

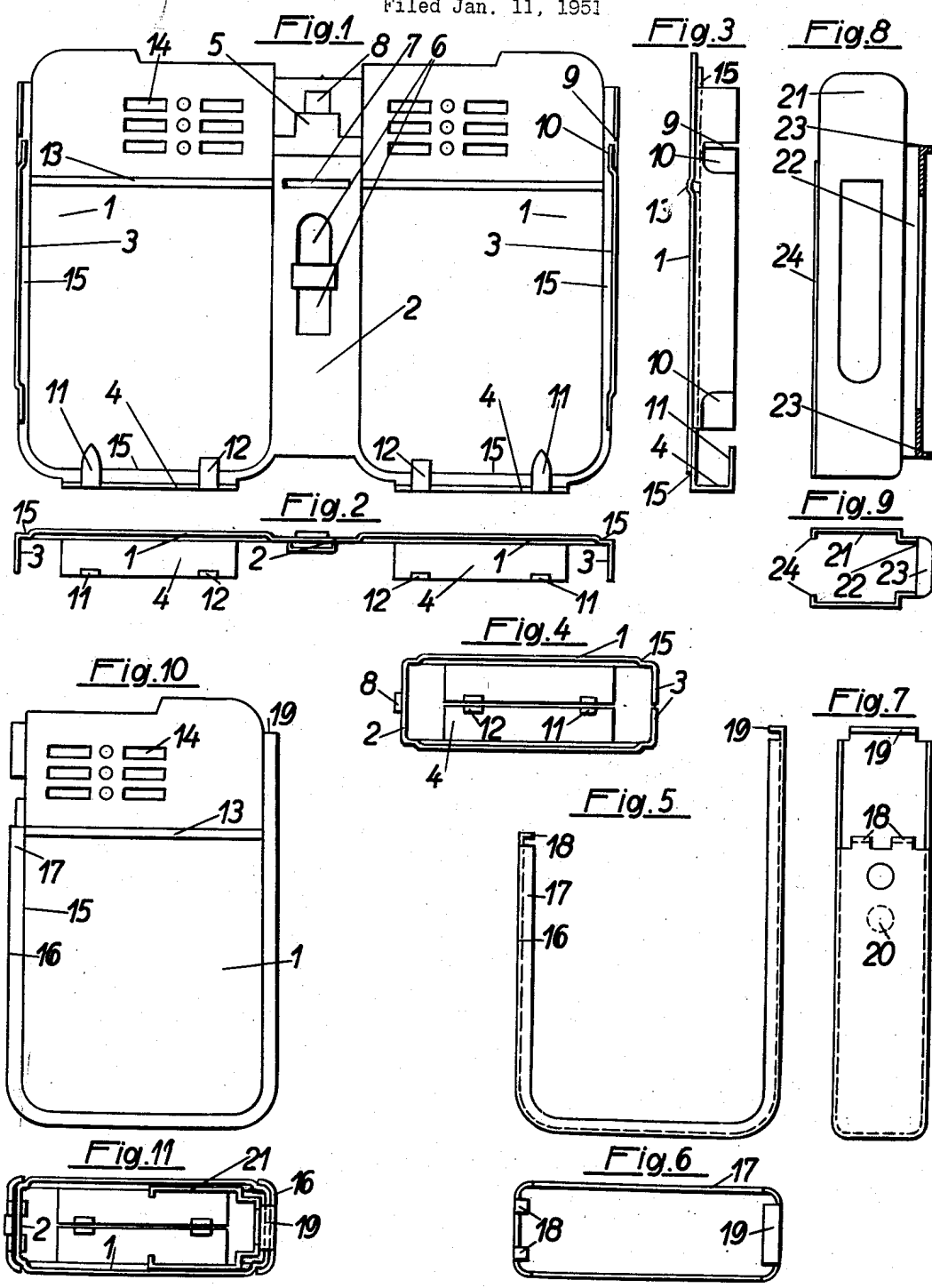
Jan. 19, 1954

A. RACEK ET AL

2,666,547

CASING, IN PARTICULAR LIGHTER CASING

Filed Jan. 11, 1951



# UNITED STATES PATENT OFFICE

2,666,547

## CASING, IN PARTICULAR LIGHTER CASING

Alfred Racek and Johann Raganitsch,  
Vienna, Austria

Application January 11, 1951, Serial No. 205,466

Claims priority, application Austria  
February 15, 1950

6 Claims. (Cl. 220—4)

**1**  
This invention relates to a casing, in particular to a lighter casing, which comprises essentially a sheet metal body, which is preferably made from a single piece of sheet metal by stamping, pressing, and bending.

Lighters are known the casing of which consists of a piece of sheet metal which has been bent and the adjoining edges of which are rigidly connected with each other by soldering or welding. In one of these known lighters two open sides of the casing opposite each other are closed on the one hand by a trigger and on the other by a side wall of the fuel tank, which side wall is shaped like the trigger. This method of manufacturing the casing, however, is uneconomical because the rigid connection of the edges of the adjoining sheet metal walls by soldering or welding is complicated and expensive. Moreover, the joints must be re-machined for pleasing appearance.

It is an object of this invention to provide a casing, in particular a lighter casing, the side walls of which have smooth outside surfaces and which can be manufactured economically by mass production.

In the casing embodying this invention, at least part of the narrow side walls of the sheet metal body are integral with the piece of sheet metal and said narrow side walls are at least partially embraced by an open frame, which ensures that the casing is firmly held together.

A casing embodying this invention is shown in several stages of its manufacture by way of example in the accompanying drawings.

Figs. 1 to 3 are a front view and two side views, respectively, showing the piece of sheet metal after stamping and preliminary pressing.

Fig. 4 is a top plan view showing the piece of sheet metal after it has been bent.

Figs. 5 to 7 are three different views showing the sheet metal frame.

Figs. 8 and 9 are a longitudinal sectional view and a top plan view, respectively, showing a sheet metal rail which is to be connected to the casing.

Figs. 10 and 11 are a side view and a top plan view, respectively, showing the finished casing.

The embodiment shown by way of example in the drawings consists of a casing of rectangular contour and cross section. A rectangular piece of sheet metal is first blanked with all details and apertures required in the finished casing, to form the unfolded pattern of the casing. Subsequently the final surface shape of the wide side walls 1 and of the narrow side wall 2 connecting

**2**  
said wide side walls, is produced by pressing. The flanged margins 3 and 4 are bent at right angles, the height of the flanged margins being half the width of the casing. After the piece of sheet metal has been bent along the bending edges of the undivided narrow side wall 2, the flanged margins 3 provide the second narrow side wall and the flanged margins 4 the bottom of the finished casing. The apertures 5, 6 for the locking means to be incorporated into the casing, a narrow transverse slot 7, and a depressed projection 8 for the lid locking means, are provided in the narrow side wall 2. Moreover, the flanged margins 3 are provided with an indentation 9 and with impressed seats 10 for receiving fixing lugs and, if desired, with an aperture for the passage of an actuating button. The other flanged margins 4 have inwardly protruding lugs 11, 12, which lie adjacent to each other in pairs when the piece of sheet metal has been bent together, and serve as supports for coil springs. To ensure an interlocking fit of the U-shaped frame to the sheet metal body of the casing, the longitudinal and lower transverse edges of said body are stepped inwardly so as to provide a U-shaped bordering 15 of the wide side faces. Finally, the wide side walls 1 have an impressed stiffening rib 13, of ornamental effect, which indicates the delimitation of the wind shield jacket, which has air inlet apertures 14 punched into it.

Fig. 4 shows the sheet metal body constituting the lighter casing produced by bending the piece of sheet metal in the shape of a channel section, the flanged margins 3 and 4 being spaced from each other only by a small gap.

The open sheet metal frame 16 (Figs. 5 to 7) bent in accordance with the contour of the casing, serves for stiffening the narrow side walls formed by the web 2 and by the flanged margins 3 and 4, and for providing, after having been connected to the sheet metal body, a rigid casing the strength of which is equivalent to that of a casing produced by deep drawing. The frame 16, open at one side, i. e., at the top, has inwardly flanged longitudinal margins 17, the size of which corresponds to that of the stepped edges 15 of the sheet metal body. Inwardly bent fixing lugs 18, 19 are provided at the ends of the sheet metal frame 16. Moreover, one or several apertures 20 for the actuating means are punched at suitable places out of the limbs of the frame 16. When the frame 16 has been passed on to the sheet metal body, it is in full contact with the narrow side walls 2, 3, 4 of the sheet metal body,

3

the flanged margins 17 interlocking with the stepped edges 15. Thus a casing is formed which comprises a sheet metal body having front and back walls 1 and on two sides and the bottom having double walls formed by inner walls consisting of inwardly flanged longitudinal margins 3, 4 of said front and back walls and of a portion 2 connecting said front walls, and by outer walls consisting of a frame 16 open at one side and embracing said inner walls 2, 3, 4 and the adjoining portions 15 of said front and back walls in snug engagement therewith. Now the lugs 19 are bent round the upper transverse edge of the flanged margins 3, whereas the lugs 18 are stuck through the slot 7 and also bent off. Interlocking with the steps 15, the flanged margins 17 serve for adapting the cross sectional shape of the frame 16 to that of the sheet metal body adjacent to the narrow side walls of the latter so that the frame and the sheet metal body are an interlocking fit to each other to provide for a rigid connection (Figs. 10 and 11). The frame 16 has the additional advantage of providing smooth side walls because it covers up the apertures, lugs, and the like provided in the flanged margins 3, 4 and in the web 2. Seated in the stepped portions 15 the flanged margins 17 of frame 16 are flush with front and back walls 1.

The casing may be further stiffened at the side wall formed by the flanged margins 3, by a sheet metal rail 21, such as shown in Figs. 8 and 9, for guiding the friction wheel carrier. The rail is of channel section, and its web 22, which is somewhat narrower owing to being stepped, has an aperture in the shape of an oblong hole and, at each end, a fixing lug 23. The free longitudinal edges of the flanges have an inwardly flanged margin 24. Before the U-shaped frame 16 is applied, the sheet metal rail is fixed inside the sheet metal body with its web 22 lining the flanged margins 3, the upper lug 23 being stuck through the indentations 9 and bent into the seat 10, whereas the lower lug 23 is bent around the lower edge of the flanged margins 3. Fig. 11 shows the stepped edges of web 22 in snug engagement with the inwardly stepped edge portions 15 of the front and back walls 1, and the flanges 21 of the rail in engagement with said front and back walls.

What we claim is:

1. A casing which comprises, in combination, a sheet metal body having front and back walls and integral bottom and narrow side walls, said front and back walls having inwardly stepped edge portions along said bottom and narrow side walls, and a frame open at one side embracing said bottom and narrow side walls and having flanged longitudinal margins seated in said stepped edge portions.

2. A casing which comprises, in combination, a sheet metal body having integral bottom and two narrow side walls, one of said side walls being formed with slots and the other of said side walls having a free top edge, and a frame open at one side embracing said bottom and narrow side walls and formed with lugs protruding from one end of said frame and inserted through said slots into the inside of the casing, and with a lug protruding from the other end of said frame and bent over said free top edge.

3. A lighter casing which comprises, in combination, a sheet metal body having front and

4

back walls and inwardly flanged margins forming a bottom wall and a narrow side wall, said front and back walls having inwardly stepped longitudinal and bottom edge portions, a frame open at one side and embracing said sheet metal body on three sides including said bottom wall and said narrow side wall, said frame having flanged longitudinal margins seated in said stepped edge portions, and a channel section rail having a web fixed to and lining said narrow side wall and having inwardly stepped longitudinal edges in snug engagement with said inwardly stepped edge portions of said front and back walls.

4. A lighter casing which comprises, in combination, a sheet metal body having front and back walls and integral bottom and narrow side walls, a frame open at one side embracing said bottom and narrow side walls and having flanged longitudinal margins embracing portions of said front and back walls adjoining said bottom and narrow side walls, and a channel section rail having a web fixed to and lining one of said narrow side walls, and flanges in engagement with said front and back walls adjacent to said narrow side wall lined by said web, said flanges having inwardly flanged margins remote from said web.

5. A casing which comprises, in combination, a sheet metal body having front and back walls and integral bottom and narrow side walls, and a frame open at one side embracing said bottom and narrow side walls, the inside surface of said frame being in snug engagement with the outside surface of said bottom and narrow side walls and said frame having inwardly flanged longitudinal margins flush with said front and back walls.

6. A casing which comprises, in combination, a sheet metal body having front and back walls and on two sides and the bottom having double walls formed by inner walls consisting of inwardly flanged longitudinal margins of said front and back walls, and of a portion connecting said front and back walls, and by outer walls consisting of a frame open at one side and embracing said inner walls and the adjoining portions of said front and back walls in snug engagement therewith.

ALFRED RACEK.

JOHANN RAGANITSCH.

## References Cited in the file of this patent

## UNITED STATES PATENTS

Number	Name	Date
D. 149,597	Webber	May 11, 1949
588,059	Frothingham	Aug. 10, 1897
909,664	Porter	Jan. 12, 1909
1,110,157	Stewart	Sept. 8, 1914
1,481,561	Ringer	Jan. 22, 1924
1,557,066	Krantz	Oct. 13, 1925
1,755,908	Babbitt	Apr. 22, 1930
1,782,145	Kornsweet	Nov. 18, 1930
1,899,311	Cassell	Feb. 28, 1933
2,503,967	Paveika	Apr. 11, 1950
2,526,335	Deichert	Oct. 17, 1950

## FOREIGN PATENTS

Number	Country	Date
84,414	Austria	Jan. 25, 1921