

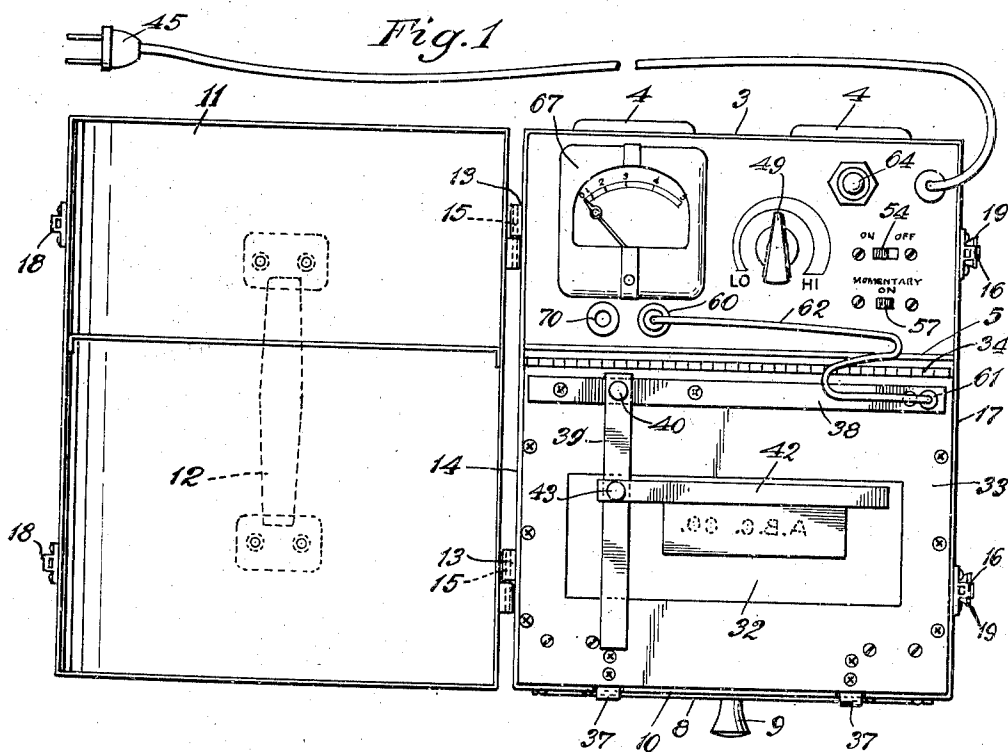
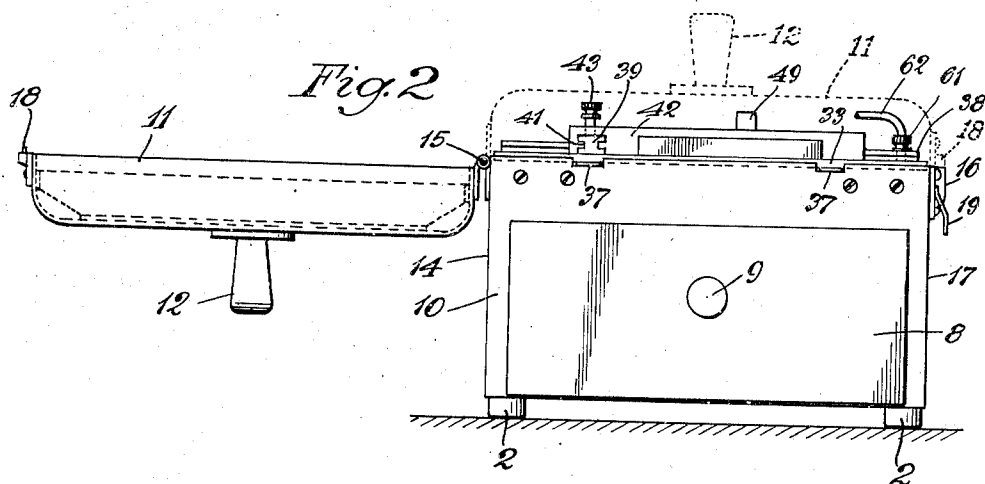
Dec. 20, 1949

W. G. SCHINSKE
ELECTRO MARKER

2,491,910

Filed July 25, 1945

3 Sheets-Sheet 1



Inventor
William G. Schinske
by *Parke & Carter*
Attorneys.

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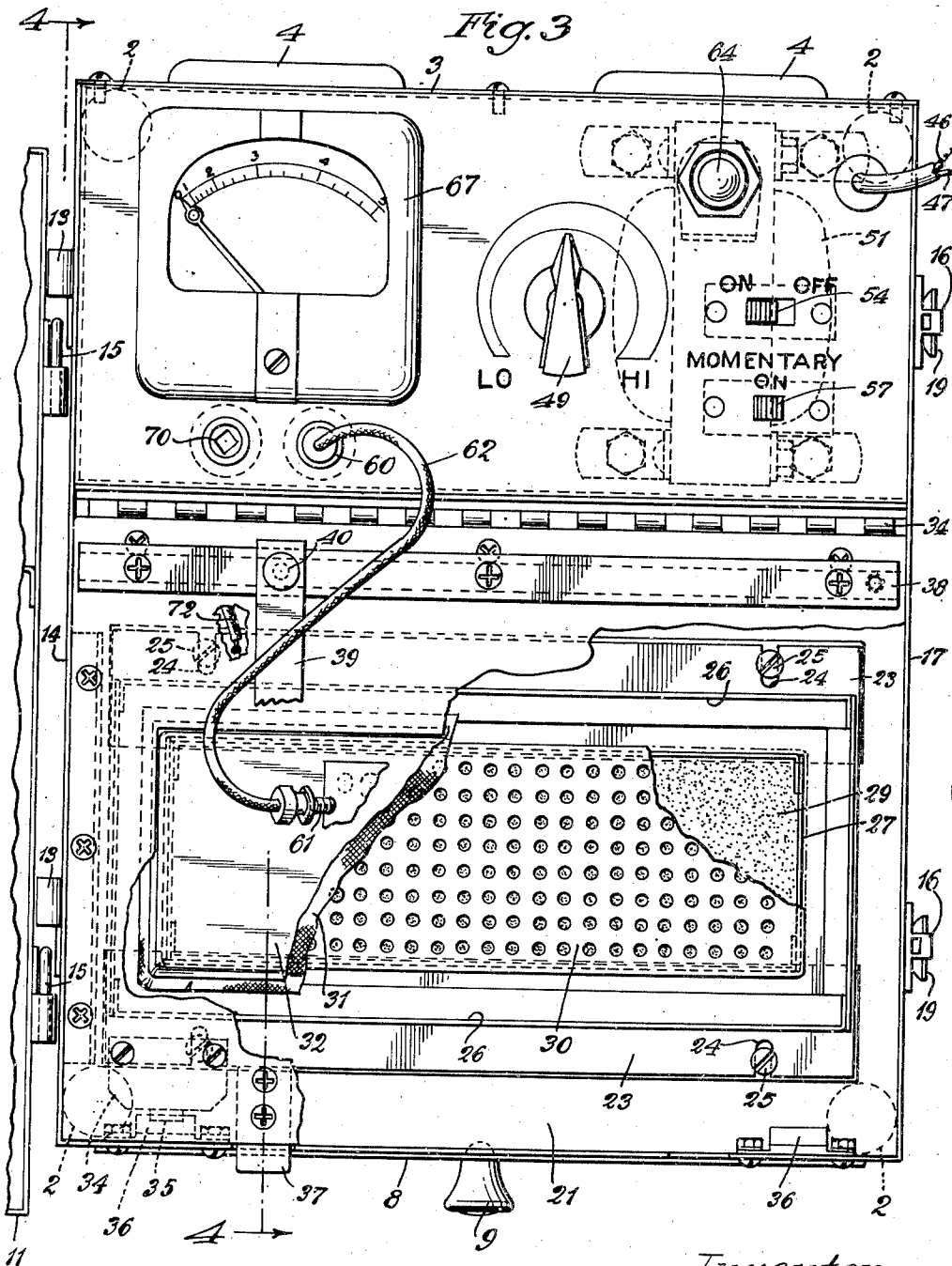
W. G. SCHINSKE

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3 Sheets-Sheet 2



Inventor
William G. Schinske
by *Parker & Carter*
Attorneys

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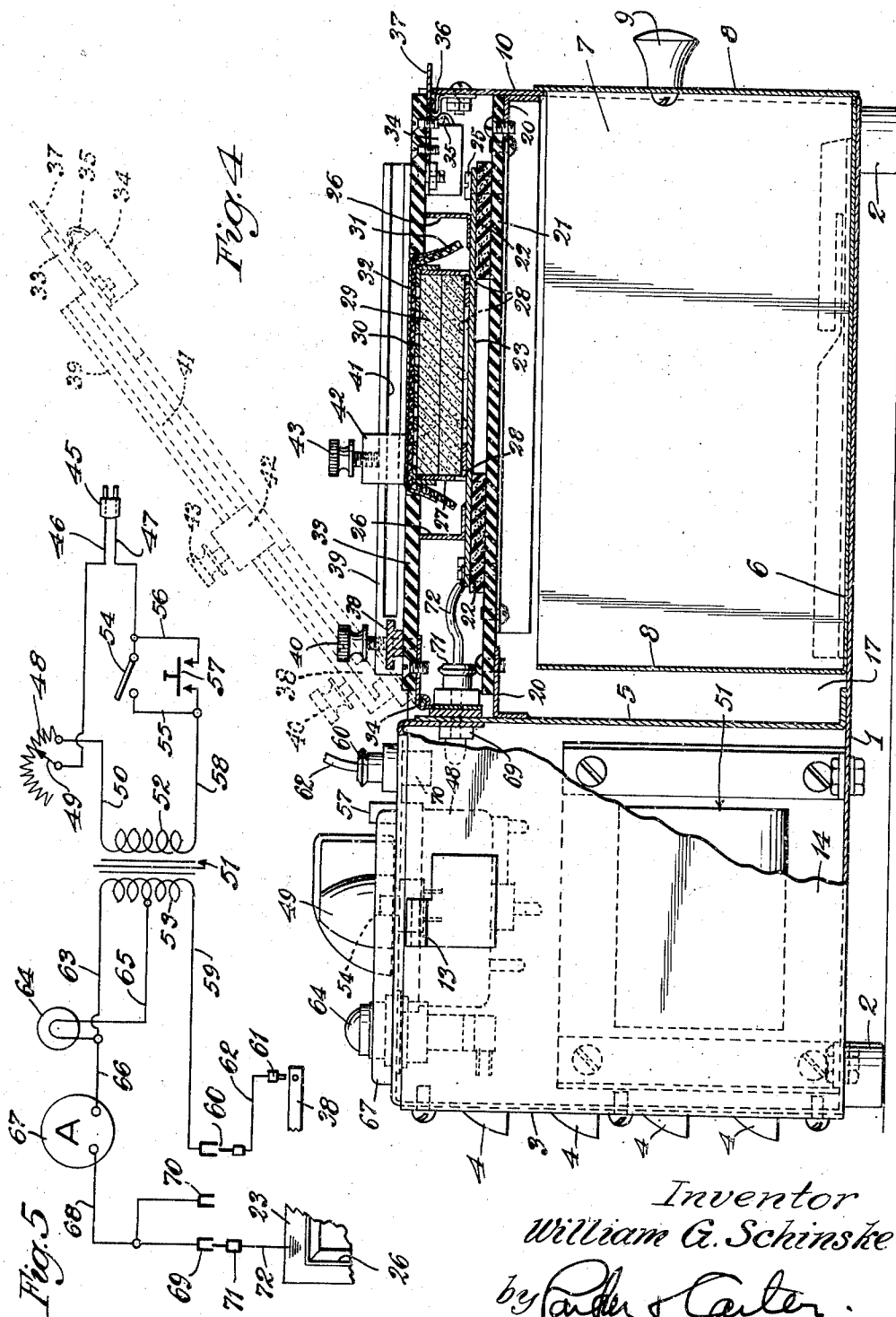
W. G. SCHINSKE

2,491,910

ELECTRO MARKER

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3 Sheets-Sheet 3



Inventor
William G. Schinske
by *Robert Carter*
Attorneys.

UNITED STATES PATENT OFFICE

2,491,910

ELECTRO MARKER

William G. Schinske, Sycamore, Ill., assignor, by
mesne assignments, to Ideal Industries, Inc.,
Sycamore, Ill., a corporation of Delaware

Application July 25, 1945, Serial No. 607,029

1 Claim. (Cl. 204—242)

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This invention relates to an electric marker and particularly to a marker which acts by means of an electric current and a stencil or equivalent device to mark various metal and metal plated or metal clad surfaces.

It has for one object to provide a device by means of which markings may be reproduced from a stencil electrically.

It has for another object to provide means for marking electrically upon metal.

It has for another object to provide a convenient electrical set by means of which a given marking may be readily and rapidly reproduced many times upon different pieces of metal.

It has for another object to provide a compact and convenient set for electrically marking in which everything necessary but a source of electrical current is included in a single convenient housing and assembly.

Other objects will appear from time to time in the course of the specification and claims.

The invention is illustrated more or less diagrammatically in the accompanying drawings wherein:

Figure 1 is a plan view of one form of the device;

Figure 2 is a side elevation;

Figure 3 is a plan view on an enlarged scale of the operating portion of the device of Figure 1 with parts omitted and parts broken away;

Figure 4 is a transverse section taken at line 4—4 of Figure 3;

Figure 5 is a schematic diagram illustrating one suitable electrical circuit for the operation of the device.

Like parts are indicated by like symbols throughout the specification and drawings.

In the particular form here shown the device is enclosed in a housing which although it may be made of any material is conveniently made of metal. The housing includes a base member 1 provided with feet portions 2 which may be of rubber. It is closed by one end wall 3 through which openings may be formed and the openings if present may be provided with louvers 4. A subdivision or dividing wall 5 separates that portion of the housing which includes a part of the electrical means from the remainder of the housing. A drawer may be positioned in the other side of the housing and includes a bottom member 6, sides 7 and ends 8. The handle 9 may be secured to the exposed end portions 8 if desired. That portion of the main housing in which the drawer is positioned is provided with an end plate 10 which is cut away as shown

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particularly in Figure 2 to accommodate the drawer and the drawer end 8. The drawer has no function in connection with the operation of the device but is primarily a means for storing equipment which is to be used in connection with the operation of the device. This equipment may include chemical solutions, stencils completed or uncut, rags and anything else convenient for use in operating the device.

If desired a cover 11 suitably shaped and provided with a handle 12 may be positioned in the main housing and it may be attached to the housing if desired by any sort of attachment. As shown a broken hinge construction is provided so that the cover may be removed entirely from the device if desired. The broken hinge construction includes hinged members or eyelets 13 fixed on a side wall 14 of the housing and hinged pins 15 fixed on the cover 11. When the cover is to be put in place it is moved so that the hinged pins 15 engage the hinged members 13. When it is to be removed it is moved in the opposite direction. One or more latch members 16 are mounted on the main housing wall 17 and mating latch parts 18 are mounted on the cover 11. When the cover is in the closed or dotted line position of Figure 2 the latch parts 18 penetrate the latch parts 16 and the cover may be held closed by keepers 19 movably mounted adjacent the latch parts 16. It is to be understood that many other types and arrangements of housings might be used and the invention so far as its general electrical operation is concerned is not limited to nor dependent upon any particular housing form.

Upon ledge members or other suitable supports 20 within the housing portion bounded by the partition 5, the end wall 10 and the side walls 14 and 17 is mounted a supporting partition 21 of insulating material. Positioned upon this insulating material are portions of sponge rubber or equivalent material 22 and upon this is mounted an electro conductive plate 23. This plate as shown in Figure 3 is notched as at 24 and is held adjustably in position by screws 25 which engage the insulating member 21. Fixed to the plate 23 are wall members which define a depression or open top vessel 26 and a box-like frame member 27 is fixed on the plate 23 within the walls 26. This box-like member is perforated as at 28 and is arranged to receive an absorptive member such as a sponge 29. The box-like frame member 27 is provided with a perforated cover 30. When the device is in use an absorptive cloth or similar member 31 is positioned over the per-

forated cover 30 and a stencil or comparable member 32 is positioned over the cloth. As shown in Fig. 4 the marginal portions of the wick-like cloth 31 depend downwardly from the plane of the cover 30 into the vessel 26.

A cover 33 formed of insulating material is hinged as at 34 to the partition member 5. The hinged cover may include a frame member or frame parts 34 upon which is mounted a latched part 35 which engages a latch part 36 mounted on the housing member 10. By this means the cover is mounted for ready opening but is held in a closed position by the latches 35 and 36. A handle or lifting member 37 may be provided if desired for raising the cover portion 33.

A bar 38 is fixed on the member 33 and may be of T-shaped cross section as shown in Figure 4. A second bar 39 is positioned to engage the bar 38 and to be slidable upon it. A set screw 40 is mounted in the bar 39 and by means of the bar may be locked in adjusted position on the bar 38. The bar 39 is also grooved as at 41 to receive a third bar 42 which engages the grooves and is held in adjusted position by a set screw 43. From Figure 1 it will be seen that the bar 39 is at right angles to the bar 38 and the bar 42 is at right angles to the bar 39 and said bars overlie the stencil 32 whereby they may be positioned to engage and hold articles to be etched in firm electrical contact with the stencil.

It will be convenient to describe the schematic diagram of Figure 5 before describing the electrical parts as they appear in elevation in the other figures. Electrical current is provided for the device from any suitable device and includes a plug 45 which provides connection to primary cords or conductors 46 and 47. The conductor 46 leads to a rheostat 48 having a handle 49 for adjustment. A conductor 50 leads from the rheostat to a transformer 51 which includes a primary winding 52 and a secondary winding 53. The conductor 47 leads from the plug 45 to a slide switch 54. Conductors 55 and 56 lead from the slide switch to a push button or push switch 57. The conductor 58 leads from the switch assembly to the primary winding or coil 52.

A conductor 59 leads from the secondary coil or winding 53 to a connector 60 which is joined to a jack 61 which latter may be connected to the bar 38 as shown in Figure 1. This bar may be provided with more than one point for receiving the jack 61. A conductor 62 connects the connector 60 with the jack 61.

A conductor 63 leads from the secondary coil 53 to a telltale light 64. The circuit through the filament of this light is completed by a conductor 65. A conductor 66 leads from the light to an ammeter 67. A conductor 68 leads from the ammeter to a pair of jacks 69 and 70. A connector 71 may be connected with either of the jacks and through a conductor 72 is grounded on the plate 23.

Although I have shown an operative form of my invention, it will be recognized that many changes in the form, shape and arrangement of parts can be made without departing from the spirit of the invention, and my showing is therefore to be taken as, in a sense, diagrammatic.

The use and operation of this invention are as follows:

With the device in the form shown, a stencil is cut with the inscription to be marked arranged for marking and a solution of a suitable fluid is put into the pan formed by the walls 26. This moistens the sponge 29 and correspondingly moistens the stencil 32, as well as the cloth or

wick-like member 31 and the depending marginal portions thereof. The stencil is uppermost. The clock or wick-like member 31 is beneath and in contact with the stencil and moisture from the sponge 29 passes through the perforations in the member 30 to assure adequate moistening not only of the stencil but of the member which is to be marked.

Such a member is shown in Figures 1 and 2 and by way of illustration the legend A. B. C. Co. is shown on the stencil. The plug 45 is connected with a source of suitable electric current and the handle 49 of the rheostat is moved to the desired point to give current of the desired strength.

The jack 62 is connected to the bar 38 and as shown in Figure 4, a conductor 72 is connected to the base plate 23. The circuit is thus connected through the conductors and members described and through the solution in the sponge 29 and the wick 31. That portion of the stencil which has not been cut does not permit fluid to pass through it, and only the portion of the stencil which has been cut permits fluid to pass through it and to come into contact with the member which is to be marked.

With the parts in the position shown in Figure 1 if only one member is to be marked, it may be convenient to operate the momentary switch 57 to complete the circuit and to cause current to flow and thus the legend on the stencil is etched or marked upon the metallic member in contact with the stencil. Where a great many members are to be marked identically, this may be done rapidly by adjusting the rheostat suitably and by leaving the switch 54 on for an extended period. When that is done, the metal members for marking are merely placed, one after the other, rapidly in contact with the stencil and in contact with the member 42. The member 42 is adjustable, as is also the member 39, and these members are conductive and thus conduct current to the metal part which is being marked. They serve, of course, to place and center that member.

As shown in Figure 3, the members 39 and 42 may be either omitted or disregarded and the jack 61 may be touched directly upon the member being marked.

For most purposes the time required for a satisfactory marking is very short. However, if a longer time is necessary, the switch 54 is left on and the member to be marked is held in contact with the stencil and with the conductors, for a longer time. Also, the current may be increased as necessary by adjusting the rheostat 48 by means of the handle 49.

The telltale light 64 indicates whether or not the current is on and a marking is being made.

The entire assembly is complete in itself and the drawer 7 furnishes a storage capacity for stencils, etching fluid, which may be calcium chloride, and a suitable fluid for removing the calcium chloride from a part which has been marked. Necessary adjusting tools and spare parts may also be kept in the drawer 7. Thus the device is a unit containing all necessary structural and electrical parts and all necessary parts for operation, adjustment and repair.

I claim:

70 In combination in an electric etcher, an electrically conducting, open top vessel adapted to contain an etching solution, a liquid absorptive member disposed within said vessel, a frame member surrounding said liquid absorptive member within said vessel, and provided with a per-

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forated cover in contact with said liquid absorp-
 tive member, said cover providing a support for
 articles to be etched, a liquid absorptive sheet
 overlying said perforated cover and including
 wicking portions depending into said vessel, a
 generally liquid impervious stencil member hav-
 ing liquid pervious indicia cut therein disposed
 upon said liquid absorptive sheet, an insulating
 cover for the open top of said vessel movably
 mounted with respect thereto and having an
 aperture through which the stencil member is
 exposed when said insulating cover is in closed
 position, electrically conducting article-engaging
 and positioning means mounted on the insulating
 cover, means for adjustably mounting said article-
 engaging and positioning means on the insulat-
 ing cover in overlying relation to said aperture
 for engaging articles to be etched and for hold-
 ing them in firm electrical contact with said
 stencil when the cover is in closed position, and
 electrical connection means connected respec-
 tively to said article-engaging and positioning

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means and to said vessel and adapted for connec-
 tion to a source of electric potential.

WILLIAM G. SCHINSKE.

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