Dec. 20, 1966 H. E. MELTZER 3,293,413

ELECTRIC PAINT SOFTENER AND BLISTERER

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Fig. 1

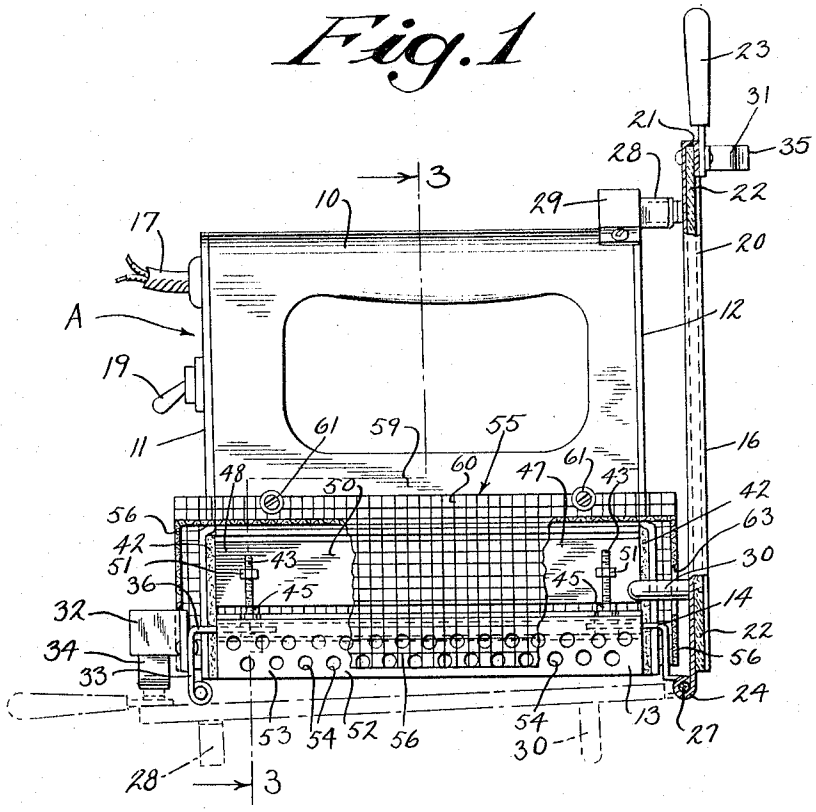
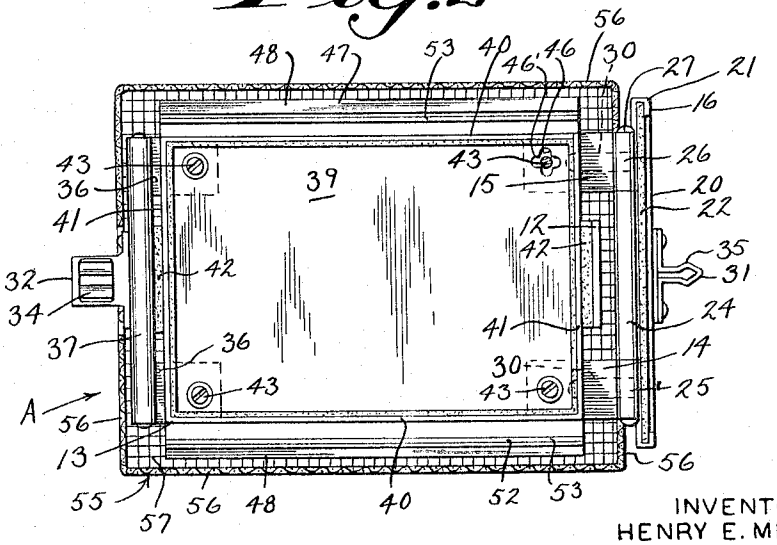


Fig. 2



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Fig. 3

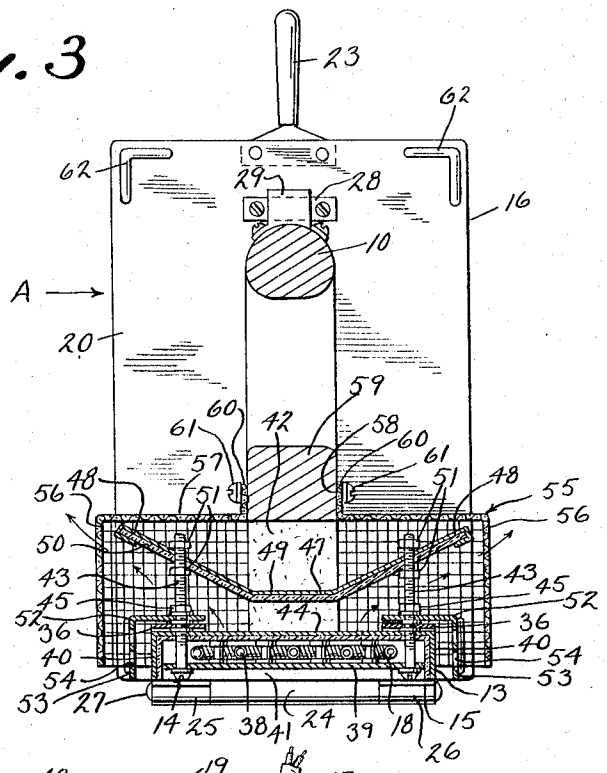
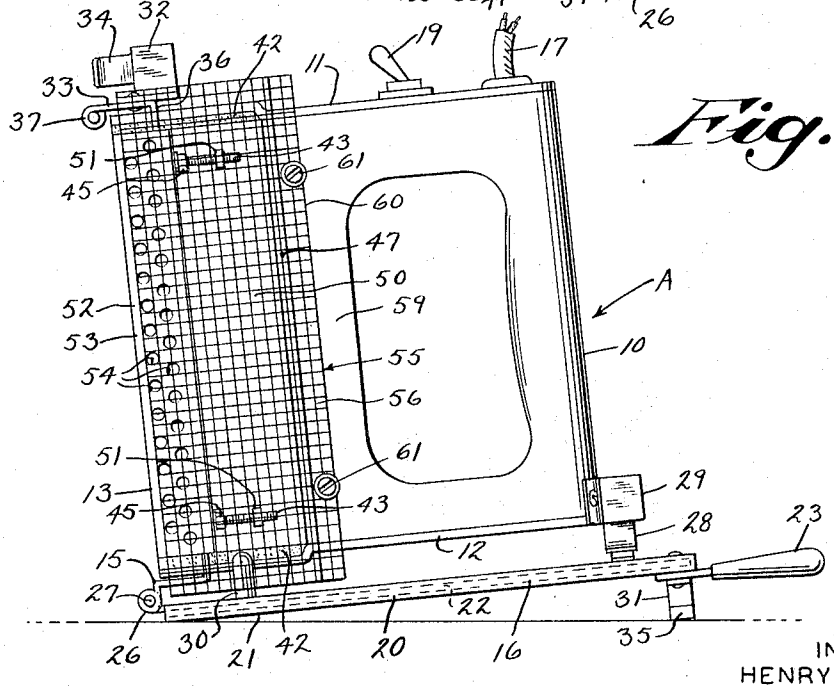


Fig. 4



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Fig. 5

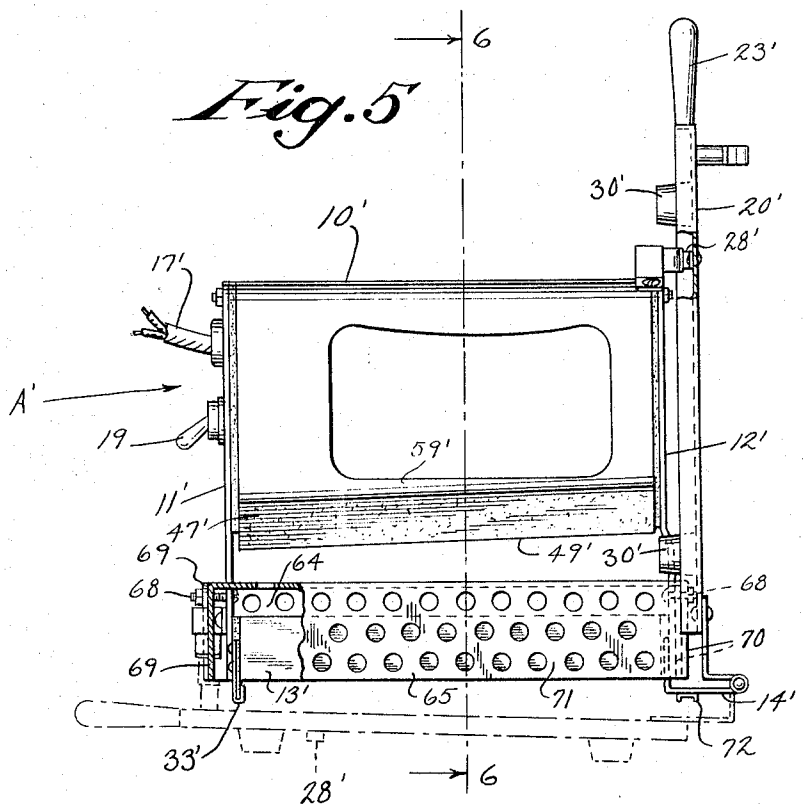
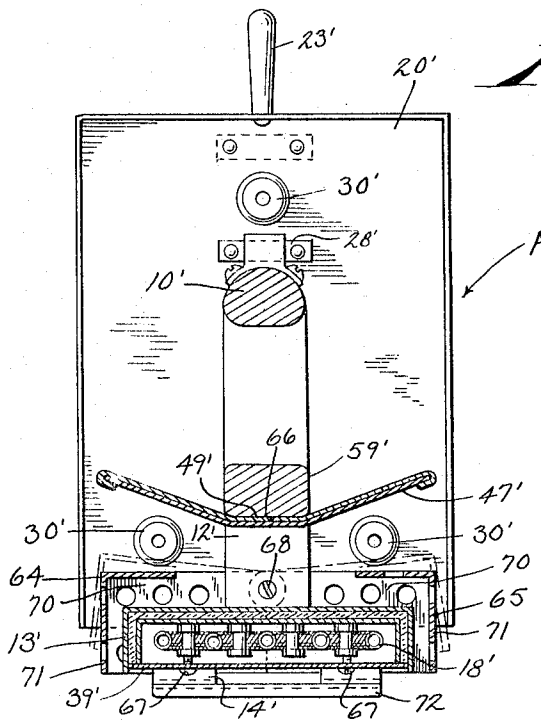


Fig. 6



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ELECTRIC PAINT SOFTENER AND BLISTERER

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9 Claims. (Cl. 219—533)

This invention appertains to electric paint removing devices and more particularly to a new and useful device for softening and blistering paint, varnish and the like, from coated surfaces in an easy and expeditious manner.

A primary object of my present invention is to provide an electric paint remover which is so constructed and arranged that the user is protected from the heat emanating from the device and so that the work can be accomplished in relative comfort and with ease and safety.

Another important object of my present invention is to provide an electric paint removing device wherein a novel pivoted combination cover and stand is provided so that in its horizontal closed position the cover will support the device in such a manner that heat emanating from the heating elements and plate will not mar or effect the surface upon which the device may be resting or stored, and wherein, in its open position the cover may act as a stand to support the device in a vertical position, wherein the heating element and plate are exposed but temporarily lifted off of the surface to be treated.

Still another object of my present invention is to provide novel safety features primarily in the form of rectangular shaped wire cage means, which prevents access to the heated portions of the device.

A still further object of my present invention is to provide novel combination supporting feet for the cover and stand, wherein the feet extend respectively from either side of the cover and stand and form a portion of a latch member so that in one position, one foot acts to hold the cover or stand in a vertical position, and wherein the other opposite foot tends to hold the cover or stand in a closed position, each foot alternately acting as a latch member and/or foot rest,

A salient feature of my present invention resides in providing a novel wing shaped insulated heat deflector plate which acts in a novel manner to direct the heat emanating from the back of the heating elements away from the handle and hand of the user.

Another object of my present invention is to locate the pivotal mounting for the cover and stand below the heating element and plate and to provide a correspondingly shaped transversely extending tubular foot opposite the pivotal point to provide a spacing between the surface to be treated and the heating elements.

A further object of my present invention is to provide means in the heating plate and in the combination cover and stand to allow for expansion of the heating plate due to heat and to reinforce the cover or stand.

A further object of my present invention is to provide an electric paint remover which is simple in construction, reliable in its operation and not liable to get out of order.

With these and other objects in view, and to the end of attaining any other advantage hereinafter appearing, this invention consists in certain features of construction and combination and arrangement of parts hereinafter described, pointed out in the claims and illustrated in the accompanying drawings.

In the drawings,

FIGURE 1 is a side elevational view of my novel device, with certain parts being broken away and in section to illustrate details in its construction, the combination cover and stand being shown in its open position in full lines and in its closed position in dotted lines;

FIGURE 2 is a bottom plan of the device as shown in FIGURE 1 of the drawings;

FIGURE 3 is a transverse vertical section taken on the line 3—3 of FIGURE 1 of the drawings and looking in the direction of the arrows;

FIGURE 4 is a side elevational view similar to FIGURE 1, but showing the device in its operative rest position, when not being utilized to soften or blister varnish;

FIGURE 5 is a side elevational view similar to FIGURE 1, but showing a preferred modification of the device with parts being broken away and in section to illustrate further details in its construction, and

FIGURE 6 is a transverse vertical section through the device taken on the line 6—6 of FIGURE 5, looking in the direction of the arrows.

Referring now to the drawings in detail, wherein similar reference characters designate corresponding parts throughout the several views, the letter A generally indicates one type of my improved electric paint remover and the same includes broadly a central handle **10**, vertically spaced supporting members **11** and **12**, and a lower rectangular base frame **13**. Pivoted to the base frame **13** by means of a pair of depending brackets **14** and **15** respectively, is the combination cover and stand **16**.

The handle **10** is preferably positioned at the longitudinal central axis of the device A and carries means such as wires **17** connected to a source of electric power for providing current to elements **18**. An On and Off toggle switch **19** is provided to control current to the heating elements.

My novel combination cover and stand may be formed of any desired material but preferably includes a substantially rectangular sheet of metal **20**, three sides of which are provided with an inwardly directed peripheral flange **21** and held within the peripheral flange **21** is a flat sheet of insulating material **22**. Secured adjacent the upper end **22** is a small operating handle **23**. The opposite end of plate **20** is rolled to provide the pintle sections **24** which cooperate with the brackets **14** and **15** carrying like sections **25** and **26**. A suitable pivot pin **27** extends through these barrel shaped pintles and thus, it can be seen that the cover is pivoted about the pin **27** in an approximate 270 degree arc, and in the full line position noted in FIGURE 1 of the drawings, the cover is in its open position so that the heat emanating from the bottom of the device can be directed toward the surface to be treated and also to provide a means whereby the device can be tilted back to a substantially vertical position FIG. 4, when the user is removing the blistered paint with a scraper.

The cover can also be pivoted to the dotted line position FIG. 1, where it acts as a stand to support the device in a substantially horizontal position, when it is desired to store the paint remover until it is again needed. In this position the male portion **28** of the latch **29** acts as a foot and cooperates with a pair of spaced feet **30** to support the device in this horizontal position, and thus, even though the device may be stored when it is warm or hot the surface upon which it is placed will not be marred or subjected to undue heat. Adjacent the end of the cover or stand where handle **23** is positioned, and projecting outwardly opposite from the male latch member **28**, is a similar male latch member **31**, which in turn acts as a foot, note FIG. 4, when the device is tilted back to be temporarily rested in an inactive position. This foot and male latch member **31** cooperates in turn with the female portion **32** of a latch secured to a vertically extending plate **33**. These latches need not be described in detail, since they are of a relatively conventional type, and include spring fingers **34** of a size and configuration to snap over the enlarged end termination **35** of each of the male latch members. Plate **33** is likewise secured adjacent the top of the base **13** by means of inwardly extending end brackets **36** and the lower end termination of the plate **33**

is rolled or returned upon itself, as indicated by the reference character **37**, and likewise, in a horizontal plane with the pivot point **27**, it acts as a rest to space the heating elements **38** and plate **39** from the surface to be treated.

Base **13** is actually in the form of an inverted pan having side walls **40** and end walls **41**, and these end walls are in turn carried by and firmly secured to the vertical support brackets **11** and **12**. In order to prevent the vertically extending end brackets or supporting members **11** and **12** from becoming over-heated, I provide strips of insulating material **42** between the lower end terminations of each bracket and the supporting base **13**. As previously mentioned, the inverted pan shaped supporting base **13** carries heating elements **38** and a heating plate **39**, and the plate is carried within the depending walls of the base member **13** by means of spaced end bolts **43**, and each end bolt extends vertically through the upper wall surface **44** of the base member **13** through the respective end brackets and are adjusted in proper position by means of nuts **45**. At this point, it should be noted that the headed bolts form the sole support for the heating plate **39** and inasmuch as the heating plate is of metal, it is subjected to expansion and contraction due to the differences in temperatures to which it is exposed. Therefore, to prevent this plate from buckling and distorting, the apertures through which each bolt extends are enlarged, as indicated by the reference numeral **46**, and shown clearly in FIGURE 2 of the drawings. Thus, it can be seen that the stretching or contraction of the plate in any direction is accommodated by the enlarged portions **46** of the apertures. Thus, the plate itself will remain relatively straight and will not buckle. Attention is now directed to FIGS. 1 and 3 of the drawings, and it can be seen that each of the headed bolts **43** extends vertically substantially beyond the upper wall **44** of the base **13**, and each cooperates with the other to support a longitudinally extending heat guard plate **47**. This plate is provided with end wings **48** respectively, which extend angularly upwardly from the substantially straight mid section **49**. The end terminations of the heat guard plate are inturned, and the inner surface is likewise provided with a sheet of insulating material **50**. The bolts **43** extend through the insulating material **50** and the heat guard plate **47**, and this plate is held in position above the base member **13** by adjusting respective pairs of nuts **51**. Thus, it can be seen that any heat emanating above and rising above the base member **13** will be directed outward in the direction of the arrows FIG. 3 of the drawings, and away from the handle **10** and the hand of the user. To further protect the user, I provide a pair of end longitudinally extending members **52**, respectively, and the vertically extending walls **53** thereof are provided with ventilating apertures **54**. About the entire device, I provide a rectangular shaped wire cage **55** and this cage **55** is in the shape of an inverted pan or box-like structure, and the vertically extending walls **56** thereof completely surround the inner elements of the device and thus prevent the unintentional contact with the heated parts. Upper wall **57** of the cage **55** is provided with an opening **58** to accommodate the lower base portion **59** of the handle **10**. For attaching this base portion **59** I provide vertically extending walls **60** through which screws **61** extend to firmly secure the cage in place. Since the novel cover and stand **16** may be subjected to some distortion in use, I prefer to strengthen the metal plate **20** by providing strengthening ribs **62** adjacent each corner of the plate.

From the foregoing it can be seen that I provide an electric paint softener which spaces the heating plate and heating elements from the work to prevent the softened paint or varnish from clogging or obstructing the proper use of the device, and wherein the surface will not be unduly scorched or hardened. The device also is provided with certain novel safety features such as my protective cage and my novel combination cover or stand. When the cover or stand is pivoted to its full line position, FIGURE 1, and the toggle switch **19** is turned "on," so that the heating coils are energized, my device is ready for use and the same is then placed upon the surface and the pivot portions **24** and the rolled end **37** properly space the heating plate from the work. As the paint is softened, my device can be moved adjacent the softened spot and the scraper is utilized to remove the soft material while the next portion is being treated. If it becomes necessary during the use of the device to temporarily set the same down, it can be easily tilted as shown in FIGURE 4 of the drawings, and rested in a substantially vertical position and spaced from the surface by means of the foot **31**. When it is desired to store the device, the cover or stand is then pivoted approximately 270 degrees to its dotted line position FIGURE 1, where it can be placed away for future use and the heat still present in the device due to the insulation, as well as the spaces provided by foot **28** and feet **30**, will not affect the surface. It should also be observed that when the cover is in its full line position FIGURE 1, I provide suitable apertures **63** in the end wall of the protective cage **55** to accommodate the feet **30**. Stress is laid upon the shape of the apertures **46** shown in FIGURE 2. The apexes **46'** of the right angles are smaller in diameter than the circumference of the headed bolts but accommodate the shank freely. Thus, expansion and contraction takes place without distorting the plate or affecting movement of the bolts.

Attention is now directed to FIGURES 5 and 6 of the drawings, wherein I have illustrated a preferred modification of my device and it should be stressed that the use and function of my device A' is substantially the same as the use and function of the device A (FIGS. 1 to 4, inclusive), and the structure is quite similar, with certain changes which will now be explained in detail.

Thus, the device A' includes the central handle **10'**, vertically spaced supporting members **11'** and **12'** secured to the respective end portions of the handle and terminating well below the lower base portion **59'** of the handle. It will be noted that in this form of the invention the protective wire cage **55** is eliminated and the end longitudinally extending members **52** have been modified to provide adjustable end wing members **64** and **65**. Further the heat guard plate **47'** has its midsection **49'** secured directly to the lower wall **66** of the lower base **59'** of the handle, thus eliminating bolts **43** entirely. The guard plate **47'** is also secured at a slight angle extending upwardly from its rear end portion toward its forward end. Thus, heat is directed upwardly and outwardly toward the front of the device and away from the hand and arm of the user.

Since bolts **43** are eliminated the pan shaped supporting base **13'** and heating elements **18'** are supported by the lower ends of the respective members **11'** and **12'** and heating plate **39'** is secured to the base by means of screws **67**. End wings **64** and **65** are pivotally and adjustably secured to the respective end supporting brackets **11'** and **12'** by means of the pivot screws **68**, which extend through suitable openings in the overlapping portions of the extended end walls **69** and **70**. Thus, the end wings can be adjusted to a number of positions, such as from the full line position FIGURE 6, to the dotted line position and the side walls **71** with their wings **69** and **70** completely protect and surround the base **13'**, heating elements **18'** and plate **39'**.

Cover **20'** is substantially the same except that different feet **30'** have been shown and may be used in substitution for feet **30**, and then male latch member **28'** can be shortened, as shown. When in use the heating plate **39'** is spaced above the surface to be treated by plate **33'** and a transversely extending channel member **72** secured as shown to the pivoted bracket **14'**.

It should be further noted that when the cover **20'** is in its closed dotted line position, the entire device is tilted slightly which further aids in dissipating the heat from a rearward position toward the forward position.

While I have shown and described certain specific embodiments of my invention, it will be understood that they are merely for the purpose of illustration and description, that various other forms may be devised and changes may be made in the proportions and minor details of construction without departing from the spirit of the invention or scope of the appended claims.

I claim:

1. In an electric paint softener and blisterer, a base member in the nature of an inverted pan providing an upper wall and depending side and end walls, a pair of spaced parallel upright supporting members, each having its lower end portion secured to a respective end wall of said base member, a longitudinally extending handle secured between the upper portions of said upright members and having its lower end termination spaced well above said upper wall of said base member, a heating element within said base member and carried by said upper wall, a heating plate in spaced parallel relationship with said upper wall carried within said base member, a combination cover and stand hingedly supported adjacent one end of said base member and having its pivot point beyond and below said heating plate and adapted to be pivoted about 270 degrees between its closed and open positions, a supporting plate secured to said base member adjacent the end opposite said pivot point to form a support and to space said heating plate from the work when said device is in use, means positioned above said base member in the space between said upper wall thereof and said lower end termination of said handle to direct rising heated air away from said handle, protective means for said softener and blisterer being so constructed and arranged as to prevent contact with said heating plate and base member, said combination cover and stand having supporting feet on one side thereof to support the device in a horizontal position when said cover is closed and a foot projecting outwardly on the opposite side thereof at the end opposite said pivot to support the device in a substantially vertical position when said cover is open, and latch members secured respectively to said handle and said supporting plate to cooperate with one of said feet and said respective foot to hold said combination cover and stand alternately in its closed and open positions.

2. An electric paint softener and blisterer as set forth in claim 1, wherein said handle extends longitudinally with the central longitudinal axis of said base member and wherein said means to direct the rising heated air away from said handle includes, a heat guard plate carried by said base member in the space between said upper wall thereof and said lower end termination of said handle, said heat guard plate having a longitudinally extending center section substantially parallel with said upper wall and angularly and upwardly extending end wing portions.

3. An electric paint softener and blisterer as set forth in claim 1 wherein said protective means includes a substantially rectangular shaped wire cage having an upper wall and depending end and side walls completely enclosing the base member and heating plate when said softener and blisterer is in its horizontal position, said upper wall of said wire cage being provided with an opening to receive the lower end termination of said handle, vertically extending flanges about said opening and means for securing said flanges to said handle.

4. An electric paint softener and blisterer as set forth in claim 1 wherein the end termination of said supporting plate is returned and rounded to cooperate with said hinged portion of said cover to support the softener and blisterer when in use.

5. In an electric paint softener and blisterer, a base member in the nature of an inverted pan providing an upper wall and depending side and end walls, a pair of spaced parallel upright supporting members, each having its lower end portion secured to a respective end wall of said base member, a longitudinally extending handle secured between the upper portions of said upright members and having its lower end termination spaced well above said upper wall of said base member, a heating element within said base member and carried by said upper wall, a heating plate in spaced parallel relationship with said upper wall carried within said base member, headed bolts extending through said heating plate adjacent each corner thereof and secured to said upper wall, means to allow for the expansion and contraction of said heating plate, a combination cover and stand hingedly supported adjacent one end of said base member and having its pivot point beyond and below said heating plate and adapted to be pivoted approximately 270 degrees between its closed and open position, a supporting plate secured to said base member adjacent the end opposite said pivot point to form a support and to space said heating plate from the work when said device is in use, means positioned above said base member in the space between said upper wall thereof and said lower end termination of said handle to direct rising heated air away from said handle, protective means for said softener and blisterer being so constructed and arranged as to prevent contact with said heating plate and base member, said combination cover and stand having supporting feet on one side thereof to support the device in a horizontal position when said cover is closed and a foot projecting outwardly on the opposite side thereof at the end opposite said pivot to support the device in a substantially vertical position when said cover is open, and latch members secured respectively to said handle and said supporting plate to cooperate with one of said feet and said respective foot to hold said combination cover and stand alternately in its closed and open positions, insulating material in the form of sheets between said upright members and the respective end wall of said base members, insulating material within said base member conforming to the inner configuration of said base member, and a sheet of insulating material carried on one side of said cover and stand.

6. An electric paint softener and blisterer as set forth in claim 5, wherein said means allowing for the expansion and contraction of said heating plate includes enlarged apertures about said headed bolts, the dimensions of said apertures being greater than the shank of said bolts but less than the outer circumference of the heads.

7. In an electric paint softener and blisterer, a base member in the nature of an inverted pan providing an upper wall and depending side and end walls, a pair of spaced parallel upright supporting members, each having its lower end portion secured to a respective end wall of said base member, a longitudinally extending handle secured between the upper portions of said upright members and having its lower end termination spaced well above said upper wall of said base member, a heating element within said base member and carried by said upper wall, a heating plate in spaced parallel relationship with said upper wall carried by said base member, means to allow for the expansion and contraction of said heating plate, a combination cover and stand hingedly supported adjacent one end of said base member and having its pivot point beyond and below said heating plate, a transverse channel member secured adjacent said pivot point, said combination cover and stand adapted to be pivoted approximately 270 degrees between its closed and open positions, a supporting plate secured to said base member adjacent the end opposite said channel member to form a support and to space said heating plate from the work when said device is in use, means positioned above said base member

secured to the lower portion of said handle to direct rising heated air away from said handle, protective means for said softener and blisterer being so constructed and arranged as to prevent contact with said heating plate and base member, said combination cover and stand having supporting feet on one side thereof to support the device in a horizontal position when said cover is closed and a foot projecting outwardly on the opposite side thereof at the end opposite said pivot to support the device in a substantially vertical position when said cover is open, and latch members secured respectively to said handle and said supporting plate to cooperate and hold said combination cover and stand alternately in its closed and open positions.

8. An electric paint softener and blisterer as set forth in claim 7, wherein said means positioned above said base member secured to the lower portion of said handle for directing heated air away from said handle includes, a heat guard plate having a longitudinally extending center section secured to said lower base portion of said handle, and angularly and upwardly extending end wing portions, said guard plate extending longitudinally and upwardly from its rear end toward its forward end.

9. An electric paint softener and blisterer as set forth in claim 7, wherein said protective means for said softener and blisterer to prevent contact with said heating plate and base member includes, longitudinally extending end wings having a side wall and end walls, said end wings being identically formed and positioned opposite one another with their respective end walls overlapping, and pivot screws through said overlapping end walls and respective portion of said upright supporting members whereby said end and side walls of each end wing member completely surround the respective portions of said base and heating plate.

No references cited.

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