Jan. 17, 1939. H. B. BROWN 2,144,523

COMBINED CASE AND INSTRUMENT MOUNTED THEREIN

Filed Oct. 9, 1937

Fig. 1

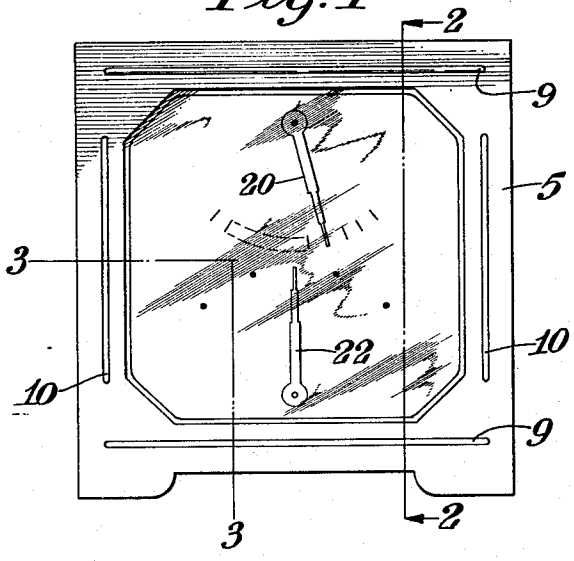


Fig. 2

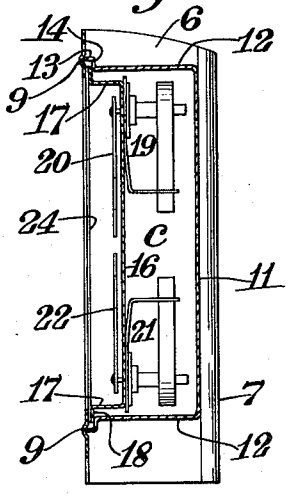
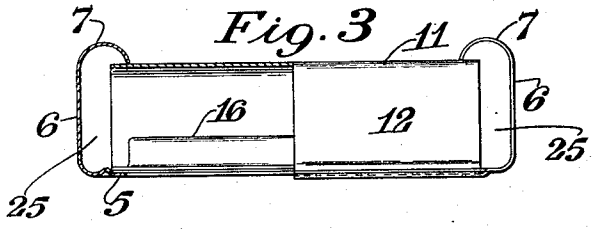


Fig. 3



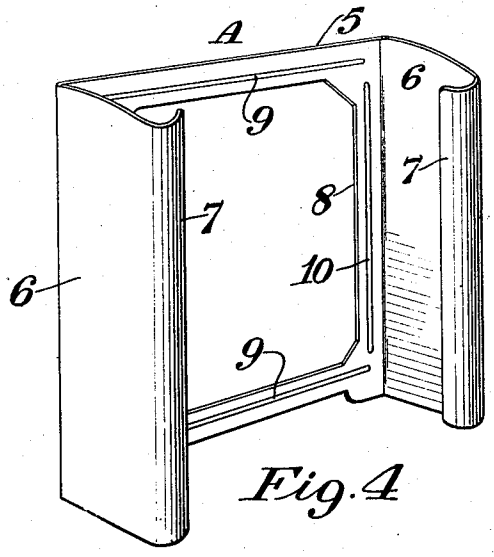


Fig. 4

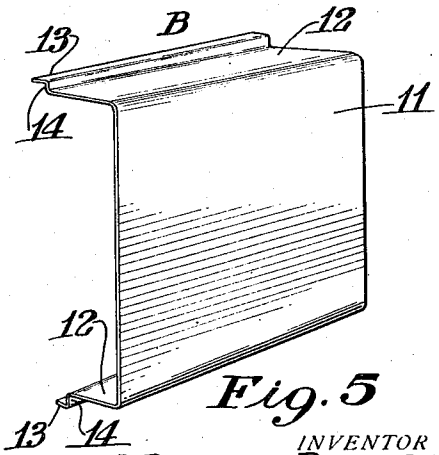


Fig. 5

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COMBINED CASE AND INSTRUMENT MOUNTED THEREIN

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Application October 9, 1937, Serial No. 168,299

5 Claims. (Cl. 73—151)

This invention relates to a combined case and instrument mounted therein.

The present invention has for its purpose an instrument unit and a case for enclosing the same, of simple construction which can be readily assembled without the use of screws, bolts or rivets.

The various features and advantages of the invention will appear from the detailed description and claims when taken with the drawing in which Fig. 1 is a front elevation of the instrument of the present invention; Fig. 2 is a vertical section through the instrument taken on the line 2—2 of Fig. 1; Fig. 3 is a section thereof taken on the line 3—3 of Fig. 1; Fig. 4 is a rear perspective view of the front portion of the instrument case; and Fig. 5 is a perspective view of the rear portion of the instrument case.

The instrument of the present invention comprises a front portion A and a rear portion B, adapted to fit one within the other to form a compartment for enclosing the instrument mechanism C. The front portion A, preferably made of sheet material, is channel-shaped, comprising a substantially flat front plate 5 and integral side plates 6 which extend rearwardly from the vertical edges of said front plate and which have their vertical margins 7 curved inwardly toward the front plate. The front plate has an opening 8 therein through which the dial of the instrument is visible and outwardly projecting horizontal ribs 9, as well as inwardly projecting vertical ribs 10 formed in the material adjacent the sides of said opening, for a purpose to be set forth.

The rear portion B of the case, preferably made of sheet material, is also channel-shaped, comprising a flat back 11 provided at its horizontal edges with integral top and bottom pieces 12 formed at substantially right angles to the back. Each of the pieces has its horizontal margin 13 offset outwardly to provide a shoulder 14, the spacing between the end edges of the offset margins 13 being substantially equal to the distance between the ribs 9 formed in the front plate 5 so that these ribs and the end edges of the offset margins can interlock.

The instrument C includes a dial plate 16 having its margins cupped outwardly with respect to the main portion of the plate as indicated at 17, the rim of the cupped margin being formed as flanges 18 in a plane substantially parallel to the principal plane of the dial plate. The dimensions of said dial plate are preferbly such that its horizontal flanges rest on and are held against movement in one direction by the shoulders 14 formed in the top and bottom pieces 12 of the back portion B. There is mounted on the rear of the dial plate the instrument actuating mechanism for operating an index located at the front of the dial plate. By way of example, two such mechanisms 19 and 21 and their respective indexes 20, 22 are illustrated, one of which mechanisms may respond to changes in temperature and the other of which may respond to changes in relative humidity. These mechanisms need not be described since they form no part of the invention.

In assembling the instrument, the front plate is laid face down on a flat surface and a transparent crystal 24 is placed on the rear surface of the front plate to cover the opening 8 therein, the crystal being located by the inwardly projecting ribs 10. The dial plate 16 and the instrument actuating mechanisms are then placed face downward with the edges of the flanges 18 registering with the edges of the crystal 24. The side plates 6 of the front portion A are thereafter sprung outwardly so that the back portion B of the case can be fitted therein, with the top and bottom piece 12 as well as the back 11 closing the back opening and the central portion of the end openings in the channel-shaped front portion. In locating the back portion B with respect to the front portion A, the shoulders 14 of the side pieces 12 engage the horizontal flanges 18 of the dial plate, and the end edges of the horizontal margins 13 are positioned in the horizontal depressions at the rear of the ribs 9 in the front plate 5. The curved margins 7 of the side plates 6 are then permitted to spring back to their normal positions with the vertical edges of these margins engaging the rear surface of the back 11. It should be noted that the ends of the pieces 12 are spaced from the side plates 6 so that there is a flue 25 at each side of the instrument case enabling a comparatively free circulation of air about the sensitive elements of the actuating mechanisms.

By this construction the instrument actuating mechanism can be easily assembled in the instrument case comprising the portions A and B, since no screws, bolts, rivets or other fastening means are utilized.

I claim:

1. A case comprising a channel-shaped front portion having a dial opening in the web portion thereof, the edges of the flanges thereof being turned inwardly, a second channel-shaped rear portion receivable in said first member with the

flanges of said portions at right angles to each other, said inturned edges of the first-mentioned flanges abutting the web of said rear portion and holding said rear portion within said front portion, the web of said front portion having a groove formed on the inner surface adjacent opposite ends thereof for receiving the edges of the flanges of said rear portion to lock said portions together.

2. An instrument case including a front portion and a back portion each made of sheet material, said front portion comprising a front wall having a dial opening therein and grooves in the inner face thereof adjacent the top and bottom edges thereof, side walls integral with said front face, the edge of each side wall being turned inwardly to form a portion of the back of said instrument case, said back portion comprising a back wall and top and bottom walls integral therewith, said back member being held between the side walls of the front member by the inturned parts of said side walls, the edges of said top and bottom walls seating in said grooves, said top and bottom walls being shorter than the width of said front wall whereby to provide flues opening into the interior of said case.

3. An instrument case including a front portion and a back portion each made of sheet material, said front portion comprising a front wall having a dial opening therein and grooves on the inner face thereof adjacent the top and bottom edges, side walls integral with said front face, the edge of each side wall being turned inwardly to form a portion of the back of said instrument case, said back portion comprising a back wall and top and bottom walls integral therewith, said back portion being held between the side walls of the front member by the inturned portions of said side walls and with the edges of said top and bottom walls seated in said grooves, the inner face of said front wall having ribs formed thereon adjacent the side walls for positioning a crystal over said opening.

4. An instrument case comprising front and back portions made of resilient sheet material, said front portion including a front wall with a portion of its bottom margin cut away to provide an opening and integral side walls, the rear margin of the side walls being turned inwardly with the edge thereof substantially parallel with the front wall, said back portion including a rear wall and integral top and bottom walls, said back portion being receivable under said inturned margins of the side walls and held thereby with the top and bottom walls in contact with the inner face of the front wall, said top and bottom walls being of less width than said front wall and said bottom wall being spaced from the lower edge of said front portion to provide flues opening into the interior of said case and communicating with said opening.

5. In a device of the class described comprising a back portion, a front portion, and a dial with associated instrument actuating mechanism, said front portion including a front wall having a dial opening therein and integral side walls, said back portion including a rear wall and integral top and bottom walls, the front margins of said top and bottom walls being offset to provide a shoulder, said back member being held with the front edges of the top and bottom walls in abutting relation with the inner face of the front wall by said side walls, said dial being held behind the dial opening in the front wall by means of the shoulder portions on said top and bottom walls.

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