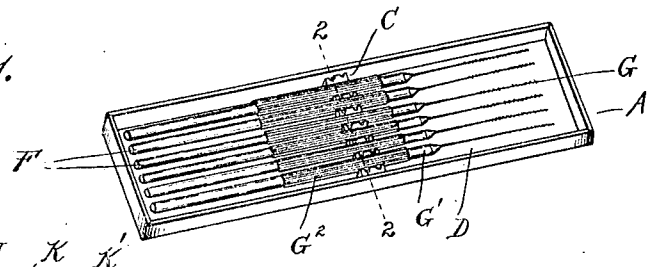
A. CARRIER.

HOLDER FOR DENTAL BROACHES OR THE LIKE.

APPLICATION FILED FEB. 16, 1918.

1,292,252. Patented Jan. 21, 1919.

Fig. 1.



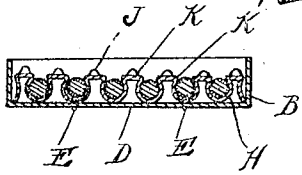


Fig. 2.

Fig. 3.

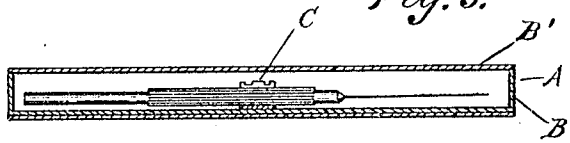


Fig. 4.

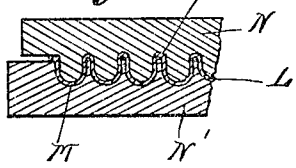
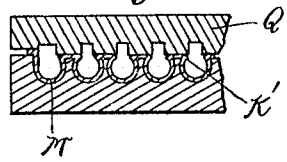


Fig. 5.



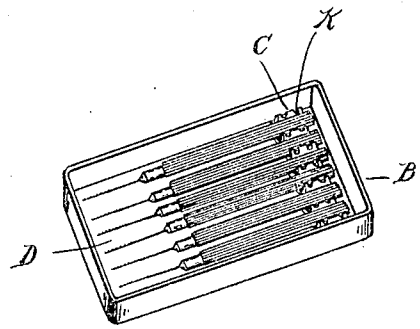


Fig. 6.

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HOLDER FOR DENTAL BROACHES OR THE LIKE.

1,292,252. Specification of Letters Patent. Patented Jan. 21, 1919.

Application filed February 16, 1918. Serial No. 217,588.

To all whom it may concern:

Be it known that I, AUGUSTUS CARRIER, a citizen of the United States of America, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Holders for Dental Broaches or the like, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to a holder for delicate instruments, such as dental broaches or the like, and more particularly to a combined shipping package and container.

Among the objects of the invention are to provide a new and improved holder construction which can be used both as a shipping package and as a container for the broaches or other instruments; and to so construct and arrange the parts that the delicate ends of the instruments will be so held as to be out of contact with each other and out of contact with the walls of the container.

The invention also resides in the novel construction of the holding device; in the provision of a construction of holder that can be economically manufactured; and in such details of construction and arrangements and combinations of parts as will more fully hereinafter appear.

In the drawings:

Figure 1 is a perspective view showing the broaches in a container with the cover section removed;

Fig. 2 is an enlarged vertical cross-section on line 2—2 of Fig. 1;

Fig. 3 is a longitudinal section through the center of the package with the cover in position;

Figs. 4 and 5 are detail views illustrating one method of manufacture of the holding device;

Fig. 6 is a perspective view similar to Fig. 1 showing a slightly modified construction.

Describing first the construction shown in Figs. 1, 2 and 3, A designates a container which is preferably formed of a main section B and a cover section B′. While these sections are shown as telescopically engaging one with the other, various forms of containers could be used within the scope of the invention.

For holding the instruments, such as dental broaches, means are provided for engaging the shanks of the instruments in such a manner as to hold the delicate working points out of contact with each other and also out of contact with the walls of the container. For this purpose there is employed a holder C which is formed of a strip of metal and secured to the bottom D of the box by suitable mechanism, such as the fasteners E.

While the invention in its broader aspects is not limited to holding dental broaches, in the drawings the package is shown as holding a plurality of dental broaches F. These broaches comprise a drill point G secured to the shank portion G′, the latter being preferably provided with a knurled or serrated gripping portion G^2. The position of the securing member C with reference to the end of the box is such that when the broaches are in position in their respective seats, the ends of the shank portions of the broaches will be positioned adjacent the end of the box and the points G held spaced from the end of the box a sufficient distance to permit their being withdrawn from the holding device without danger of striking against the end of the box.

It will be noticed that the holder C is formed from a continuous strip of sheet-metal which is bent to form seats H which receive the shanks G′ of the broaches, and in order to firmly hold the broaches in proper spaced relation to each other and to the walls of the container, means are provided for frictionally locking each broach in its seat H. For this purpose the upper edges J of the side walls of the seats are provided with indentations K forming flanges or projections K′ which are spaced from those formed in the opposite wall of the seat a distance slightly less than the diameter of the broach shank. Therefore, in springing the shank into its seat by lateral movement, the serrated or knurled portion of the shank forces the flanges K′ slightly apart. This provides sufficient friction to lock the broach against accidental displacement and also holds it from sliding movement in its seat.

Moreover this novel construction permits of the holder being formed by dies from a continuous strip of metal, and in Figs. 4 and 5 there is indicated one method of manufacture of such a holder. In Fig. 4 there is shown the first steps in which the strip L is formed into U-shaped portions M, the

upper edges of which are so proportioned as to permit the upper die N to be withdrawn from the lower die member N′.

The second step is diagrammatically indicated in Fig. 5 and comprises forming the indentations K in the upper edge O of the intermediate or spacer portions of the strip. In forming these indentations the metal is forced outward by the upper die Q to provide the flanges K′; and thus by two stamping or die operations the holder is quickly and cheaply formed into the shape shown in Figs. 1 to 3.

In the modified construction shown in Fig. 6 the holder C is positioned adjacent one end of the package, this construction being particularly adapted for short instruments. In both cases, however, the device is adapted to serve both as a shipping package and as a holder for the articles during use as they can be readily sprung into and out of engagement with the seats. The friction of the flanges is sufficient to prevent both lateral displacement and longitudinal movement of the broaches or other articles.

While I have shown and described one method of constructing the article, it is to be understood that the article is not limited to constructions built in accordance with any particular method.

What I claim as my invention is:

In a package for dental broaches or the like, a holder comprising a strip of metal return-bent to form spacing members and intermediate seats, the latter being so shaped as to permit of die formation, and said spacing members having indentations formed therein, the metal from which forms an overhanging projection extending into the plane of the seat so as to present a locking arrangement of lesser distance apart than the thickness of the shank of the instrument to be held.

In testimony whereof I affix my signature.

AUGUSTUS CARRIER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."