Dec. 27, 1966 W. L. SINN 3,294,434

GOLD LEAF PLACING DEVICE

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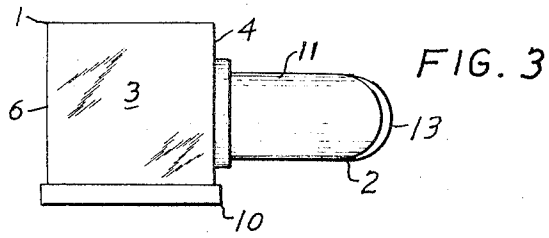


FIG. 3

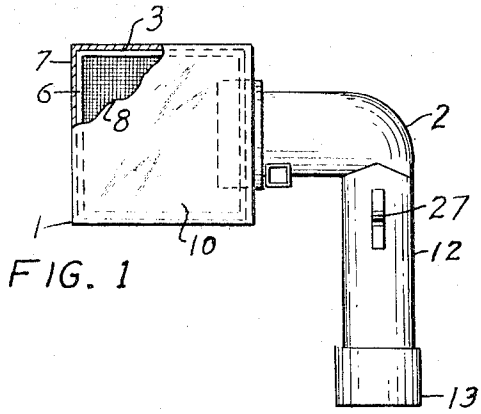


FIG. 1

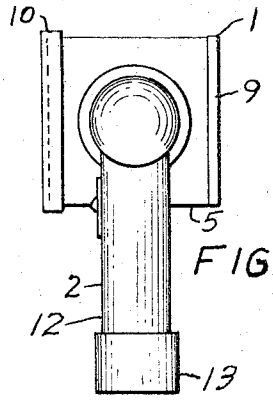


FIG. 2

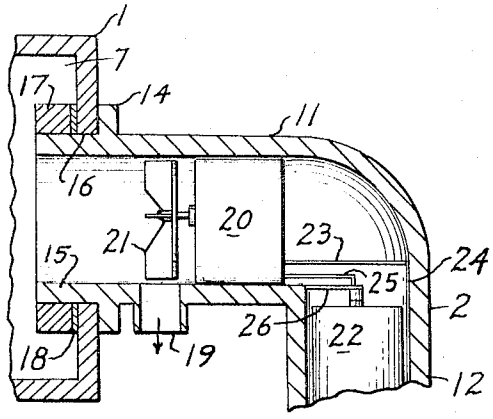


FIG. 4

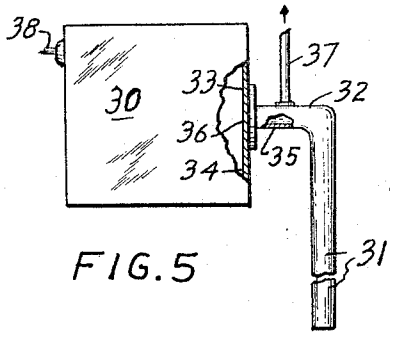


FIG. 5

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GOLD LEAF PLACING DEVICE

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This invention relates to means and ways of picking-up thin sheets of metallic foil, paper, cloth, etc. In the art of gold lettering upon windows, doors, and other surfaces, the artisan must pick-up a single sheet of gold leaf, one at a time, and such leaves are extremely thin. The leaves are stacked and heretofore it was not always easy to lift a single sheet and place it to the work surface. Some sheets were broken and became useless for lettering purposes. To avoid such a loss, and to speed-up the work, the artisan may take advantage of this invention.

The invention is useful in many fields, trades, and professions for lifting and placing sheets of various materials and of various thicknesses.

One of the principal objects of this invention is to provide methods and means for readily lifting single thin sheets of material from a stack thereof without in any way damaging the sheet during its transfer and placement.

Another object is to provide a lifting device for extremely thin sheets of material, and which device is simple and light in construction, easy to manipulate, and which allows the artisan to be very proficient in his work.

Another object is to provide a device for lifting thin sheets of material wherein the device is economical to make and manufacture and is capable of giving long dependable service.

In the drawings:

FIG. 1 is a side elevational view of a sheet lifting device but which shows a portion thereof broken away;

FIG. 2 is an elevational side view at substantially right angles to that shown in FIG. 1;

FIG. 3 is a top plan view thereof;

FIG. 4 is an enlarged vertical view in sectional form showing some of the internal arrangements of the device; but wherein some parts are broken away;

FIG. 5 is a side elevational view, parts broken away, showing a modified form of the invention.

Now, with reference to the drawings wherein like parts bear the same identifying numerals, there is shown a box or box-like lifter means or unit indicated in general by the reference character 1, and which is attached to a handle means indicated in general by the numeral 2.

The box-like unit or lifter has the vertical side walls or panels 3, 4, 5 and 6 joined together along their edges to form a rectangular tunnel-like chamber 7. The front side or face of the lifter or pick-up unit is partially closed by the reticulated fabric or cloth covering means 8 which has its edges folded over the front-side edges of the box device and which gauze or fabric is fastened to the margin about the box edges by a band of glued tape indicated at 9 which wraps entirely around the box. This gauze may be of any suitable material having interstices for passage of gas or air therethrough. This covering may be termed a retainer element and may consist only of a plurality of spaced wires and the like. The rear side of the unit and chamber 7 is closed by an imperforate cover means 10 having peripheral side flanges to grip the sides of the box 1 snugly so that the air suction will be along the gauze surface. The cover means 10 is removable so that access can be had to the chamber 7.

A curved tubular element or handle means 2 is employed to support the box 1 and this handle means has the top section 11 and the extended grip section 12. The bottom end of the hollow tube 2 is closed by a suitable

removable cap 13 of a type which is common to portable hand type flashlights. The top tube section has an annular stop flange 14 and a short section 15 which extends through an opening 16 in the box. Tube 11 is held to the box by a friction tight ring 17 which is jammed against a resilient washer 18. This friction ring 17 may be, if desirable, provided with threads and screwed onto the outer surface of the end of the short tube section 15 which may also be provided with threads. In any event, the fit of the ring is tight against the washer and the wall of the box, but not so tight that the tube section 15 cannot be rotated in the opening 16. The reason for this construction is to make the handle 2 adjustable into angular positions so that the section 12 can be rotated to any desirable angle to suit the artisan or operator of the device. The section 11 is provided with an outlet 19 through which air can pass and through the tube from the chamber 7.

In the tube there is fixed in position an electric motor 20 having the attached propeller means 21 which rotates and forces air from chamber 7 through the opening or outlet 19. The motor is operated by one or more dry cells, one of which is indicated at 22 located in the handle portion of the tubing. An insulated wire or electrical conductor 23 connects one electrical side of the motor to a conductor strip 24 which has its lower end in electrical contact with the negative side of the bottom dry cell in the usual manner that is common to the construction of flashlights and the like. Another electrical conductor 25 connects the other electrical side of the motor 20 with the button on an arm 26 which extends from a side of the tube 12. When the positive button on the dry cell is in contact with the button on arm 26, and the strip 24 is in electrical contact with the wire 23, the motor operates and spins the propeller 21 to force in air through the screen 8 and out through the opening 19.

The above set forth action causes a suction along the screen so that when the screen is placed onto a stack of thin sheets, or thick sheets, the top sheet will be lifted to the screen and held there until the sheet is placed against the surface to which it is to be attached. For opening the circuit to stop the motor 20, a switch 27 is provided along the strip 24. Such switches are common to flashlights in general and need not be set out in detail.

In the case of placing gold leaf onto surfaces, it is well known that the leaf has a positive charge and the surface to be covered has a negative charge (or vice versa) so that when the thin gold sheet nears the surface, it automatically attaches itself to the surface due to electrostatic attraction. However, when other kinds of sheets of material are involved that have no such attraction for the work surface to which it is to be mounted, then a cement or glue is employed. The pressing of the sheet against a treated surface, such as a sticky substance or a glue, the sheet will remain in its place when the current to the motor is discontinued and the lifter removed.

The form of the invention shown in FIG. 5 is substantially the same as the preferred form shown in FIGS. 1 to 4. However, in this case of the second form, the box is substantially, that is, it has a chamber, a screen, and if wanted a removable cover. This form has a handle type of tube 31 with a right angled top portion 32 that is attached to or fixed to a flange 33. This flange is fixed to one side wall 34 of the box in a suitable manner and so that the bore or passage 35 of the tube is in alinement with an opening or passage 36 in a wall of the box. A flexible tube 37 is connected to the tube 32, as shown, and the bores of both tubes are connected so that when air is forced through the tube 37 in the direction of the arrow, a suction is developed along the screen of the box and thus the box can be employed to lift sheets of

metal, cloth, paper etc. The distal end of the flexible tube **37**, which may be rubber, is designed to be placed in the mouth of the artisan so that the artisan can by drawing air through the tube lift and hold a sheet onto the screen of the box, or he can easily discharge the sheet by blowing air through the tube **37**. Obviously, the flexible tube may be connected directly to any convenient portion of the box such as that indicated at **38**.

Certain novel features and details of this invention are disclosed, and in some cases in considerable detail, in order to make the invention clear in at least one or more forms thereof. However, it is to be clearly understood that the invention, as disclosed, is not necessarily limited to the exact form or forms and details disclosed since it is apparent that various modifications and changes may be made without departing from the spirit and scope of the invention.

Having thus described my invention, what is claimed as new and desired to be secured by Letters Patent is:

1. A lifter means for holding thin leaves or sheets and transferring them to a surface; the lifter means having a plurality of walls forming a head and enclosing an air chamber, one of the walls having a perforated screen against which a transfer leaf can be held, an opening in another wall of the head, a tube having one end swivelly connected in said opening and which tube extends laterally with respect to said screen, an air exit means associated with said tube, a handle means connected to the tube and extending therefrom at an angle, suction means associated with the tube so that air can be forced through the screen into the chamber and hence through the air exit means and thus hold a leaf to the screen until the leaf is released to a suitable surface.

2. The lifter means recited in claim **1** wherein the suction means is a motor-fan unit secured in the tube, and a switch in the handle means for starting and stopping the motor.

3. The lifter means recited in claim **1** wherein the suction means is a small flexible pipe means connected to said tube, a distal end of said pipe means being adapted to enter an operator's mouth.

4. The lifter means recited in claim **1** wherein the handle means is hollow and accommodates an electric cell means to provide power to the suction means.

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