitate from the standpoint of commercial feasibility. The upper end of the container is, of course, left open to permit filling and emptying the container, and this presents a serious problem to provide a gnaw-proof closure that will be easily opened and closed and yet thoroughly reliable. For this purpose I provide the slide fastener or "zipper", indicated generally by the numeral 15, these being available at low enough cost to be commercially practical and feasible, at least in the larger type containers offering sufficient storage capacity. Now, as is well known, these fasteners comprise metallic interlocking lugs 16 and 17 carried on cloth tapes 18 and 19 and arranged to be interlocked and unlocked by the action of cam means in the slide 20 cooperating with said lugs and operable by the pull 21. It is important from the standpoint of protection against gnawing animals that the tapes 18 and 19 be covered by the wire cloth, and with that object in view I fold the upper edges of the pieces 8 and 9 inwardly, as at 22 and 23, and insert the tapes 18 and 19 under these folded-over edges and then fasten them in place suitably by staples 24 and 25, as clearly appears in Fig. 2. In that way there is obviously no way for the rats or mice to get at the tapes and gnaw them so as to make an opening into the container.

Fig. 4 shows a construction in which the front and back walls 8' and 9' of the container are integral, the container being made from one piece folded at the middle along either the bottom or one side of the container. However, such a construction obviously places limitations upon the sizes in which the containers may be made since the wire cloth is available only in certain standard sizes. Furthermore, it is considered that the closing seams 11, 12, and 13 are far from disadvantageous, even as compared with what is obtained with a one-piece construction like that illustrated in Fig. 4, because the seams actually reenforce the container and the edges are much less apt to tear or wear through when seamed than when unseamed as in Fig. 4.

It is obvious from the foregoing description that the present container is of a highly practical, convenient, and inexpensive form and will afford much needed protection against mice and

rats, as well as other pests on the farm, in the household, and in industry. While it is mainly a protection against rats and mice, it is obviously also a protection against various other pests and vermin. One of the most important uses for this container is for protection of seed corn while in storage, there being approximately twenty million bushels of seed corn stored annually in the United States, according to figures of the U. S. Department of Agriculture. Seed corn or anything else kept in the container is not only fully protected against gnawing, but is at the same time kept fully aerated, because the material of the container allows free passage of air therethrough. The contents are furthermore fully visible at all times directly through the walls of the container, so that is isn't necessary to open the container to see what or how much is in it. While the use as a container for seed corn has been mentioned, there are many other uses for a container of this kind on a farm. For example, valuable grass seeds often worth $25.00 per bushel or more, and various farm seeds, feeds, and many other things needing similar protection may be kept in these containers. In the household there are numerous uses for such containers in keeping foods, garden and flower seeds, popcorn, and in fact anything edible. When these containers are made in different sizes, they will serve as safe places for storing clothing, bedding, rugs, books, papers, and many other articles. In the storage of articles subject to attack by moths, a moth-proof bag may be used inside the container. In industry, containers of this kind will be found useful in stores, basements, and warehouses, and generally in commerce, and also in rat infested trenches in war time. The containers cost little to ship, because of their lightness and the fact that they can be packed flat. Obviously also, when used as a protective covering for articles in shipment, they add little to the shipping cost, because of their lightness. The flat form of the container is furthermore highly advantageous in storing the same when not in use. The pliability of the material used in making these containers renders them ideal for a large variety of purposes, because the material adapts itself readily to the nature and shape of its contents. The smooth surface of the material also is an advantage and increases the range of uses of these containers.

Small individual seed corn containers may be made inexpensively using the same sort of material, as illustrated in Figs. 5 to 7. Here the front and back walls 8*a* and 9*a* are in one piece similarly as shown in Fig. 4, the piece being folded near the middle to close the bottom of the container and having its lateral edges folded together to form the seams 11' and 12' which are stapled, as at 14', similarly as in the construction of the container first described. This obviously gives an open-mouthed container of a very serviceable form. The back wall 9*a* has an integral tab 26, the three edges of which are raw-cut edges presenting tines or barbs 27 to catch in the interstices of the wire cloth of the front wall 8*a* when the flap 26 is folded over as in Fig. 6 to close the mouth of the container. These tines or barbs 27 are bent at right angles to the plane of the flap 26 in one of the folding operations performed by machinery. The flap 26 being as wide as the back wall 9*a* prior to the folding of the edges forming the seams 11' and 12', the ends 28 and 29 of the flap project from both sides of the container, as indicated in dotted lines in Fig. 6, when the flap is folded in closing the container. These projecting ends are then arranged to be folded over against the back of the container, as shown in full lines in Fig. 6, to eliminate any danger of the flap getting unfolded and affording access to the inside of the container. Here again the same precaution may be exercised to insure locking the ends of the flap in the interstices of the wire cloth of the container by bending up the raw-cut edges on the ends 28 and 29 to provide the tines or barbs 30. A container made in this way can, of course, be used over and over again, and will afford similar advantages as pointed out in connection with the description of the other container.

It is believed the foregoing description conveys a good understanding of the objects and advantages of my invention. The appended claim has been drawn with a view to covering all legitimate modifications and adaptations.

I claim:

A gnaw-proof container suitable for storage of ear corn and the like comprising a generally rectangular body formed entirely of small gauge wire screen for flexibility and protection against rodents and the like, said container having an open mouth defined between unsecured edge portions of said wire screen material adapted to be spread open as permitted by the flexibility of the screen material, said edge portions of said screen material being folded inwardly for a substantial distance from the top of the container to form a double thickness at the mouth of the container adapted to form reinforcement seams, two "zipper" type fastener tapes of a substantial width received substantially their full width under the said folded edge portions and adapted to be secured in place in the closing of said seams, gnaw-proof means for closing said seams, and interlocking "zipper" fastener elements on said tapes detachably interlockable by a relatively slidable closing and opening cam, said "zipper" fastener device when closed being substantially non-accessible and safe against attack from rodents by reason of the bringing together into close relationship of the seamed edge portions of the container in the closing of the fastener and because of the depth at which the fastener is located in the mouth of the container.

CONRAD SCHEIDEGGER.