April 10, 1934. S. N. HURT 1,954,207

DEVICE CASING

Filed June 15, 1931

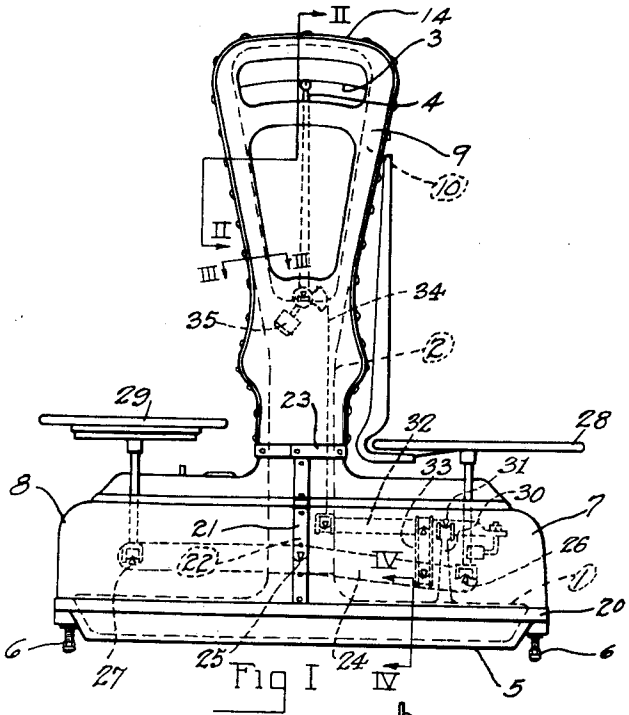


Fig I

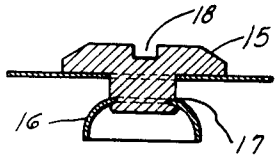


Fig V

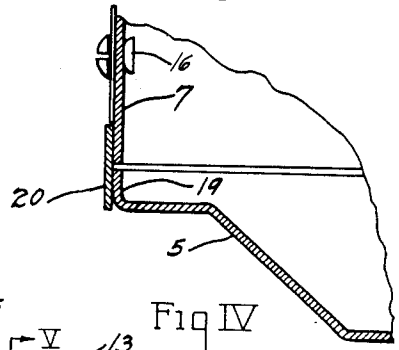


Fig IV

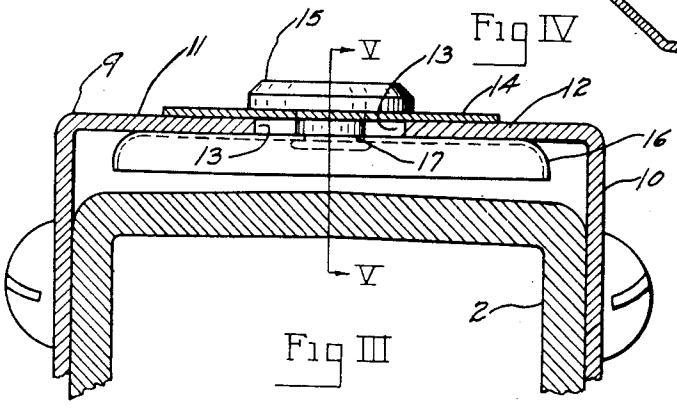


Fig III

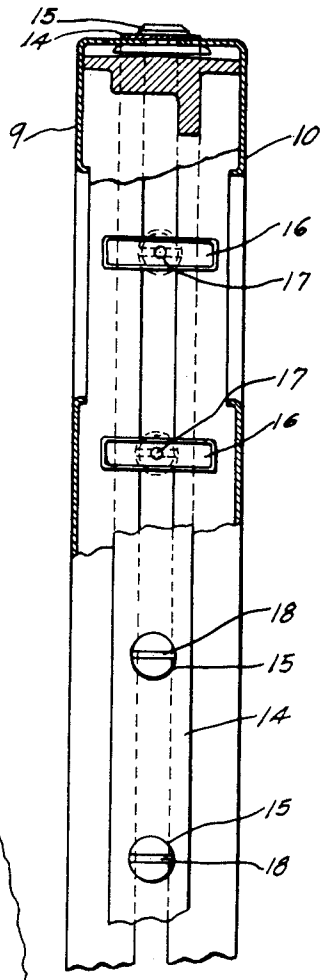


Fig II

Samuel N. Hurt.
INVENTOR.

BY E. M. Marshall

ATTORNEY.

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UNITED STATES PATENT OFFICE

1,954,207

DEVICE CASING

Samuel N. Hurt, Toledo, Ohio, assignor to Toledo Scale Manufacturing Company, Toledo, Ohio, a corporation of New Jersey

Application June 15, 1931, Serial No. 544,369

5 Claims. (Cl. 265—27)

This invention relates to weighing or force measuring devices and in particular to improvements in the construction of their enclosing casings. It has been found desirable to construct such devices with an interior skeleton frame, having relatively great rigidity, on which the mechanism is mounted, and having enclosing casing members made from relatively thin material, either sheet metal stampings or molded material. Due to the thinness of the material, it has always been a problem to form a good appearing joint between the members. When the casing members are made from sheet steel and are porcelain enameled, this difficulty is enhanced, as porcelain will not adhere to a thin edge. This eliminates the overlapping joints, which, however, are also uneconomical, as the manufacturer is obliged to make the casing members "rights" and "lefts", and which when slightly warped are also difficult to fit. I have found that it is possible to make a neatly appearing joint between two such members regardless of a slight warp, chipped finish or other blemishes along the edges, by employing thin flexible strips which are adapted to conform snugly to the contour of the casing members.

The principal object of the invention is the provision of improved means for covering adjacent edges of weighing device casings.

Another object of the invention is the provision of casing members which in assembled relation, do not contact each other.

Another object is the provision of thin flexible bands for covering weighing device casing joints; and

A still further object is the provision of improved means for detachably securing such flexible bands to such casings.

These and other objects and advantages will be apparent from the following description in which reference is had to the accompanying drawing and wherein similar reference numerals designate similar parts throughout the several views.

In the drawing:—

Figure I is a front elevational view of a scale, having a rigid frame member, sheet metal casing members, and embodying my invention.

Figure II is an enlarged fragmentary side elevational section through the upper casing portion substantially along the line II—II of Figure I and showing a fragment of the rigid frame member.

Figure III is an enlarged sectional view through the frame, the casings, the flexible band and the latching members, substantially along the line III—III of Figure I and illustrating the function of the latching means.

Figure IV is an enlarged fragmentary section through the lower casing members substantially along the line IV—IV of Figure I illustrating the application of the flexible metallic band as a joint concealing means at this point; and

Figure V is an enlarged sectional view through the latching means and the flexible band substantially along the line V—V of Figure III.

Referring to the drawing in detail, as a scale mechanism per se does not form a part of this invention, I have not shown one in the drawing nor will I describe one. The invention may be used in connection with any preferred scale mechanism which is applicable to the hereinafter described construction. A rigid skeleton like base frame 1 has secured thereto, an upwardly extending skeleton frame 2 to the upper extremity of which an indicating chart 3 is usually fastened for co-operation with an indicator 4 actuated by the weighing mechanism. The casing members in the illustrations of the embodiment of the invention comprise a base pan 5 which is provided with perforations through which the levelling screws 6 project. The lever mechanism (not shown) supported by the base frame, is enclosed by base casing members 7 and 8 and the counterbalancing and indicating mechanisms (not shown), which are supported by the upwardly extending frame 2, are housed within casing members 9 and 10. These casing members may be attached to the frame-work or they may be made to support each other so that no direct connection is made to the rigid members carrying the scale mechanisms. Due to this improved method of joint structure, the members 7 and 8 may be made by one set of dies. They need not be made in "rights" and "lefts"; this is also true of the housing casing members 9 and 10. In itself, this is a great improvement over the heretofore known scale housings which are usually made with overlapping portions, as the manufacturing and assembly costs are thereby materially decreased.

Referring to Figure III, the casing members 9 and 10 are shown attached to the skeleton-like frame member 2 by means of screws. The flanges 11 and 12 of the casing members project slightly beyond the frame 2 and leave an open space 13 between their edges. The opening 13 is covered by a flexible band 14 preferably made from non-rusting stainless steel which takes a high polish and is very ornamental, although other material such as chemical condensation products or of cellulose acetate or similar material may be used. This part is perforated at intervals for the reception of latches. The latch construction is very simple and consists in a rivet-like member 15 which turns freely in the perforation and has a latch 16 riveted to a shouldered projection 17. The rivet-like member is provided with a screw driver slot 18 which preferably is parallel to the longitudinal axis of the latch 16 when the two members are riveted together.

When the casing members are secured to the frame-work in any preferred manner, the flexible band 14 with the therein stationed latches, which are now all turned so that their longitudinal axes are parallel to the longitudinal axis of the band, is fastened to them. Starting preferably in the middle of the band, the latch is introduced in the opening 13 formed by the edges of the flanges 11 and 12 and by means of a screw driver, the head of the latch is turned so that it spans the opening and the ends grip the inner edges of the casing members. The distance between the lower face of the band and the upper face of the latch is preferably made equal to or just slightly less than the thickness of the casing members so that a locking action takes place when the latch is turned in the manner heretofore described. The same procedure is followed with the remaining latches and as the band is highly flexible, it will snugly follow the contour of the casing members 9 and 10, thus making a reasonably tight joint, hiding all imperfections of the edges and giving an ornamental appearance to the assembled product.

The base pan 5 (Figure IV) which is fastened to the skeleton-like frame member 1, is provided with an upturned edge 19. To this upturned edge another flexible band 20 is fastened in any suitable manner. This upturned edge 19 forms a ledge for the support of the casing members 7 and 8 and the edges of the casing members are successfully concealed. Bands 21 and 22 provided with latches in the manner heretofore described, finish the joint between these two casings. Another flexible band 23 conceals the junction between the casings 7 and 8 and the upper housing casings 9 and 10. One of the great advantages gained by the use of this flexible band is the fact that it will follow the contours of the casings, even though they are slightly warped and slightly out of line with each other.

The weighing mechanism of the scale is supported on the skeleton-like base 1 and the skeleton frame 2 and consists of an even arm lever 24 fulcrumed at 25 and supporting upon load pivots 26 and 27 a commodity-receiving platter 28 and a weight-receiving platter 29. Extending upwardly from the skeleton-like base 1 is a fulcrum stand 30 upon which is pivoted at 31 a transmission lever 32 connected by means of a link 33 to the even arm lever 24 and also connected by means of a flexible metallic ribbon 34 to a load-counterbalancing pendulum 35 which supports and controls the indicator 4. The slightest distortion of the skeleton-like base 1 or skeleton-like frame 2 is liable to cause the indicator 4 to indicate erroneously the weight of a commodity placed upon the platter 28. The applicant's invention, however, enables casing parts to be joined without applying any appreciable force to them which might result in such deflection of the skeleton base 1 and the skeleton frame 2.

It is obvious that the embodiment of my invention herein illustrated and described is well adapted to fulfill the objects primarily stated. It is to be understood, however, that the invention is susceptible to variation, modification and change within the spirit and scope of the subjoined claims.

Having described my invention, I claim:

1. In a device of the type described, in combination, a thin, flexible, metallic band having a plurality of latches in spaced relation for engagement with juxtaposed edges of substantially thin walled covering members, said latches comprising a head portion, a body portion and an engaging portion and extending freely through apertures in said metallic band, said head portion and said body portion being integral and said engaging portion being secured to said body portion in predetermined relation to said head portion, the distance between the under face of said band and the upper face of said engaging portion being equal to or slightly less than the thickness of said walls of said covering members.

2. In a device of the type described, in combination, a thin, flexible metallic band having a plurality of latches in spaced relation for engagement with juxtaposed edges of substantially thin walls of covering members, said latches extending freely through apertures in said metallic band, and having a head portion and body portion integral and an engaging portion being secured to said body portion in predetermined relation to said head portion, the distance between the under face of said band and the upper face of said engaging portion being equal to or slightly less than the thickness of said walls of said covering members, and said engaging members being slightly resilient.

3. In a force measuring device, of the class described, in combination with the mechanism of the device and supports for said mechanism, a plurality of casing members having edges in juxtaposed relation and a thin, flexible band-like member covering said juxtaposed edges, said thin, flexible band-like member being adapted to snugly conform to the contour of said casing members and having retaining means, said retaining means comprising a series of manually operated latches adapted to engage the inner surfaces of the edges of said casing members.

4. In a force measuring device, of the class described, in combination with the mechanism of the device and supports for said mechanism, a plurality of casing members having edges in juxtaposed relation and a thin, flexible band-like member covering said juxtaposed edges, said thin, flexible band-like member being adapted to snugly conform to the contour of said casing members and having retaining means, said retaining means comprising a series of manually operated latches adapted to engage the inner surfaces of the edges of said casing members, and adapted to be brought into latching engagement with the inner surfaces of said casing members from the exterior of said device.

5. In a force measuring device, of the class described, in combination with the mechanism of the device and a supporting frame for said mechanism, a plurality of casing members having edges in juxtaposed relation and a thin, flexible band-like member covering said juxtaposed edges, said thin, flexible band-like member being adapted to snugly conform to the contour of said casing members and having retaining means, said retaining means comprising a series of manually operated latches adapted to engage the inner surfaces of the edges of said casing members, and adapted to be brought into latching engagement with the inner surfaces of said casing members from the exterior of said device, said latches having means for visually indicating their position relatively to said casing members.

SAMUEL N. HURT.