Dec. 1, 1942. J. G. LIPIC, JR 2,303,480

METHOD OF PRODUCING HANDLE PORTIONS

Filed April 26, 1940

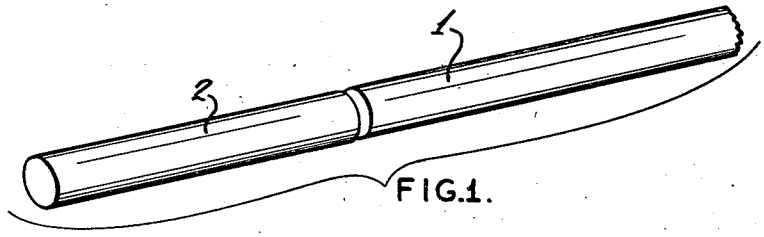


FIG.1.

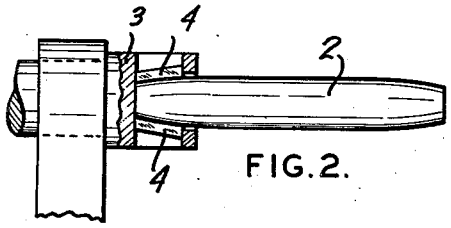


FIG.2.

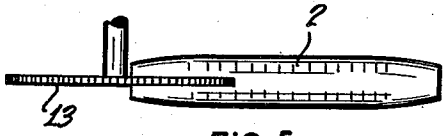


FIG.5.

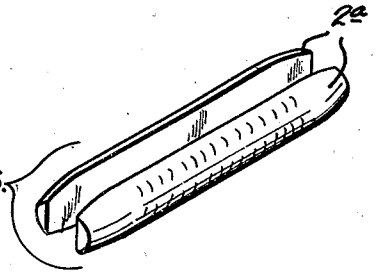


FIG.6.

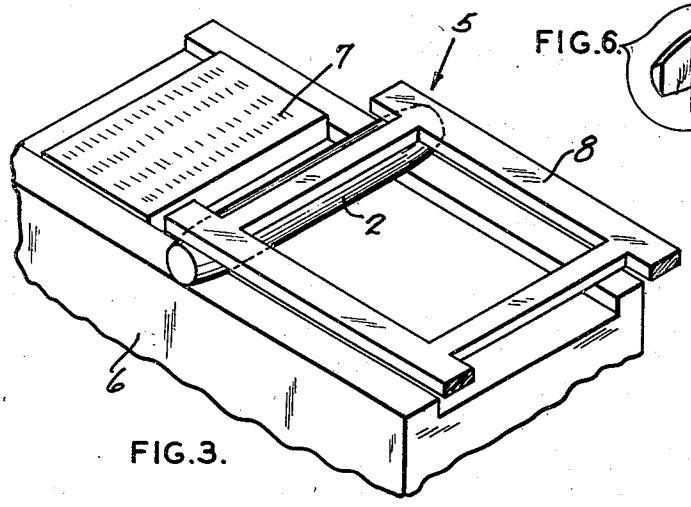


FIG.3.

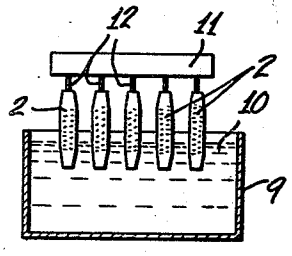


FIG.4.

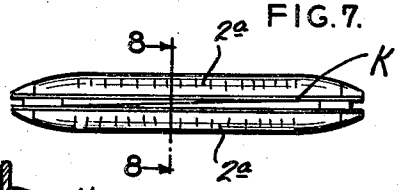


FIG.7.

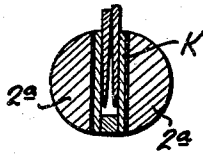


FIG.8.

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METHOD OF PRODUCING HANDLE PORTIONS

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Application April 26, 1940, Serial No. 331,773

3 Claims. (Cl. 144—309)

This invention relates generally to an improved method of producing pocket knives and similar articles, and more specifically to an improved method of preparing the handle portions of such articles so that printed matter may be conveniently and effectively displayed thereon, the predominant object of the invention being to provide an improved method of printing on material adapted for use as handle portions of pocket knives and similar articles which eliminates many of the disadvantages which heretofore were frequently encountered in providing pocket knife handles and the handles of similar articles with printed matter.

Of late years distribution of pocket knives has become increasingly popular as an advertising medium, the handle portions of the pocket knives usually bearing the names of the donors or having other advertising matter displayed thereon. In producing such advertising pocket knives much difficulty has been encountered heretofore in applying printed advertising matter to the handle portions thereof, this being especially true where the handle portions of the pocket knives were intended to be flat or approximately so. The reason for the difficulty in printing on flat surfaces of material commonly used to produce pocket knife handle portions is that this material, because of its nature, is seldom provided with absolutely flat print-receiving surfaces, and when these supposedly flat surfaces are even slightly wavy, or otherwise irregular, it is impossible to apply clear and uniform printed matter thereto. It has been found, however, that when this material is made up in rod form, of circular cross-section, the curved surfaces of such rods are uniform and true, and therefore printed matter may be applied to the curved surfaces of the rods so that it appears clear and uniform throughout and presents an attractive appearance.

In accordance with the present invention rods of the knife handle material, which frequently is Celluloid or like material, are cut in sections of the required length to produce pocket knife handle portions, and when desired the end portions of the rod sections so cut are shaped as required. Each section of the knife handle material has the printed matter applied with the aid of a suitable printing machine which is so operated that the section of knife handle material is rolled over a stationary printing plate, in contact therewith, so that printed matter is applied to the circular face of the section of material by the printing plate. The printed section of rod material then receives over its entire curved surface a coating of clear lacquer, or other suitable material, which serves to protect the printed matter thereon and prevent said printed matter being worn off by use of a pocket knife of which the section of rod material provides the handle portion. The coating of protective material may be applied to the section of rod material in any suitable manner, such as by dipping the section of rod material in a bath of liquid protective material, or by spraying said protective material on said section of rod material. After the section of rod material has been printed and has received a coating of protective material, the section of rod material is cut longitudinally of its axis to provide a pair of separate knife handle portions which are suitably applied to opposite sides of a pocket knife structure to provide the handle portion thereof.

Fig. 1 is a perspective of a rod of material and illustrating a section cut therefrom to provide a rod section to be employed in producing the handle portion of a pocket knife or similar article.

Fig. 2 illustrates the manner of shaping the end portions of a rod section cut from a rod of material as shown in Fig. 1.

Fig. 3 illustrates in an exemplary manner the step of applying printed matter to a rod section in accordance with this invention.

Fig. 4 illustrates the step of applying a coating of protective material to a rod section after the printed matter has been applied thereto.

Fig. 5 illustrates the step of cutting the rod section, after application of prinited matter and a protective coating thereto, to divide the rod section into separate parts.

Fig. 6 illustrates the rod section after it has been cut in the manner illustrated in Fig. 5.

Fig. 7 is a plan view of a pocket knife after the separated parts of the rod section shown in Fig. 6 have been applied to opposite sides of the knife structure to provide the handle portion thereof.

Fig. 8 is an enlarged cross-section taken on line 8—8 of Fig. 7.

In the drawing, wherein is shown for the purpose of illustration, merely, one embodiment of the invention, 1 designates a rod of material from which rod sections of the proper length are cut, one of such rod sections, which is designated by the reference character 2, being shown in Fig. 1. The rod sections 2 may be cut from the rod of material 1 in any suitable manner, such, for instance, as by means of a circular cutter (not shown), and when the material employed is Celluloid or other inflammable material the cutting thereof should be done under a stream of fluid to prevent burning of the material due to friction. After the rod sections 2 have been cut from the rod of material 1 as described, the end portions of said rod sections may be shaped, when this is desired, as shown in Fig. 2. The means illustrated in Fig. 2 for performing the shaping operation comprises a rotary shaper 3

having cutting elements 4 associated therewith, the end portions of the rod sections 2 to be shaped being introduced into the rotary shaper through the open front thereof for operation thereon of the cutting elements 4 of the rotary shaper 3.

After the rod section 2 has been cut from the rod of material 1 and the end portions of said rod section have been shaped, when this is desired, the printed wording or decorative matter is applied to the rod section by means of a suitable printing mechanism, a diagrammatical and exemplary showing of which is shown in Fig. 3 and is designated generally by the reference character 5 in that view. The printing mechanism 5 includes a suitable bed 6 which supports in a stationary manner a printing plate 7, the printing mechanism including also a suitable inking means (not shown) for applying ink to the printing plate. The printing mechanism is provided, also, with a suitable reciprocatory structure 8 which engages a rod section 2, to which printed matter is being applied with the aid of the printing mechanism, in a manner to roll the rod section over the printing surfaces of the printing plate 7 of the printing mechanism, the rod section 2 being in rolling contact with surface portions of the bed of the printing mechanism. Obviously as the rod section 2 is rolled over the printing plate 7 in contact with the printing surfaces thereof impressions of the printing surfaces of the printing plate will be transferred to the curved surface of the rod section. It is clear that if a multi-color printing job is being applied to the surface of the rod section this may be accomplished by employing a plurality of printing plates with respect to which the rod section will be rolled to provide the rod section with printed matter having properly registered portions of different colors.

When a rod section 2 has had printed matter applied thereto as described above said rod section has applied thereto a coating of clear lacquer or other suitable material which serves to protect the printed matter on the rod section from being worn away during use of a knife, or other article, the handle portion of which is produced in accordance with this invention. The rod sections 2 may have the protective coating applied thereto by spraying the liquid protective material on the rod sections, or by dipping the rod sections in a bath of the protective material in liquid form as shown in Fig. 4. In Fig. 4 a receptacle 9 is illustrated which contains a body 10 of the liquid protective material, and associated with said receptacle is a vertically movable carrier 11 having pins 12 fixed thereto which frictionally engage a plurality of the rod sections 2, each rod section having a hole formed in an end portion thereof which receives one of the pins 12. The carrier 11 is moved downwardly so that the rod sections 2 supported thereby are submerged in the liquid material in the receptacle and said carrier is then moved slowly in an upward direction to withdraw the rod sections from the liquid material in the receptacle and permit draining of the liquid material for the rod sections and drying of the coatings of material on said rod sections.

After the protective coatings have been applied to the rod sections 2, each of said rod sections is cut longitudinally of its major axis as shown in Figs. 5 and 6, this cutting operation being performed with the aid of suitable means, such, for instance, as a rotary cutter as shown in Fig. 5 and designated therein by the reference character 13, and under a stream of fluid when this is necessary to prevent burning of the material of the rod sections. When a rod section is cut as described and as shown in Figs. 5 and 6, said rod section is divided into a pair of handle portions 2a as shown in Fig. 6. These handle portions are secured to a pocket knife structure K, or to other articles, at opposite sides thereof by cement, or otherwise, to provide a pocket knife, or other article, which includes a handle portion on which printed matter is displayed in an attractive manner.

While the lengths of material from which handle portions are formed in accordance with this invention are described as "rod sections" in the specification hereof, it is perfectly obvious that these lengths of material may be of tubular formation if desired.

I claim:

1. The method of producing a handle portion which comprises applying printed matter to the circumferential face of a length of material which is substantially round in cross-section, said printed matter being applied in such manner that the printed matter is interrupted so as to provide a void in the printed matter which extends longitudinally of the length of material in a straight line, and then cutting said length of material longitudinally of its axis along the void in the printed matter to provide parts of said handle portion which are adapted for disposition at opposite sides of an article with which the handle portion is to be associated on which oppositely disposed parts of said handle portion printed matter appears.

2. The method of producing a handle portion which comprises applying printed matter to the circumferential face of a length of material which is substantially round in cross-section, said printed matter being applied in such manner that the printed matter is interrupted so as to provide a void in the printed matter which extends longitudinally of the length of material in a straight line, and then cutting said length of material from end to end thereof longitudinally of its axis along the void in the printed matter to provide parts of said handle portion which are adapted for disposition at opposite sides of an article with which the handle portion is to be associated on which oppositely disposed parts of said handle portion printed matter appears.

3. The method of producing a handle portion which comprises applying printed matter to the circumferential face of a length of material which is substantially round in cross-section, said printed matter being applied in such manner that the printed matter is interrupted so as to provide a void in the printed matter which extends longitudinally of the length of material in a straight line, applying a coating of transparent material to the circumferential face of said length of material after the printing operation has been completed, and then cutting said length of material from end to end thereof longitudinally of its axis along the void in the printed matter to provide parts of said handle portion which are adapted for disposition at opposite sides of an article with which the handle portion is to be associated on which oppositely disposed parts of said handle portion printed matter appears.

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