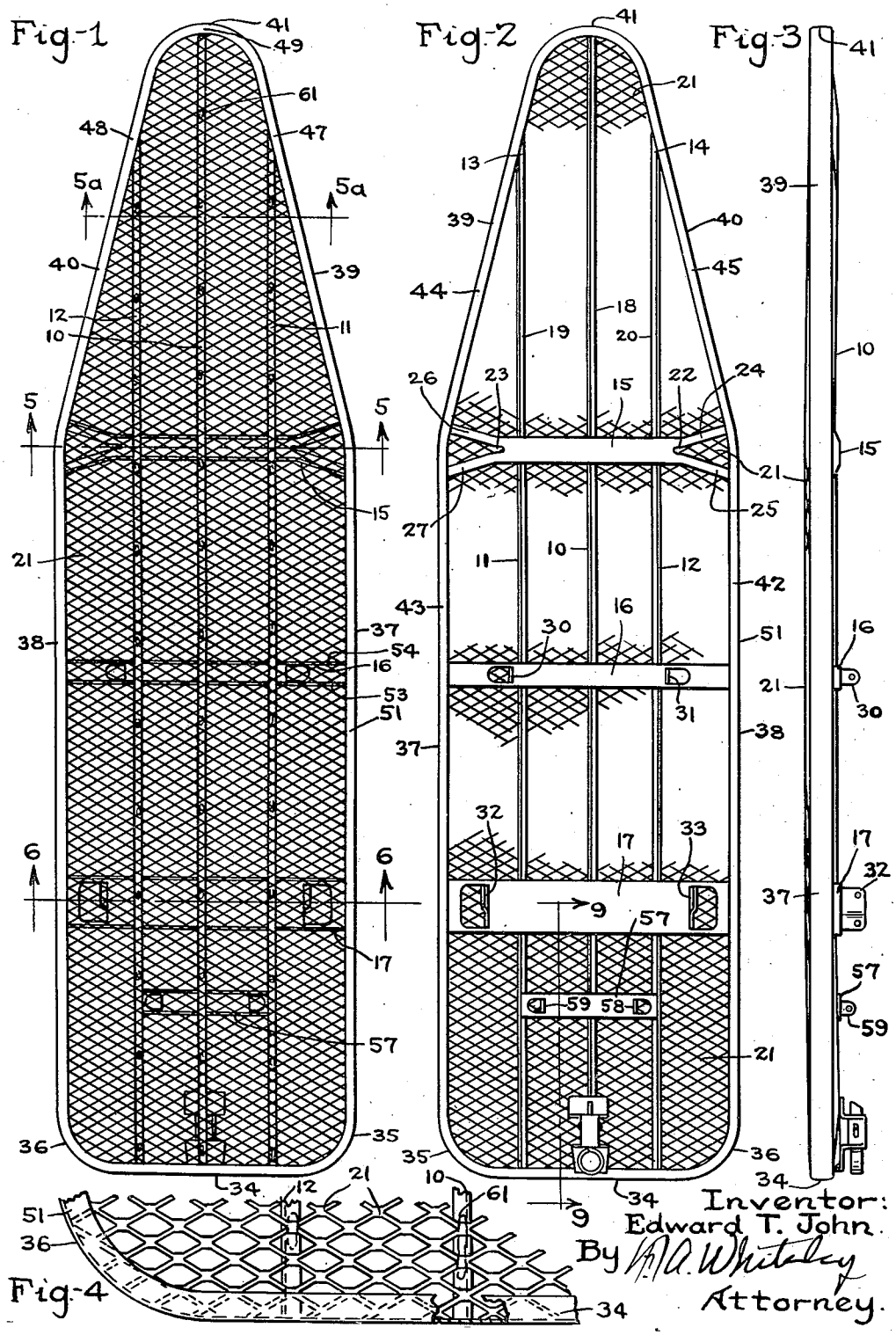
March 17, 1942. E. T. JOHN 2,276,981

VENTILATING METAL IRONING TABLE TOP

Filed March 8, 1941 2 Sheets-Sheet 1

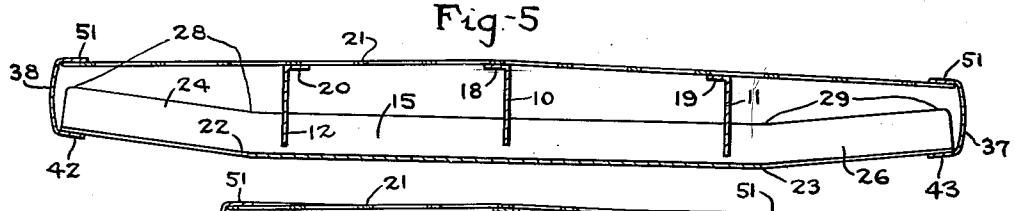


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VENTILATING METAL IRONING TABLE TOP

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Fig-5



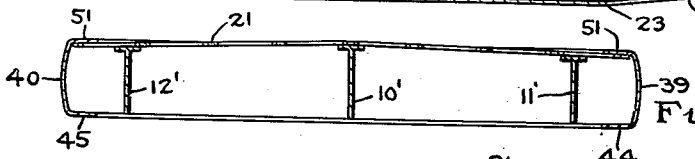


Fig-5a

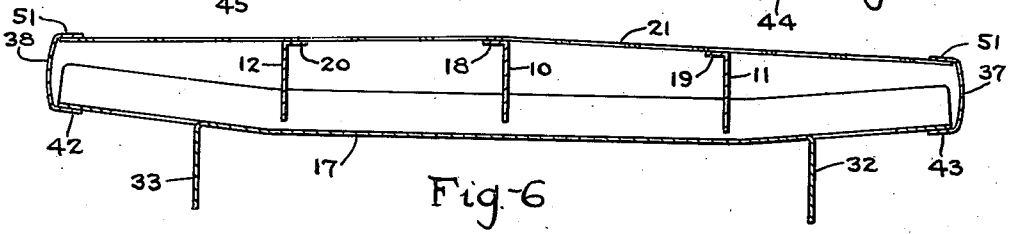


Fig-6

Fig-7

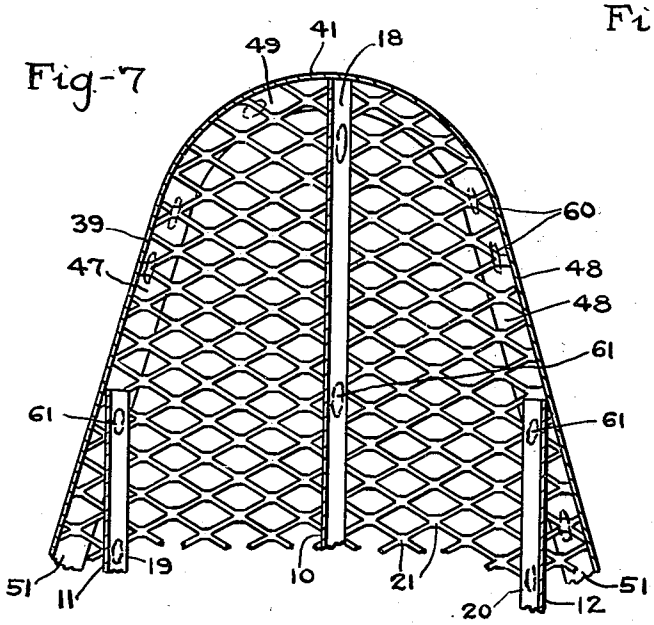


Fig-8

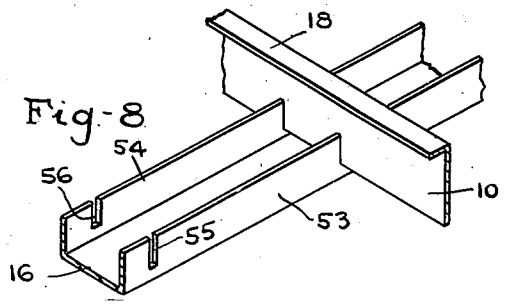
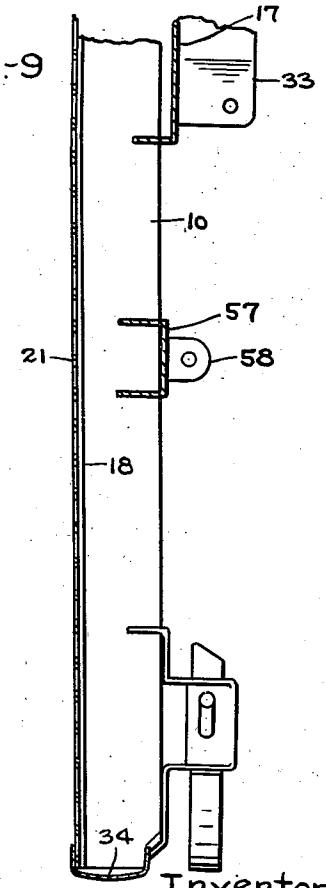


Fig-9



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UNITED STATES PATENT OFFICE

2,276,981

VENTILATING METAL IRONING TABLE TOP

Edward T. John, Minneapolis, Minn., assignor to The J. R. Clark Company, Minneapolis, Minn., a corporation of Minnesota

Application March 8, 1941, Serial No. 382,359

4 Claims. (Cl. 38—137)

My invention relates to ventilating metal ironing table tops and has for its object to produce an ironing table top fabricated entirely of metal wherein a large part of said top surface shall be open to permit free passage of the steam generated by the hot iron upon the damp clothes to pass through the ironing table top.

This application discloses an improvement over earlier filed application Serial Number 366,537, filed November 22, 1940.

Many efforts have been made to obtain a good metal ironing table top. These efforts have failed to be reasonably successful because of the conditions, first that the sheet of metal subjected to heating in a local area under the flatiron will expand rapidly with no means of take-up for the expansion and resulting buckling; and, second, because the sheet metal of the ironing table top does not permit the passage of steam or moisture therethrough, and its quick loss of heat from the underside has a tendency to condense the steam upon the sheet metal causing accumulations of moisture which not only interfere with the ironing operation but increase the direct outflow of steam about the wrist and arm of the ironer.

To correct the first of these defects it has been proposed to secure together two sheets of metal in such a way as to produce a structure intended to be rigid enough to resist the expansion strains from heating the metal top to an extent that would prevent buckling. One of these proposed constructions provides for the union of the two plates by means of punching holes through both plates and interlocking the plates at the punchings. This method is expensive in practice, does not effectively prevent the tendency toward buckling and necessarily does not provide sufficient open surface (in fact less than one percent of the total area) to permit any effective transmission of steam through the ironing table top.

I have discovered that by applying to a supporting framework of suitable strength, preferably of metal, a top sheet of expanded metal with the edges held to and concealed by the side members of said framework all the difficulties encountered in attempts to provide a metal ironing table top are successfully met, for this construction will have a metal ironing table top wherein up to sixty percent and more of its area may be open. Furthermore, the nature of the expanded metal permits sufficient yielding upon heating so that there is no tendency for the metal to buckle.

It is the principal object of my invention, therefore, to provide an ironing table top wherein a sufficiently strong and rigid supporting framework has thereon and integrally secured thereto a sheet of expanded metal to provide a surface which will not buckle under heat and which is open for a large part of its area.

It is a further object of my invention to provide a framework of longitudinal and transverse strips, preferably of metal, and a peripheral member with an inwardly-turned top flange, which member may be U-shaped in cross section, all integrally united together with a top sheet of expanded metal having its edges extending beneath said inwardly-turned top flange and in effect integrally secured thereto.

It is a further object of my invention to arrange the integrated framework in such manner that the sheet of expanded metal forming the ironing surface of the ironing table top will have a rise or crown toward the center.

It is a further object of my invention to provide out of the frame members themselves means for attaching the leg structure to the ironing table top, which leg structure will preferably be of metal.

The full objects and advantages of my invention will appear in connection with the detailed description thereof and its novel features by which the aforesaid advantageous results are obtained will be particularly pointed out in the claims.

In the drawings illustrating an application of my invention in one form—

Fig. 1 is a plan view of my metal ironing table top viewed from above.

Fig. 2 is a similar plan view of an ironing table top viewed from below.

Fig. 3 is an edge elevation view of the ironing table top.

Fig. 4 is a fragmentary plan view of a portion of an ironing table top with some parts broken away.

Fig. 5 is a transverse sectional view of the ironing table top taken on line 5—5 of Fig. 1.

Fig. 5*a* is a sectional view taken in the position of line 5*a*—5*a* of Fig. 1 showing a modification in the use of T-iron longitudinal supports.

Fig. 6 is a sectional view of the ironing table top taken on line 6—6 of Fig. 1.

Fig. 7 is an enlarged underside plan view of a portion of the front end of the ironing table top.

Fig. 8 is an enlarged perspective view showing the manner of uniting certain of the frame members.

Fig. 9 is a longitudinal sectional view taken on line 9—9 of Fig. 2.

The frame of my ironing table top comprises a central longitudinal frame member 10, and, as shown, two other longitudinal frame members 11 and 12 spaced equidistant from the central member 10 and shortened at their ends 13 and 14 to accommodate to the converging edges of the front of the ironing table top. The members 10, 11 and 12 are preferably metallic angle bars having their longer sides set into the flanges of U bars 15, 16 and 17, also preferably of metal, having their short flanges 18, 19 and 20 turned outwardly to receive and support a sheet of expanded metal 21 as hereinafter described. However, other types than metallic frame members, such as wooden members, may be employed.

As clearly shown in Fig. 2, the transverse U bar 15 is split at its end to the points 22 and 23, forming diverging portions 24, 25 and 26, 27 at its respective ends. The portions 24, 25 and 26, 27 of bar 15 are also bent upwardly, as indicated at 28 and 29 on Fig. 5. The central transverse bar 16 is provided with downturned ears 30 and 31 to furnish points for securing the supporting leg structure to the frame, these ears being punched out of the cross plate of the U, as clearly shown in Fig. 2. Likewise the broader U bar 17 is formed with ears 32 and 33, punched out of the body of the connecting web of the U bar, which furnishes additional points for securing the leg structure to the frame. Obviously other shapes than U-bars and different proportions of angle bars may be employed, and as shown in Fig. 5*a*, I also may use T-bars 10', 11' and 12' in place of angle bars.

Completely surrounding the frame thus formed is a continuous edge member comprising a rear end portion 34, curved rear end portions 35 and 36, side portions 37 and 38, tapering front portions 39 and 40 and a curved front end portion 41. As shown in Figs. 5 and 6, this surrounding member is a curved-back U-bar with its flanges turned in, but obviously it can be any member having a top, inturned flange.

As shown in Figs. 2 and 6 the transverse frame pieces 16 and 17 and the arms 25 and 27 of frame piece 15 are secured to the bottom side flanges 42 and 43. The other split legs 24 and 26 of the transverse member 15 are connected to the sloping flanges 44 and 45 of U bar portions 39 and 40. Similarly the rear ends of longitudinal frame members 10, 11 and 12 are connected to rear flange members 19 and 20 of members 11 and 12, as shown in Fig. 7, being connected to top flanges 47 and 48 of sloping U bar portions 39 and 40, and the flange 18 of central longitudinal frame member 10 is connected at its end to the curved top flange 49 of the front curved portion 41 of the frame member.

The sheet of expanded metal 21 is secured by welding or in any desired way to the underside of top flange member 51 which extends all the way around the top of the ironing table top. The expanded metal will preferably be of the form shown in Figs. 4 and 7, being fabricated to lie flat in any desired plane with the edges sealed as well as being secured to the surrounding top flange 51.

As clearly shown in Figs. 5 and 6, the sheet of expanded metal 21 is not only held at its edges under the surrounding flange 51 but rests upon the flanges 18, 19 and 20 of the angle bars 10, 11 and 12. These bars are so mounted in the transverse frame members that the side flange members 19 and 20 are higher than the surrounding flange member 51 at each side of the frame, and the central flange member 18 is higher than the two flange members 19 and 20, thus giving the top sheet 21 a crown effect transversely across the ironing table top. Referring to Fig. 3, which is an edge elevation view of the ironing table top, it will be apparent that this crowned effect of the sheet of expanded metal is present also longitudinally of the frame.

As shown in Fig. 8, the U bar members such as 15, 16 and 17 have their upstanding flanges 53 and 54 formed with slots 55 and 56 which are adapted to receive the long flanges of the angle bars 10, 11 and 12. The depth of the slots 55 and 56 will of course determine the relative position of the short top flanges 18, 19 and 20. A short transverse bar 57 is secured to the longitudinal members 10, 11 and 12 only and is provided with ears 58 and 59 for additional securing of the leg structure.

The expanded metal sheet 21 is secured to the surrounding flange member 51 by means of spot welding across strands of said expanded metal, as shown at 60 on Fig. 7. Also, the sheet of expanded metal 21 may be spot welded to the short flanges 18, 19 and 20 of the longitudinal supporting members as indicated at 61 on Figs. 1 and 4. This spot welding to both the top flange of the surrounding frame member and to the top flanges of the longitudinal supporting frame members binds the entire structure very firmly together and gives it characteristics of strength and durability.

The advantages of my invention have been quite fully pointed out in the preceding sections. Not only does it provide a frame-supported metal ironing table top but one which is exceptionally light and very strong for its weight. However, the greatest advantage resides in the fact that such a large percentage of the table top is open so that the act of ironing, which always generates steam beneath the hot iron, will have the effect of driving such steam through the pad over the metal top and through the openings in said metal top away from the hand of the operator. This produces at the same time more rapid ironing, smoother and cleaner ironing and far greater conveniences and comfort of the person who operates the iron. Added to these advantages are that the expanded-metal surface ironing table top, including its frame and supporting structure in any of its forms is relatively economical to fabricate, will have a very long life and is ornamental and attractive in appearance.

I claim:

1. An ironing table top, comprising a framework formed of longitudinal and transverse members and a peripheral frame member united with the longitudinal and transverse members, and a surface member consisting of a single sheet of flat expanded metal resting upon the longitudinal frame members and having edges thereof secured to the peripheral member.

2. An ironing table top, comprising a metallic framework including a plurality of longitudinal supporting members and a peripheral frame member extending entirely around the outer edges of the table top, and a single sheet of flat expanded metal resting upon the longitudinal members and having its edges integrally united to said peripheral member, said supporting members being progressively higher in each direction to the center of the ironing table top, whereby

the expanded metal sheet has a crown lift toward its center in all directions.

3. An ironing table top, comprising a metallic framework formed of longitudinal and transverse flanged members having their flanges interlocked, the longitudinal members extending upwardly above said transverse members, a peripheral frame member around the edges of the framework secured to all said longitudinal and transverse members, and a single flat expanded metal sheet resting upon the longitudinal frame members and secured at all its edges to the surrounding peripheral member.

4. An ironing table top, comprising a framework formed of longitudinal and transverse members and a peripheral frame member united with the longitudinal and transverse members, and a surface member consisting of a single sheet of flat expanded metal resting upon the longitudinal frame member and having edges thereof secured to the peripheral member, said expanded metal comprising elongated diamond-shaped openings with the long dimension of the diamonds extending transversely of the table top.

EDWARD T. JOHN.