May 21, 1957 C. F. WOLTERS 2,793,090

MOLDED PLASTIC ON SHEET METAL DESK TOP

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FIG. 1

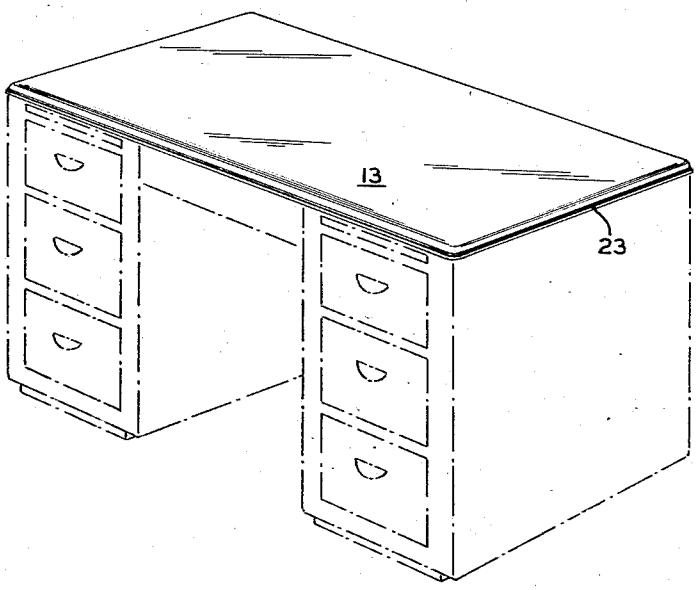
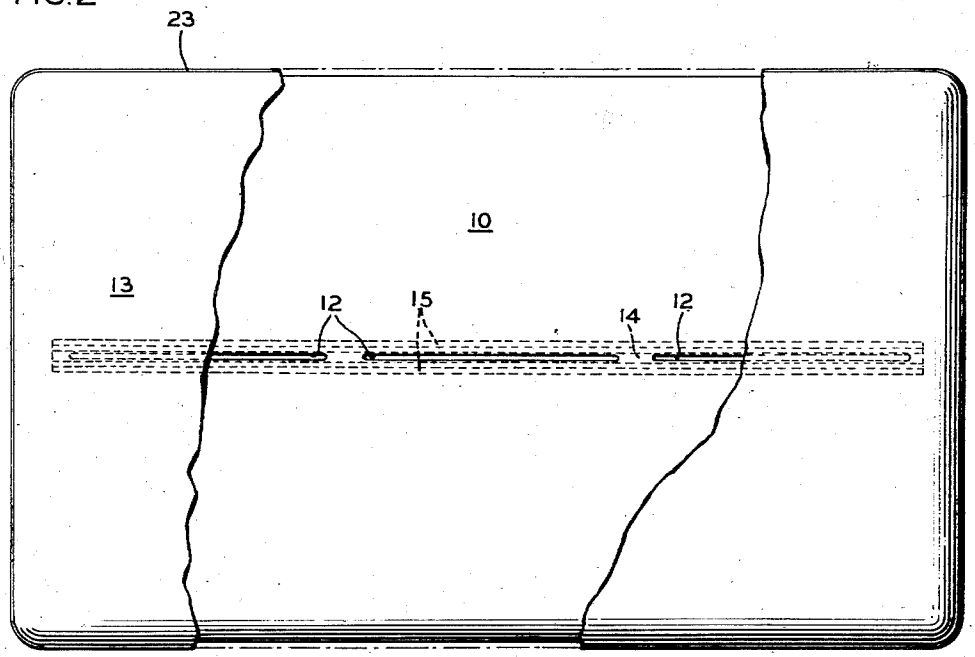


FIG. 2



INVENTOR.
CARL F. WOLTERS
BY Clyde A. Morton
Roland T. Booth
ATTORNEYS

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FIG.3

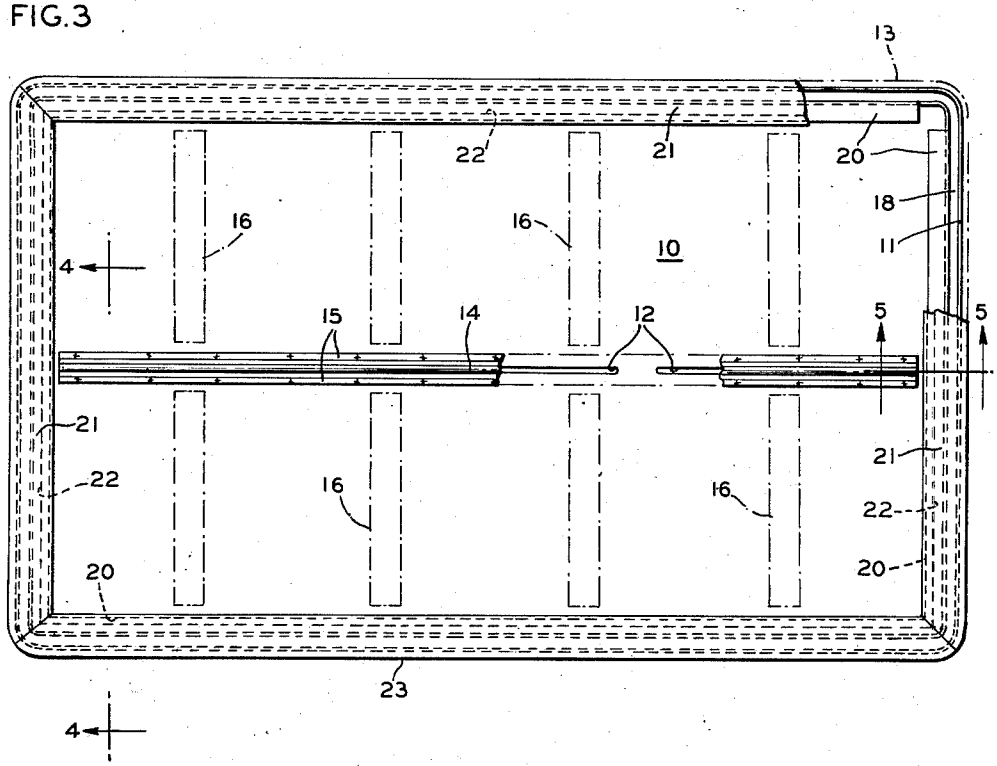


FIG.4

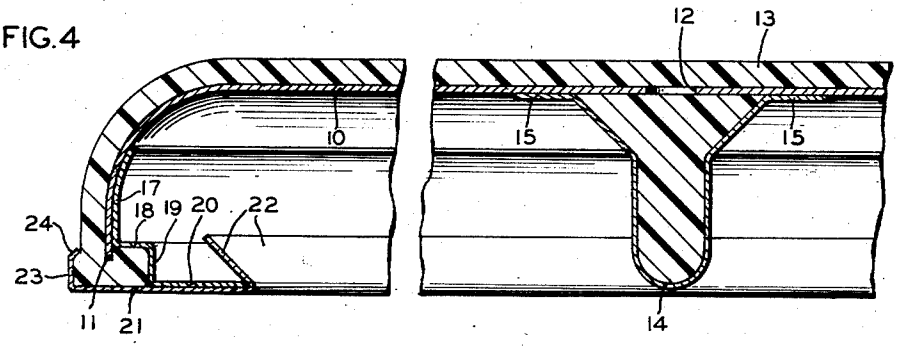
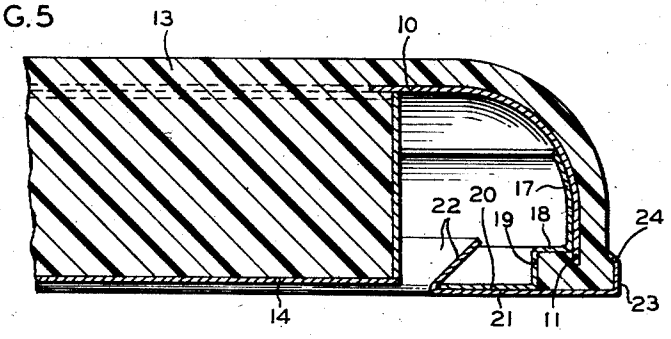


FIG.5



INVENTOR.
CARL F. WOLTERS
BY Clyde A Morton
Roland T. Booth
ATTORNEYS

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MOLDED PLASTIC ON SHEET METAL DESK TOP

Carl F. Wolters, New Canaan, Conn., assignor to Sperry Rand Corporation, New York, N. Y., a corporation of Delaware

Application September 13, 1955, Serial No. 534,075

5 Claims. (Cl. 311—106)

This invention relates to new and useful improvements in desks which permits the molding thereto of a plastic cover.

The object of the invention is to provide a desk construction such that a plastic cover may be easily and efficiently molded thereto and held thereagainst securely and firmly and in such manner as to eliminate any tendency of warping or distortion therein due to strains to which the desk may be subject in use.

Briefly and in general terms, the invention includes the provision of one or more elongate slots in the desk top through which the plastic material may flow during the molding operation. Fixed to the under surface of the top and in alinement with the slots are channel members into which the plastic material flows, thus forming elongate ribs of plastic integral with the plastic cover which holds the cover securely and firmly in place on the top of the desk. Preferably the desk top is of sheet metal and the channel members, also of sheet metal, are welded in position.

A further feature of the invention is the provision of a continuous metallic wall around and extending below the edge of the desk top to afford a firm backing for the plastic material as it is molded on to the top and around and below the metal top of the desk. It further contemplates an ornamental protective strip of metal such as chrome metal disposed around the lower edge of the periphery of the plastic top and firmly secured to the structure to provide an ornamental appearance and to afford protection to the lower peripheral edge of the plastic top against being chipped or marred by forceful contact with chairs and the like.

The present invention solves a problem in sheet metal desk construction of the type used in offices because it has been exceedingly difficult to flow the cover plastic on the top evenly, smoothly, securely and firmly enough so that the cover stays firmly and smoothly in place regardless of the stresses and strains to which the desk is subject in use. In this present construction, the plastic cover is firmly secured to the top of the desk all along the top and the periphery thereof. The firm securement of the cover to the top is without the aid of any auxiliary fastening device or attachments which would mar the completely smooth surface of the cover over the entire top of the desk.

A present preferred form which the invention may assume is illustrated in the drawings, of which

Fig. 1 is a perspective showing a desk with the molded plastic cover in place and with the pedestal portions of the desk shown in dot and dash lines;

Fig. 2 is a plan view of the desk with portions broken away, and showing the elongate slots therein;

Fig. 3 is an inverted plan view of the desk with portions broken away and showing in dot and dash lines the positions of other slots which may be employed if desired;

Fig. 4 is an enlarged vertical cross section taken along the line 4—4 of Fig. 3; and

Fig. 5 is an enlarged vertical longitudinal cross section taken along the line 5—5 of Fig. 3.

Referring now merely to the specific form of the invention shown in the drawings, it will be seen that there is provided a sheet metal desk, with a top **10** formed of a single sheet of metal, flat on the top and curved downwardly along the periphery, as shown at **11**. The top is provided with one or more elongate slots **12**, as shown in Fig. 2, permitting the plastic cover material **13** to flow or be forced therethrough during the molding process.

Beneath the top **10** and in line with each of the slots **12** is disposed a channel member **14** which has flared upper edges **15** preferably welded to the under surface of the top. The plastic material is forced into channel member **14**. Thus, there is formed an integral stiffening rib for the metal top, as well as a combined integral portion of the cover to more firmly and securely hold the cover in place on the sheet metal top. It is possible to have a series of such slots disposed at spaced points and extending transversely of the top as indicated in dot and dash lines **16** in Fig. 3. Such slots will also be provided with underlying channel members, as above described.

The plastic material **13** is molded on to the sheet metal top **10** of the desk and down around the curved periphery of the top **10**. In order to provide a metallic backing support for the plastic cover extending below the periphery of the top **10**, a metallic backing is formed all along the downwardly curved periphery of the top **10**. This backing is formed by welding a marginal supporting member or bracket to the inner surface of the downwardly curved periphery **11** of the top **10**. This marginal supporting member has a continuous somewhat upright curved portion **17** spot welded all along the inner face to the portion **11**. The lower edge of this portion **17** ends slightly above the lower edge of the portion **11**, as shown in Fig. 4. At this point, the bracket member is turned inwardly to form a horizontal shelf portion **18**. From the inner edge of this shelf portion there is an integral dependent portion **19**. There is an integral inwardly extending portion **20** on the lower edge of dependent portion **19**. The material is molded against this backing and then after the molding operation is complete, to this horizontal portion **20** there is spot welded an edge forming plate **21**, preferably of chrome alloy sheet metal, having an upwardly inclined inner edge flange **22** and outer edge flange **23** positioned outwardly beyond and below the lower edge of portion **11**. This upturned flange portion **23** forms a protective lip and the upper edge of it is bent inwardly, as at **24**, toward the top portion **13**. As shown in Fig. 4, when the plastic cover material **13** is flowed into the mold, it will flow against the metal faces **17**, **18** and **19** which form a metallic backing for the periphery of the cover. The chrome metal of the lip portion **23** thus forms a decorative edge binding and as well protects the periphery of the cover material from contact with chairs pushed against it and to protect the edge from strains when the desk is being moved or otherwise handled.

Thus there has been provided a desk with a plastic cover molded directly on the entire surface of the sheet metal top; is securely and firmly united along the top to present a smooth even surface which will not warp or be strained out of close contact with the top; and is equally firmly and securely molded to the top along the peripheral edges thereof and protected along the peripheral edges from damage due to contact with external objects.

While I have described what I consider to be a highly desirable embodiment of my invention, it is obvious that many changes in form could be made without departing from the invention, and I, therefore, do not limit myself to the exact form herein shown and described, nor to

anything less than the whole of my invention as hereinbefore set forth, and as hereinafter claimed.

What I claim is:

1. A desk construction having a top portion to which a plastic cover is to be molded, which includes an elongate slot in the top of the desk through which the cover material is flowed, and a channel element fixed to the under surface of the top in alinement with the slot to receive the cover material therein.

2. A desk construction having a top portion, the periphery of which is curved downwardly, a continuous bracket plate fixed to the inner surface of the said curved portion of the top, said bracket plate having a portion extending outwardly below and beyond the peripheral edge of the top portion and turned up at its end to form a protective and ornamental lip.

3. A desk construction having a top portion to which plastic cover material is to be molded which includes an elongate slot in the top of the desk through which the cover material is flowed, a channel element fixed to the under surface of the top in alinement with the slot to receive the cover material therein, the periphery of the top being curved downwardly, a continuous bracket plate fixed to the inner surface of the curved periphery of the top, said bracket plate having a portion extending outwardly below and beyond the peripheral edge of the top portion and turned up at its end to form a protective and ornamental lip.

4. A desk construction having a top portion to which a plastic cover is to be molded, the periphery of the top portion being curved downwardly, which includes a continuous bracket plate fixed to the inner surface of the curved periphery of the top, said plate having an inwardly horizontally extending shoulder and a downwardly extending flange at the inner edge of the said shoulder, said shoulder and flange forming a backing surface against which the lower periphery of the plastic cover is molded.

5. The invention of claim 4 further characterized in that an inwardly horizontally extending plate is connected to the lower edge of said flange, and an auxiliary plate is fixed to the bottom of said last mentioned plate and extends outwardly below and beyond the peripheral edge of the top portion with its outer edge turned up to bear against the molded cover and form a protective ornamental lip.

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