Sept. 10, 1940. E. B. NISBET 2,214,380

STORAGE AND DISPENSING CONTAINER FOR SHIM STOCK

Filed June 25, 1938

Fig. 1.

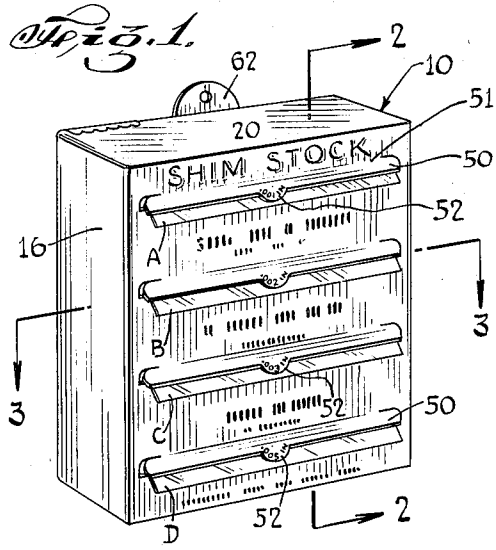


Fig. 2.

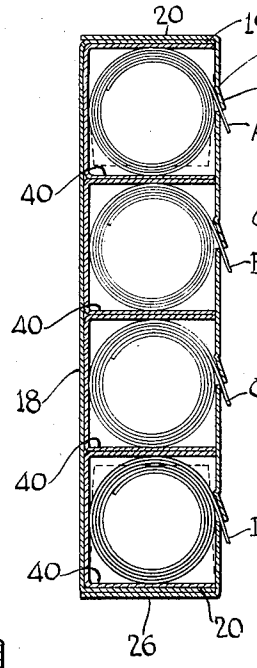


Fig. 3.

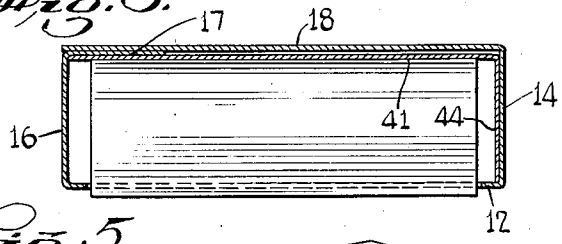


Fig. 5.

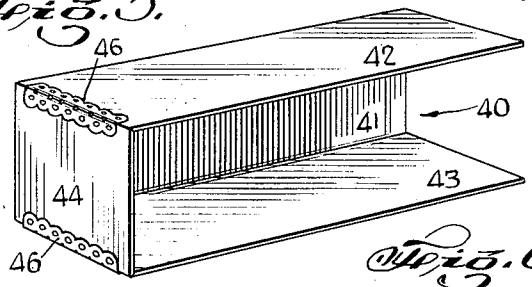


Fig. 4.

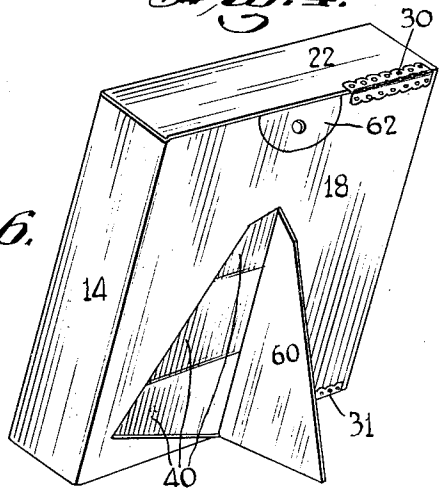
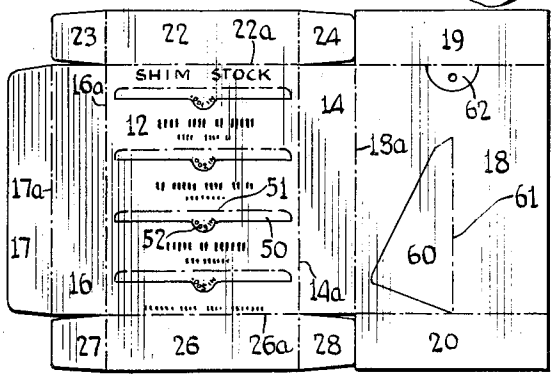


Fig. 6.



INVENTOR
EDWARD B. NISBET
BY
Hammond & Hall
ATTORNEYS

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STORAGE AND DISPENSING CONTAINER FOR SHIM STOCK

Edward B. Nisbet, New Canaan, Conn., assignor to Laminated Shim Co., Inc., Long Island City, N. Y., a corporation of New York

Application June 25, 1938, Serial No. 215,840

2 Claims. (Cl. 206—52)

This invention relates to new and improved containers for storing and dispensing shim stock.

Shims are used in machine repair and construction work for exact adjustment and spacing of machine elements, such as the mating parts of automobile connecting rod bearings. It is common practice to make shims as required for each such adjustment by cutting pieces of thin sheet metal stock, of predetermined thickness, to the desired size and using one or more of such pieces to produce a shim that will give exactly the desired spacing effect.

Shim stock is generally made up in sheets of different thicknesses, ranging from .001 to about .005 inch, which are wound into rolls and delivered to places of use in simple containers. When part of the stock is to be used, a roll is removed from its container, and the container is often discarded. The practice usually followed in storing, handling and using the shim stock entails considerable inconvenience and waste, and sometimes results in confusion of materials of different thicknesses. Further, the stock is unduly subject to accumulation of dust and other contaminants which adversely affect its usefulness for precise machine work.

An object of the present invention is to provide improved storage and dispensing containers for shim stock which facilitate the packing and handling of the material, protect the stock against contamination throughout the period of its use, simplify the removal of pieces of shim stock from a supply roll, and enable such pieces to be removed without handling the remaining material of the roll. Another object is to provide shim stock containers which embody simple, convenient and economical features of arrangement and construction. A further object of the invention is to provide storage and dispensing containers for shim stock which eliminate the likelihood of confusing materials of different thicknesses.

These and other desirable features of the invention will be made apparent by the ensuing description of an illustrative embodiment thereof when considered in connection with the accompanying drawing, in which

Figure 1 is a perspective view of one embodiment of the invention, showing sheet metal shim stock of several different gauges projecting from the container in condition for removal of pieces as desired for use.

Figure 2 is a vertical section taken approximately on the line 2—2 of Figure 1.

Figure 3 is a horizontal section along the line 3—3 of Figure 1.

Figure 4 is a perspective view showing the back side of the container of Figure 1, as supported on a table or the like.

Figure 5 is a perspective view of one of the slidable drawers forming compartments of the container, and

Figure 6 is a plan view of a blank of sheet material used in forming the container of Figures 1 to 4, inclusive.

Referring to the drawing for illustrative details, the shim stock is prepared in the form of one or more sheet metal strips A, B, C and D, of different thicknesses, which are wound into rolls and stored and dispensed from storage and dispensing containers, for example as illustrated in Figure 2 of the drawing. These strips of sheet metal will ordinarily have thicknesses ranging from about .001 to about .01 inch, stock A, for example, being .001 inch, stock B .002 inch, stock C .003 inch, and stock D .005 inch. For clarity of illustration, the thickness of the materials is greatly amplified in the drawing. By providing the shim stock in different thicknesses as described, it is convenient for the user of the materials to prepare shims by combining pieces to obtain any desired adjustment with a tolerance not exceeding one thousandths of an inch.

The rolls of shim stock are stored in an improved storage and dispensing container comprising one or more compartments, each for holding and dispensing stock of a particular gauge. The container housing 10 is formed from relatively stiff but bendable sheet material, which may conveniently be prepared by cutting out a blank from cardboard stock as illustrated in Figure 6. The housing includes a front wall 12, side walls 14 and 16, a back wall 18 and top and bottom walls 22 and 26, respectively. All of these are preferably formed from a single blank of material as shown in Figure 6, the side walls 14 and 16 being connected to the front wall 12 along fold lines 14a and 16a, the top and bottom walls 22 and 26 being connected to the front wall along fold lines 22a and 26a, and the back wall 18 being connected to side wall 14 along the fold line 18a. Side wall 16 carries a flap portion 17 connected thereto along a fold line 17a, while the back, top and bottom walls, 18, 22 and 26, respectively, carry tab portions 19, 20,—23, 24,—and 27, 28, which are connected to the respective walls at the ends thereof along appropriate fold lines and assist in holding the container housing in assembled form. The container housing is assembled by folding back wall 18 to a position behind front wall 12, folding the free edges of tab portions 19 and 20 to a position adjacent fold lines 22a and 26a, respectively, and then folding top and bottom walls 22 and 26, respectively, over tab portions 19 and 20, with tab portions 24 and 28 entering between side wall 14 and tab portions 19 and 20. In this position locking elements in the form of bendable metal clamps 30 and 31 are fastened over corners between back wall 18 and top and bottom walls 22 and 26 to hold these parts together and keep

the container housing in assembled form. Thereafter the container may be entirely closed by bending tab portions 23 and 27 inwardly and inserting flap 17 between the same and back wall 18, so that flap 17 assumes the position shown in Figure 3.

A compartment is provided in the container housing for each roll of shim stock by means of a slidable drawer or tray 40. The construction of these drawers is shown in Figure 5, from which it is evident that each consists of a bottom wall 41, side walls 42 and 43 and an end wall 44, all provided by a unitary blank of bendable sheet material, such as cardboard, and locked in box-like shape by metallic clamps 45 and 46 bridging the corners between end wall 44 and side walls 42 and 43, respectively. Each drawer has an open end opposite end wall 44 and an open top and each is adapted to receive a roll of shim stock of given gauge and to carry the same into the container housing through the open side of the housing when side wall 16 is opened. The drawers are inserted lengthwise, with end 44 toward side wall 14 of the housing. After the several drawers and their contents of shim stock have been placed in the housing, the side wall 16 is closed by inserting flap 17 in place, as illustrated in Figure 3, and the container then encloses and protects the several rolls of shim stock, each in its appropriate compartment.

The front wall of the container, as shown in Figures 1 and 6, is provided with means permitting access to and dispensation of shim stock from each compartment, and with indicating means for revealing at a glance the thickness of the stock contained in each compartment. Thus front wall 12 is slitted transversely and longitudinally of the underlying compartments to provide a flap portion 50 for each compartment which is connected with the material of the front wall along a fold line 51. Each flap 50 preferably carries a tab 52 facilitating opening of the flap, upon which is placed indicia designating the thickness of the shim stock contained in the underlying compartment.

In addition to the above, the container is preferably provided with means for supporting the same and its contents in a convenient position so that the selected shim stock may easily be dispensed and cut as required for use. In the illustrated embodiment, a triangualr section 60 is cut in the back wall 18 and joined thereto along a fold line 61, so that when desired this section may be bent outwardly from the back wall, as shown in Figure 4, to provide an integral easel support for the container and its contents. In addition, a smaller section 62 may be cut in from the upper portion of the back wall. Upon bending this section upwardly from the back wall means are provided for hanging the container and contents in a convenient position (see Figure 1). It will be noted that both of these supporting means are unitary with the material of the back wall, but that the arrangement thereof in operative position does not expose the shim stock to contamination since the shim stock is protected by the bottom wall of the drawer or tray in which it is stored.

In the use of the containers disclosed herewith, each roll of shim stock is stored in a compartment which is appropriately designated by indicia on its front wall, and the closed container and its contents are shipped together to the place of use. The user desiring shim stock of a particular thickness feeds the selected strip of sheet material from the indicated compartment between flap 50 and the front wall and cuts off pieces of the stock as required. The flaps 50 are preferably constructed to provide some resistance to outward bending so that dispensation of the sheet material therethrough causes the shim stock to be wiped by the material of the container, thereby further ensuring freedom from dust and the like. When a particular roll of shim stock is exhausted, the supply may be replenished simply by opening side wall 16 of the container housing and placing a new supply of material of appropriate thickness in the exhausted compartment.

The containers provided by the present invention protect the shim stock during storage and dispensation, eliminate handling of the material, prevent waste and loss of time in procuring pieces of material of desired thickness, and avoid danger of confusing materials of different thicknesses, all by means of constructions which are simple, economical and well suited for the conditions encountered in service.

It will be understood that details of construction other than those illustrated in the drawing and described specifically hereinabove may be used without sacrificing the benefits of the invention, which should be accorded a scope sufficient to cover equivalent constructions within the purview of the claims.

I claim:

1. A dispensing package for shim stock having front, back, top, bottom and side walls, said front wall having a plurality of parallel, vertically spaced. transversely extending slits and flaps integral with said front wall defining the upper margins of said slits, said back wall having means integral therewith for supporting said package in upright position, one of said side walls being hinged at one end and provided with a flap at the other end, said side wall acting as a hinged closure for said package, said package containing slidable boxes superimposed on one another and corresponding in number to the number of slits in the front wall, said boxes being open at one side and at one end positioned in said package with the open sides thereof adjacent to the slitted front wall and the open ends thereof adjacent to the side wall of the package forming the hinged closure.

2. A dispensing package for shim stock having front, back, top, bottom and side walls constituting portions of one integral piece of sheet material, said front wall having a plurality of parallel, vertically spaced, transversely extending slits and flaps integral with said front wall, each defining a margin of one of said slits, said back wall having means integral therewith for supporting said package in upright position, one of said side walls being hinged at one end and provided with a flap at the other end, said side wall acting as a hinged closure for said package, said package containing slidable boxes superimposed on one another and corresponding in number to the number of slits in the front wall, said boxes being open at one side and at one end and positioned in said package with the open sides thereof adjacent to the slitted front wall and the open ends thereof adjacent to the side wall of the package forming the hinged closure, said boxes containing rolls of shim stock having thin end portions positioned to be pulled through the corresponding slits in the front wall of said package.

EDWARD B. NISBET.