June 1, 1954

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2,680,188

ELECTRIC PAINT BURNER

Filed Feb. 21, 1950

Fig. 1.

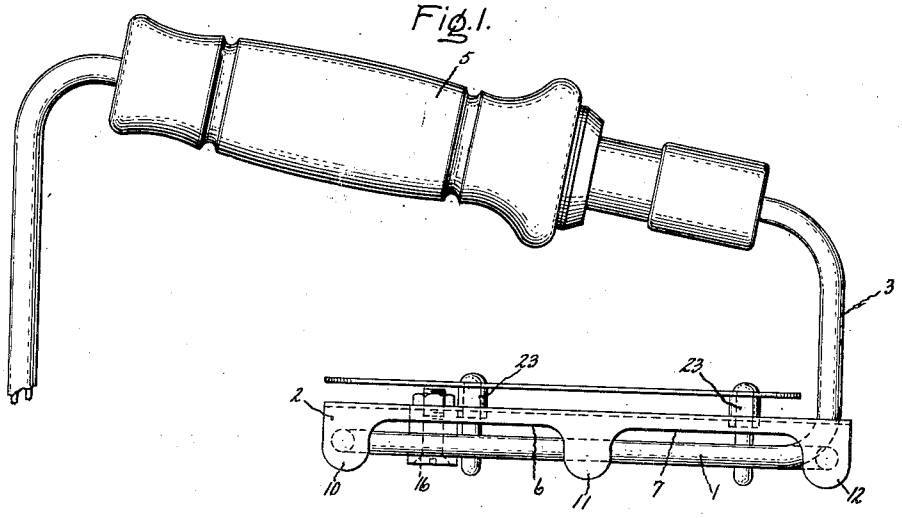


Fig. 2.

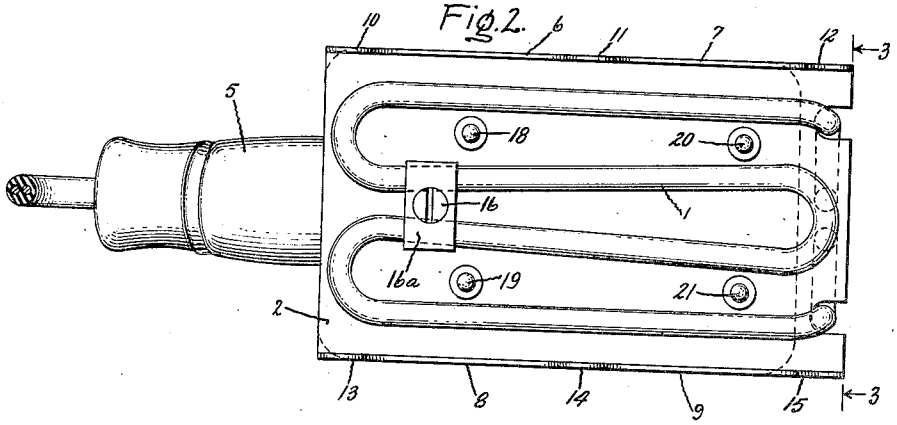
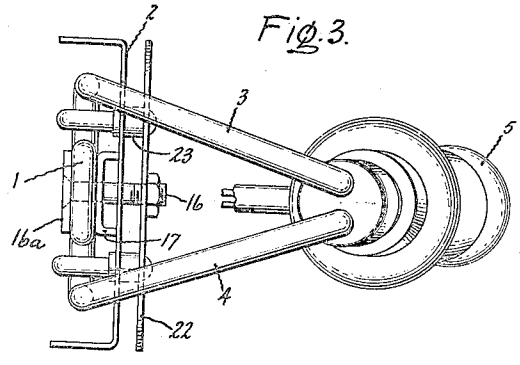


Fig. 3.



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Patented June 1, 1954

2,680,188

UNITED STATES PATENT OFFICE

2,680,188

ELECTRIC PAINT BURNER

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Application February 21, 1950, Serial No. 145,339

11 Claims. (Cl. 219—29)

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My invention relates to electric paint burners of the type including a resistance heating element mounted in a holder and adapted to be positioned closely adjacent a working surface.

It is well-known that various forms of electric resistance heating units have heretofore been proposed for the purpose of disintegrating paint films and the like in order to avoid the dangers and inconveniences inherent in the use of blow torches or other devices utilizing a naked flame. The electric paint burners heretofore proposed have generally been relatively complicated assemblies composed of a large number of interrelated parts, and usually including an open helical coil resistance unit. Such burners have not found general acceptance among painting contractors or others engaged in similar work.

Accordingly, it is a general object of my invention to provide a new and improved electric paint burner which is light and efficient in operation, is composed of a minimum number of parts, and is readily assembled and disassembled for cleaning and other maintenance purposes.

My invention itself will be more fully understood and its various objects and advantages further appreciated by referring now to the following detailed specification taken in conjunction with the accompanying drawing, in which Fig. 1 is a side view of an electric paint burner, embodying my invention; and Figs. 2 and 3 are bottom and end elevational views, respectively, of the device shown at Fig. 1.

Referring now to the drawing, I have there shown by way of illustration of my invention an electric paint burner comprising a rigid and substantially planar convolute resistor unit 1 mounted upon a base-plate 2 and having a pair of rigid upturned leads or legs 3 and 4 upon the end of which is mounted a handle 5.

The base-plate 2 is formed of any suitable metal, such as sheet steel, and is preferably provided with a heat reflecting surface. The base is channel-shaped in cross-section, as best shown in Fig. 3, and the side portions of the channel are recessed as at 6, 7, 8 and 9 to form a plurality of guide feet 10, 11, 12, 13, 14 and 15 adapted to engage a working surface.

The resistor unit 1 is composed of a rigid elongated electric resistance element having a smooth tubular outer surface, and is formed into a plurality of convolutions lying substantially within the same plane. As shown at Fig. 2, I have illustrated by way of example a resistor unit having a sinuous planar configuration and including rigid upright end portions 3 and 4 which

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extend substantially perpendicular to the plane of the unit itself and serve both as lead-in conductors and as supporting legs for the handle 5. The legs 3 and 4 are bent over at their ends to support the handle 5 in a position substantially parallel to the plane of the resistor unit. The resistor unit is rigid only insofar as it is formed of a resistance element which is self-supporting and sufficiently stiff to support the handle 5. Preferably the elongated resistance element is of the insulated armored sheath type described and claimed in Patent 1,911,063 issued to L. M. Daly on May 23, 1933. Briefly this resistance element comprises a length of helically wound resistance wire mounted within a length of armor tubing and held in spaced relation with the walls of the tubing by a body of insulating material such as magnesium oxide, or the like. The tubular armor sheath, while shown as of circular cross-section, may of course be oval, rectangular, or of other desired cross-sectional configuration.

A single clamping bolt 16 is utilized to mount the resistor unit 1 within the channel-shaped base 2. The resistor unit is positioned between the side portions of the channel and in parallel spaced relation between the central portion of the channel and the plane ends of the guide feet 10, 11, 12, 13, 14 and 15. The bolt 16 is provided with an enlarged head or clamping plate 16a which engages the tubular armor sheath at two locations, and carries a spacer 17 between the resistor unit and the base.

In order to provide more adequate guiding of the burner over a working surface, a plurality of pin guides 18, 19, 20 and 21 are mounted in the base 2 and extend perpendicular to the plane of the central portion of the base and between the convolution of the resistor unit 1 into substantially coplanar relation with the work engaging ends of the guide feet 10, 11, 12, 13, 14 and 15. If desired, of course, additional guide pins may be located along the outer edges of the base-plate 2 in the place of the turned-down guide feet 10–15. The pins 18, 19, 20, and 21 extend also above the channel-shaped base and serve to support in parallel spaced relation with the central portion thereof a heat reflecting baffle plate 22. The baffle plate 22 is spaced from the channel-shaped base 2 by means of spacers or collars 23 encircling the upwardly extending portions of the guide pins.

In operation it will now be evident that, as the paint burner is moved over a working surface, the intermediate guide pins or members 18, 19, 20 and 21 serve to ensure that the resistor

unit 1 will remain suitably spaced from the working surface even though one or more of the outer guide feet 10, 11, 12, 13, 14 and 15 is moved beyond an edge of the surface. The baffle plate 22 serves to prevent an excessive amount of heat from reaching the handle area and burning the hand of the operator. The recessed side portions of the channel 2 serve to permit escape of heat from the sides of the burner base, thereby to permit adequate application of heat to parts perpendicular to the main working surface, such as to the edges of overlapping clapboards and the like.

It will be further observed that by reason of the smooth tubular outer surface of the resistance element from which my resistor unit is formed, the unit may be readily freed of any accumulated debris in the form of disentegrated or partially disentegrated paint, or the like. Moreover, for the purpose of cleaning, the resistor unit is very readily disassembled from the base by merely removing the single clamping bolt 16.

While I have described only a preferred embodiment of my invention by way of illustration, many modifications will occur to those skilled in the art, and I, therefore, wish to have it understood that I intend in the appended claims to cover all such modifications as fall within the true spirit and scope of my invention.

What I claim as new and desire to secure by Letters Patent of the United States is:

1. An electric paint burner comprising a channel-shaped base having its side portions recessed to form a plurality of guide feet engageable with a working surface, a rigid and substantially planar convolute resistor unit formed of an elongated resistance element including a tubular outer armor sheath, a single clamping member connecting said resistor unit within said channel-shaped base in parallel spaced relation with the central portion thereof, and a plurality of guide pins mounted upon the central portion of said base and extending into substantially coplanar relation with the work engaging ends of said guide feet.

2. An electric paint burner comprising a substantially rectangular base-plate having along opposite side portions a plurality of perpendicularly extending outer guide feet engageable with a working surface, a rigid and substantially planar convolute resistor unit formed of an elongated resistance element having a smooth tubular outer surface, means for removably mounting said resistor unit within said channel-shaped base in parallel spaced relation therewith and between said outer guide feet, and a plurality of guide pins mounted upon said base-plate intermediate the edges thereof and extending into substantially coplanar relation with the work engaging ends of said outer guide feet.

3. An electric paint burner comprising a channel-shaped base, a rigid and substantially planar convolute resistor unit formed of an elongated resistance element including a tubular outer armor sheath, a single clamping member connecting said resistor unit within said channel-shaped base in parallel spaced relation with the central portion thereof, a plurality of guide pins mounted upon the central portion of said base and extending perpendicularly therefrom between the convolutions of said resistor unit to engage a working surface, and a heat reflecting baffle plate mounted outside said channel-shaped base and in parallel spaced relation with the central portion thereof.

4. An electric paint burner comprising a channel-shaped base having the side portions thereof recessed to form a plurality of spaced apart guide feet adapted to engage a working surface, a rigid and substantially planar convolute resistor unit formed of an elongated resistor element having a smooth tubular outer surface, a single clamping member for removably mounting said resistor unit within said channel-shaped base in parallel spaced relation with the central portion thereof and between said guide feet, a plurality of guide pins passing through and mounted in the central portion of said base, said pins extending in one direction into substantially coplanar relation with the work engaging ends of said guide feet, and a heat reflecting baffle plate mounted upon the other ends of said pins outside said channel-shaped base and in parallel spaced relation with the central portion thereof.

5. An electric paint burner comprising a substantially rectangular base-plate having along opposite side portions a plurality of perpendicularly extending outer guide feet engageable with a working surface, a rigid and substantially planar convolute resistor unit formed of an elongated resistance element having a smooth tubular outer surface, a single clamping member for removably mounting said resistor unit on said base-plate in parallel spaced relation with the central portion thereof and between said opposite side portions, a plurality of guide pins mounted on the said central portion of said base-plate and extending into substantially coplanar relation with the work engaging ends of said guide feet, and a heat reflecting baffle plate mounted adjacent said base-plate in spaced substantially parallel relation with the said central portion thereof but adjacent the surface opposite said guide pins and said guide feet.

6. An electric paint burner comprising, a substantially rectangular base-plate having along opposite sides and extending substantially perpendicularly therefrom a plurality of guide feet engageable with a working surface, a rigid and substantially planar convolute resistor unit formed of an elongated resistance element having a tubular outer armor sheath, means for removably mounting said resistor unit upon said base in substantially parallel spaced relation therewith and between said guide feet, portions of said sheath extending beyond said base-plate on the side opposite said guide feet, and a handle positioned on said extending portions.

7. An electric heating device comprising a base-plate having a plurality of spacer members extending from one surface thereof, a rigid and substantially planar convolute resistor unit formed of an elongated resistance element having a tubular outer sheath, means for removably mounting said resistor unit upon said base-plate in substantially parallel spaced relation with the said one surface thereof, at least one portion of said sheath extending beyond said base-plate adjacent the surface opposite said one surface, and a handle portion positioned on said extending portion.

8. An electric heating device comprising, a base-plate having a plurality of guide feet extending perpendicularly therefrom along a pair of opposite edges thereof, a rigid and substantially planar convolute resistor unit formed of an elongated resistance element having a smooth tubular outer sheath, a single clamping member

engaging said outer sheath at two locations for mounting said resistor unit upon said base-plate in parallel spaced relation therewith and between said guide feet, at least one portion of said sheath extending beyond said base plate on the side opposite said guide feet, and a handle positioned on said extending portion.

9. An electric paint burner comprising, a base-plate having a plurality of guide feet engageable with a working surface extending perpendicularly therefrom along a pair of opposite edges thereof, a rigid and substantially planar convolute resistor unit formed of an elongated resistance element having a smooth tubular outer armor sheath, a single clamping member engaging said outer sheath at two locations for mounting said resistor unit upon said base-plate in parallel spaced relation therewith and between said guide feet, a plurality of guide pins mounted upon said base-plate between the oppositely disposed guide feet to maintain said resistor unit spaced from the working surface, rigid angular portions of said sheath extending beyond said base-plate on the side opposite the said guide feet and pins, and a handle positioned on said extending portions.

10. An electric paint burner comprising, a base-plate having a plurality of guide feet extending perpendicularly therefrom along a pair of opposite edges thereof, a rigid and substantially planar convolute resistor unit formed of an elongated resistance element having a smooth tubular outer armor sheath, a single clamping member engaging said outer surface at two locations for mounting said resistor unit upon said base-plate in parallel spaced relation therewith and between said guide feet, a plurality of guide pins mounted upon the said base-plate between the said guide feet to maintain said resistor unit spaced from the working surface, rigid angular portions of said sheath extending beyond said base-plate on the side opposite said guide feet and said guide pins, electrical connections to said resistance element including conductors within said angular portions, and a handle positioned on said angular portions and supported solely by said angular portions.

11. An electric heating device comprising, a base-plate having a plurality of guide feet engageable with a working surface extending perpendicularly therefrom along a pair of opposite sides thereof, a rigid and substantially planar convolute resistor unit formed of an elongated resistance element having a smooth tubular outer armor sheath, a clamping member directly engaging said outer sheath at not more than two locations for mounting said resistor unit upon said base-plate in parallel spaced relation therewith and between said guide feet, a plurality of guide pins mounted upon said base-plate between the oppositely disposed guide feet to maintain said resistor unit spaced from the working surface, rigid angular portions of said sheat extending beyond said base-plate on the side opposite said guide feet and guide pins, and a handle positioned on said extending portions.

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