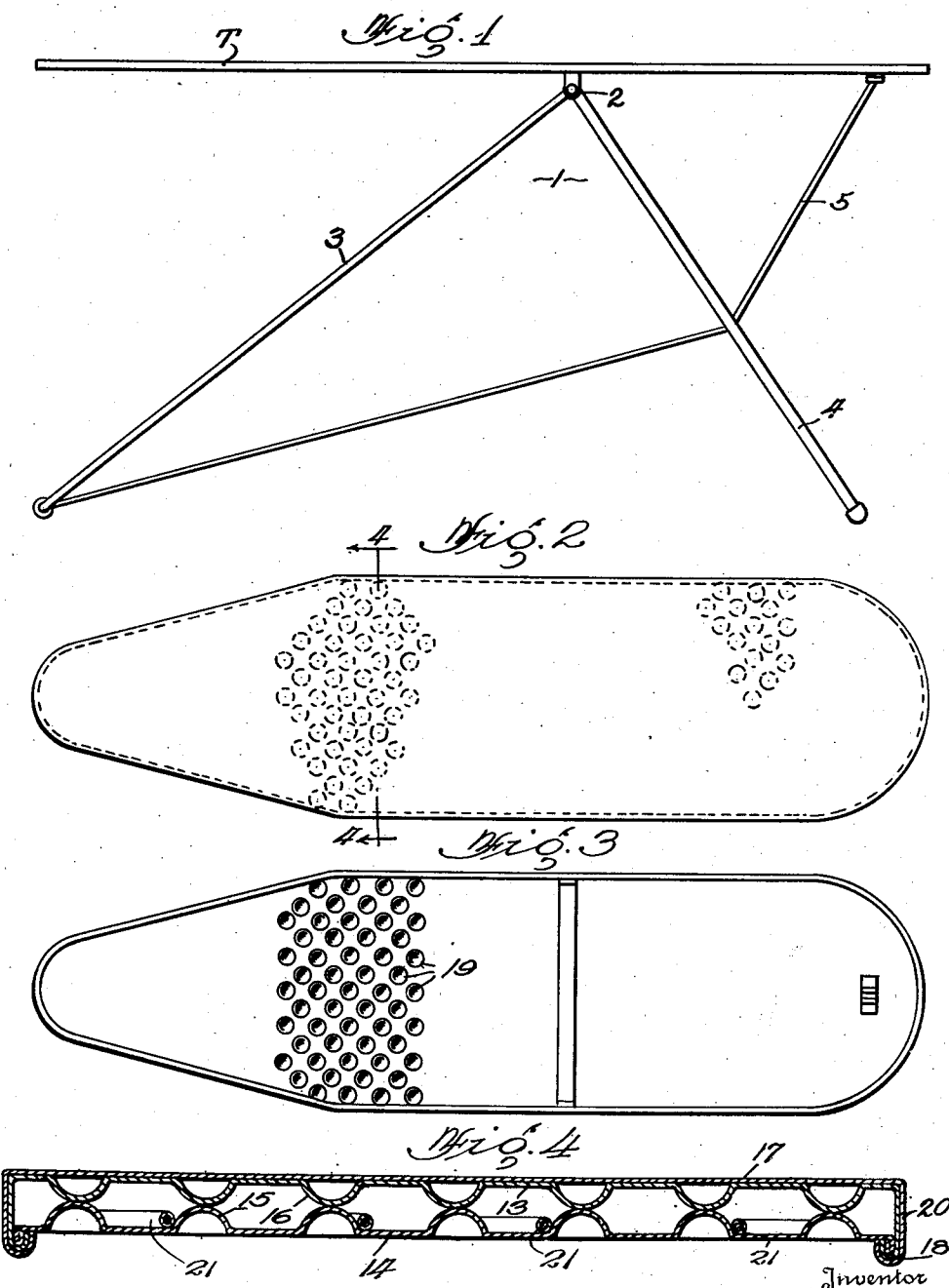


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IRONING TABLE STRUCTURE  
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## UNITED STATES PATENT OFFICE

2,298,001

## IRONING TABLE STRUCTURE

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3 Claims: (Cl. 38—137)

The present invention, relating as indicated to ironing tables, is particularly concerned with the manufacture of a metallic structural element adapted for use as the top of an ironing table or analogous structure in which strength, absence of fire danger, low weight and low cost are important. The invention, while adapted for various uses as will be evident from its construction as hereinafter described will here be illustrated in the form of a folding ironing table of generally conventional type.

The object of my invention is to provide a metal ironing table which combines convenient weight to sufficient strength, and which has in addition the safety factor which no wooden table can have, namely, the complete elimination of any fire hazard. A further object is to provide a metal ironing board so constructed and designed that a heating element can be included within the box-like board structure with absolute freedom from fire danger. Other objects will be apparent in the subsequent description.

Folding ironing boards have been in use for many years and consist of a flat top made from a single piece of wood and folding legs either of wood or metal hinged to the lower surface of the board to fold flat against the board proper when not in use. In this structure the wooden top is obviously the weakest element because it is subjected to severe and varying conditions such as heat from the ironing operation, bending movements at the outer unsupported end which is spaced a very considerable distance from the forward legs, compression from the iron's weight and the pressure imposed upon it by the user. The repeated absorption and yielding up of moisture, the gradual further drying out of the wood in some climates, and the rough usage result in checking, warping, cracking and finally in the breaking of the top.

Various attempts have been made to produce a metal top for an ironing table for analogous uses but without success. The requirements of such an article are severe and varied. Its cost and weight must approximate closely those of a wooden top. It must have uniform minimum resistance substantially all over its surface to the operating pressure of the iron and it must withstand severe bending strains imposed upon its forward overhanging end portion which is unsupported for a considerable distance. This end portion is also weakened by being narrowed with respect to the width of the main portion of the board in order to accommodate shirts, sleeves and the like which are slipped over the extending end. For

example, a conventional board is approximately four and one-half feet long, one and one-quarter feet wide, and in wood weighs from seven and one-half to nine and one-half pounds, depending upon the particular wood used and the amount of contained moisture at any given time. It must support forty pounds on the extended narrow end without undue deflection, setting or breaking, and it must withstand transverse bending strains of more than that amount. Previous attempts at metal boards have weighed fifty to one hundred percent more than the conventional wooden boards, at two to three times the cost.

My improved board has the strength and weight of a wooden board at a comparable cost. It secures these characteristics by fabricating a given weight of metal in the form of sheets into a closed box-like structure of a predetermined minimum compressive strength over its entire area with high resistance to bending moments longitudinally, transversely and diagonally. Its box-like characteristic not only gives it extreme strength for its weight, but lends itself perfectly to the inclusion of electrical heating elements to warm the upper surface and facilitate and hasten the ironing operation, which is one purpose to which the board may be adapted, as is shown and claimed in my copending divisional application Serial No. 304,096 filed Nov. 13, 1939.

This application is a division of my copending application Serial No. 223,441 filed August 6, 1938, now Patent 2,233,735, entitled, "Ironing table structure."

To the accomplishment of the foregoing and related ends, said invention, then, consists of the means hereinafter fully described and particularly pointed out in the claims; the annexed drawing and the following description setting forth in detail certain structure embodying the invention, such disclosed means constituting, however, but one of various structural forms in which the principle of the invention may be used.

In said annexed drawing:

Figure 1 is a side elevation of an ironing board mounted on a set of folding legs;

Figs. 2 and 3 are a top plan view and a bottom plan view, respectively, of the ironing board top with the legs removed;

Fig. 4 is a cross-section on the line 4—4 of Fig. 2.

In Fig. 1 is shown an ironing table consisting of a top T and a conventional set of folding legs 1 suitably secured thereto, the legs being shown in their extending position and being foldable forwardly about their hinge attachment 2 to the

top, the forward rods 2 being hinged to the legs 4 as well as the rear supporting rods 5.

In my preferred form of board or top I use two thin metal sheets 13 and 14, the bottom sheet being pressed or indented to form a series of projections or buttons 15 spaced above the plane of the sheet. The portions 15 may be of any desired shape although I prefer to make them with curvilinear peripheral outline, either elliptical or round. The top sheet 13 is likewise provided with projections or buttons 16 as shown in Fig. 4. In this construction the buttons of the upper and lower sheets are placed against each other and welded or fastened together. To form a smooth top a third sheet 17 is placed over one of the button sheets.

To aid in obtaining the desired longitudinal strength without excessive weight, the edges of the sheets 13 and 14 are flanged downwardly and then rolled or bent to form a stiffening flange 18 completely around and under the edge or periphery of the board or top T. The width of this flange should be sufficient to prevent lateral buckling and the depth should be such as to supplement the stiffness of the box top proper and increase the strength of the entire structure. The use of such flange 18 is for practical or commercial reasons rather than strictly structural strength, as it allows for the use of very thin sheets and projections of a depth that are easily pressed into the sheets. In forming the circular or oval projections it is advantageous to have the projections so arranged that a line connecting the edges 19 of any row will extend beyond a line connecting the edges of an adjacent row of projections. By this construction the two sheets are formed into a braced girder construction, as well as being formed into merely a box, and the strength or stiffness of the board is increased.

When the projections are not circular in form but are elongated or otherwise shaped, the same general box and girder construction of the two sheets is obtained.

The smooth top sheet 17, as heretofore stated, is placed over one of the button sheets and secured in place by its flanges 20, which are rounded in with the flanges 18 of the button sheets to lock the top sheet securely in place.

The weight and thickness of the two sheets of metal forming the board or top should, of course, be such as to obtain the desired lightness and strength, approximating those of a wooden board such as is now in general use. To obtain these results, the depth of the projections and their size must be closely determined in order to obtain maximum strength with the desired weight. The use of a reinforcing flange aids in obtaining

the necessary longitudinal strength, particularly with the overhang usually employed at the nose of the board. The height of the projections or buttons is limited by the stretch of the metal employed and the spacing therebetween.

From the foregoing it may be observed that my metal board combines the strength of a new wooden top with the desirability of long life of metal. The use of my metal top eliminates the cracking and warping of a wooden top, but its greatest advantage is the complete elimination of the fire hazard always heretofore present. The cost of a metal top as described above approximates that of a wooden top.

In addition, my metal top, being formed in a box-like structure with upper and lower sheets being spaced apart by metallic members, provides natural and necessary avenues in which heating coils such as 21 can be placed so as to give a uniform distribution and consequent uniform temperature all over the board top.

Other modes of applying the principle of my invention may be employed instead of the one explained, change being made as regards the structure herein disclosed, provided the means stated by any of the following claims or the equivalent of such stated means be employed.

I therefore particularly point out and distinctly claim as my invention:

1. In an ironing board top, the combination of two indented metal sheets having the projections in contact and rigidly secured together, and a substantially flat third metal sheet mounted on the first two united sheets and providing a smooth ironing surface, the edges of the three sheets being formed into a securing and reinforcing flange.

2. In an ironing table top, the combination of two metal sheets spaced apart by means of buttons deformed out of the planes of both sheets with certain of said buttons secured to each other, and an electric heating element within said top extending through the spaces between said buttons, and a flat upper sheet coextensive with the aforesaid sheets and overlying the same to provide a smooth ironing surface.

3. In an ironing table top, the combination of two metal sheets spaced apart by means of spaced deformations projecting out of the plane of both sheets with certain of said spaced deformations secured to each other, and an electric heating element within said top extending through the spaces between said spaced deformations, and a flat upper sheet coextensive with the aforesaid sheets and overlying the same to provide a smooth ironing surface, the three sheets being secured together at their edges.

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