May 29, 1945. O. MAYER 2,377,166

DIE FOR THE MANUFACTURE OF PEN CASES

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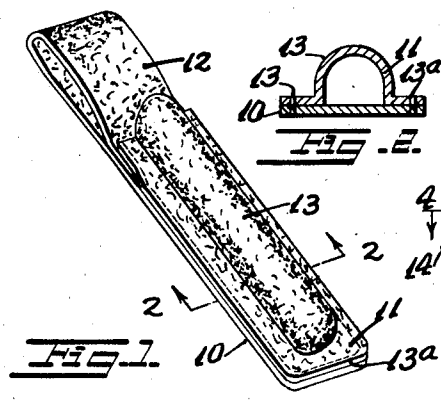


Fig. 1.

Fig. 2.

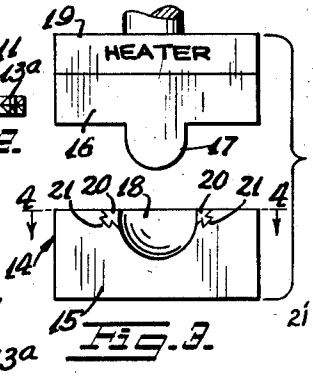


Fig. 3.

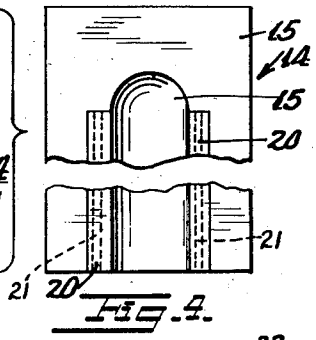


Fig. 4.

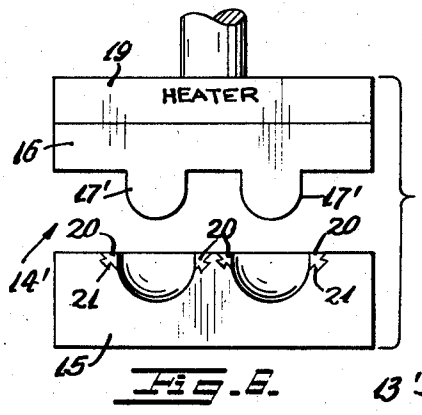


Fig. 5.

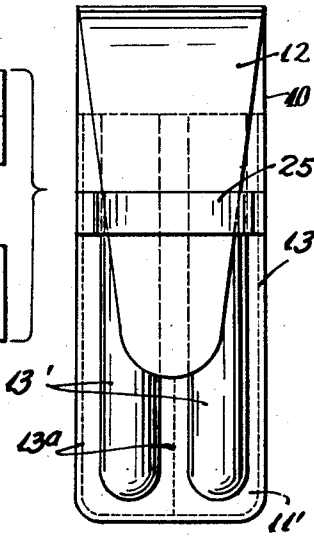


Fig. 6.

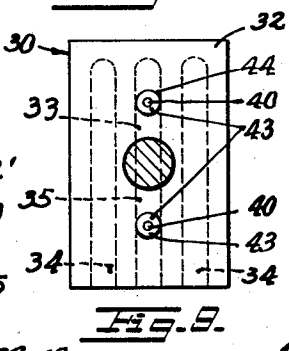


Fig. 9.

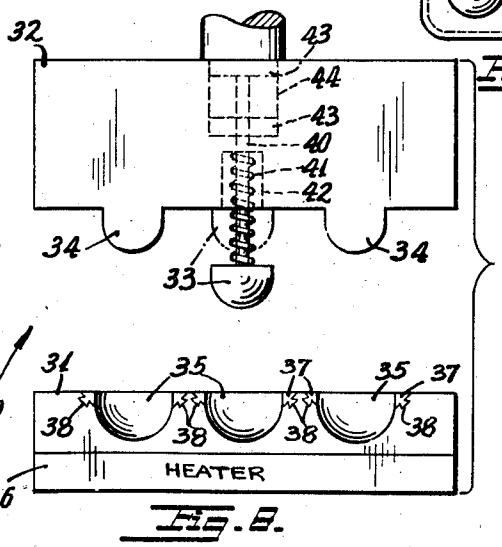


Fig. 8.

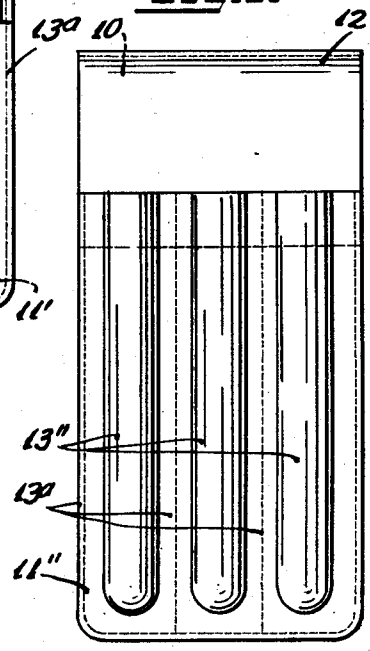


Fig. 7.

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DIE FOR THE MANUFACTURE OF PEN CASES

Otto Mayer, New York, N. Y.

Application February 9, 1943, Serial No. 475,317

3 Claims. (Cl. 69—8)

This invention relates to new and useful improvements in molded pen cases and dies for the manufacture thereof.

More specifically, the invention proposes the construction of a molded pen case characterized by a flat back handle having a molded front panel attached thereon with the mold front panel characterized by a closed end embossed container section in a manner to permit a pen or pencil to be inserted therein through the open end.

Still further it is proposed to provide a novel die for forming the front panel of the molded case which is characterized by a female die section and a cooperative male die section with a heater provided on one of the die sections for pressing and shaping a piece of leather to the desired shape when the die sections are brought together with a piece of leather disposed therebetween.

A further object of the invention proposes to provide the sharp edges of the female die section with soft metallic strips arranged in a manner to have the leather material bent around when the die sections are brought together to prevent these corners from cutting or cracking the leather.

Another object of the invention proposes to construct the dies in such a manner that they will be capable of forming a piece of leather with one or more adjacent closed end embossed container sections to form a molded case capable of carrying one or more pencils or pens or any desired combination of pencils or pens.

Still another object of the invention proposes a means for resiliently mounting certain of the male die sections when used in a die for forming three closed end embossed container sections permitting the center container section to be formed before the outer container sections in a manner to prevent the outer die sections from gripping the leather before the center die section has had an opportunity to properly form the center portion of the leather from which the case is being formed.

For further comprehension of the invention, and of the objects and advantages thereof, reference will be had to the following description and accompanying drawing, and to the appended claims in which the various novel features of the invention are more particularly set forth.

In the accompanying drawing forming a material part of this disclosure:

Fig. 1 is a perspective view of a molded pen case constructed in accordance with this invention.

Fig. 2 is a vertical sectional view taken substantially on the line 2—2 of Fig. 1.

Fig. 3 is a front elevational view of the die sections used for molding the front panel of the pen case shown in Fig. 1.

Fig. 4 is a plan view of the female die sections looking in the direction of the line 4—4 of Fig. 3.

Fig. 5 is a front elevational view of a molded pen case constructed in accordance with a modification of this invention.

Fig. 6 is a front elevational view of the die used for molding the front panel of the pen case shown in Fig. 5.

Fig. 7 is a front elevational view of a molded pen case constructed in accordance with a still further modification of the invention.

Fig. 8 is a front elevational view of the dies used for molding a front panel of the pen case shown in Fig. 7.

Fig. 9 is a reduced plan view of Fig. 8.

The molded pen case, according to this invention, includes a flat back panel of leather 10 and a front panel 11 of molded leather attached to the back panel 10. The top end of the back panel 10 is doubled upon itself and has its free edge inserted between the top edge of the front panel 11 and the adjacent face of the back panel 10. This construction forms a loop 12 at the top of the pen case through which a person's belt or other similar article may be inserted for mounting the case in position upon one's person. The front panel 11 is molded with a closed end embossed container section 13 with its top end open permitting a pen or pencil to be inserted into this container section to be conveniently carried about. The free edges of the panel sections 10 and 11 are securely attached together by a line of stitches 13a.

In Figs. 3 and 4 the die 14 is illustrated for molding the front panel 11 of the pen case shown in Fig. 1. This die is characterized by a female die section 15 and a male die section 16. The male die section 16 is formed with a rounded projection 17 which is adapted to enter a complementary rounded groove 18 formed in the female die section 15. The male die section 16 is further provided with a heater 19 for heating this die section to cause a piece of leather which clamped between the die sections to be suitably embossed to conform with the shape of the projection 17 by the application of pressure and heat. The die sections 15 and 16 are to be mounted in a suitable press, either hand or foot operated (not shown on the drawing), for mov-

ing the die sections relative to each other to clamp a piece of leather in position between the adjacent faces thereof.

Soft metal strips 20 are mounted upon the sharp edges of the female die section 15 for preventing the leather from being cut or cracked by these edges as the die sections 15 and 16 are brought together with a piece of leather superimposed therebetween. The metal strips 20 are provided with dovetailed projections which engage complementary dovetailed recesses 21 formed on the cutaway corners of the female die sections for maintaining the strips 20 in position. When continued use of the die sections 15 and 16 causes the metal strips 20 to be deformed it is possible to interchange them with new strips by merely sliding the old ones out of position with relation to the female die section 15 to permit new strips to be slid into position.

The method of forming the pen case is as follows:

A strip of leather for forming the front panel 11 of a pen case is inserted in position between the die sections 15 and 16. The die sections 15 and 16 are then brought together causing the male die section 15 to force the front of the piece of leather into the female die section 15. The application of heat and pressure to the piece of leather will cause it to be molded to conform with the shape of the dies 15 and 16. After a suitable period of time has elapsed to properly shape the piece of leather the die sections 15 and 16 are opened, permitting the piece of leather to be taken from the female die section 15 and superimposed upon a piece of leather for forming the back panel 10 of the pen case. A line of stitches 13^a is then applied to the free edges of the panels 10 and 11, completing the formation of the pen case.

In Fig. 5 a modified form of the pen case is illustrated in which the back panel 10 is provided with a free flap 12' which is adapted to be engaged beneath a strap 25 secured in position upon the face of the front panel 11' for closing the open end of the pen case.

The front panel 11' in this form of the invention is provided with a pair of adjacent closed and embossed container sections 13' permitting a pen and pencil, two pens or two pencils to be carried in this case.

In Fig. 6 the die 14' is illustrated for forming the front panel 11' of the pen case shown in Fig. 5. In this form of the invention the male die section 16 is provided with a pair of adjacent rounded projections 17' which are arranged to enter a pair of adjacent rounded complementary grooves 18' formed in the female die section 15. In other respects this form of the invention is identical to the previcus form and like parts are indicated by like reference numerals.

In Fig. 7 a pen case is illustrated which is similar in construction to that shown in Fig. 1 except that the front panel 11'' of the pen case is formed with three adjacent closed end embossed container sections 13'' permitting any desired combination of pens and pencils, totaling three, to be carried.

In Figs. 8 and 9 the die 30 is illustrated for molding the front panel 11'' of the pen case shown in Fig. 7. This die is characterized by a female die section 31 and a male die section 32. The male die section 32 is provided with a resiliently mounted center rounded projection 33 and spaced fixedly mounted rounded projections 34 on other side of the projection 33. The projections 33 and 34 of the male die section 32 are adapted to enter complementary rounded grooves 35 formed in the female die section 31. The female die section 31 is also provided with a heater 36 for heating this die section to permit the application of heat and pressure to mold a piece of leather disposed between the die sections 31 and 32. The sharp edges of the grooves 35 in the female die section 31 are also provided with soft metal strips 37 for preventing these edges from cutting or cracking the strip of leather when the die sections are brought together. These soft metal strips 37 are provided with dovetailed projections which slidably engage complementary dovetailed grooves 38 formed in the cutaway portions of the female die section 31.

A novel means is provided for slidably supporting the central projection 33 of the male die section 32 causing it to enter its respective rounded groove 35 in the female die section 31 before the other projections 34 of the male die section 32. With this construction the slidably mounted projection 33 of the male die section will form the center container section 13'' on the front panel 11'' before the outer embossed sections 13'' are formed, preventing the outer projections 34 from gripping the leather before the center container section 13'' has been properly formed. The slidable mounting of the central projection 33 is characterized by spaced rods 40 which are attached to the top face of the top central projection 33 and which extends upwards and slidably engage complementary openings formed in the male die section 32. An expansion spring 41 is coaxially mounted upon each of the rods 40 and has its top end disposed within a complementary recess 42 formed in the male die section 32. These springs 41 operate between the inner end of the openings 42 and the top face of the central projection 33 urging this projection into a spaced position with relation to the male die section 32. The top end of an edge rod is provided with a head 43 which slidably engages a complementary opening 44 formed in the top portion of the male die section for limiting the springs 41 from shooting the rods 40 out of their engaged position with the complementary openings of the male die section 32. Consequently, the heads 43 act to limit downward motion of the central projection 33.

As shown in Fig. 8 the central projection 33 when the die sections 31 and 32 are separated, has its top face spaced from the bottom face of the male die section 32 a distance equal to the thickness of the fixed projections 34 so that this central projection 33 will enter the central groove 35 in the female die section 31 and form the central container section 13' in the piece of leather before the outer fixed projections 34 start to enter their respective grooves 35. When the outer projections 34 start entering their respective grooves 35 the central projection 33 will be completely in position within its respective groove 35, and further downward motion of the male die section will merely compress the springs 41 as the male die section 32 slides downwards on the rods 40.

In other respects this form of the invention is identical to the previous form and like parts are indicated by like reference numerals.

While I have illustrated and described the preferred embodiments of my invention, it is to be understood that I do not limit myself to the precise constructions herein disclosed and the right is reserved to all changes and modifications com-

ing within the scope of the invention as defined in the appended claims.

Having thus described my invention, what I claim as new, and desire to secure by United States Letters Patent is:

1. A die for molding leather, comprising a male die section having one or more rounded projections, a female die section having rounded grooves adapted to receive the rounded projections of the male die section, and soft metal strips removably mounted on the top corners of the rounded grooves of said female die section.

2. A die for molding leather, comprising a male die section having one or more rounded projections, a female die section having rounded grooves adapted to receive the rounded projections of the male die section, and soft metal strips removably mounted on the top corners of the rounded grooves of said female die section, and dove-tailed projections formed on said strips and slidably engaging complementary dove-tailed grooves formed in said female die section comprising the removable mounting of said strips.

3. A die for molding leather, comprising a male die section having one or more rounded projections, a female die section having rounded grooves adapted to receive the rounded projections of the male die section, and soft metal strips removably mounted on the top corners of the rounded grooves of said female die section, said female die section having the top corners of its rounded grooves cut-away and said soft metal strips being shaped to replace these cut-away corners.

OTTO MAYER.