March 12, 1968 W. W. COUSINS 3,372,492

WORK TABLE FOR HAND PRINTING

Filed Sept. 23, 1965 2 Sheets-Sheet 1

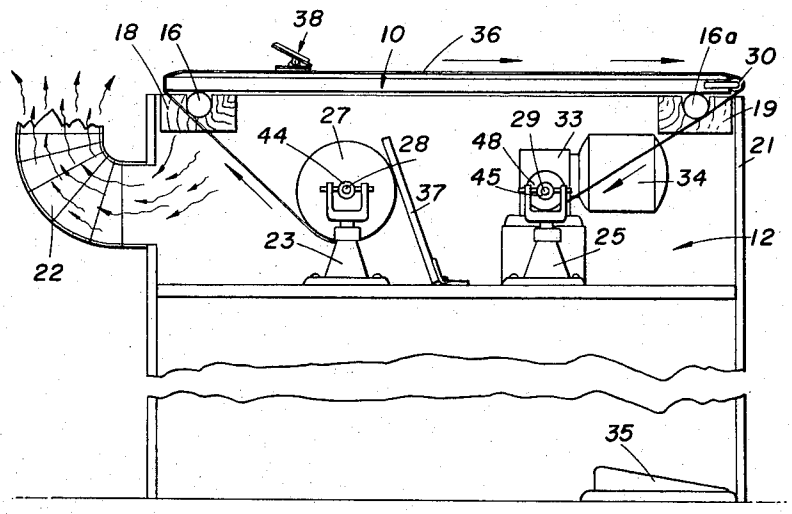


FIG. 1

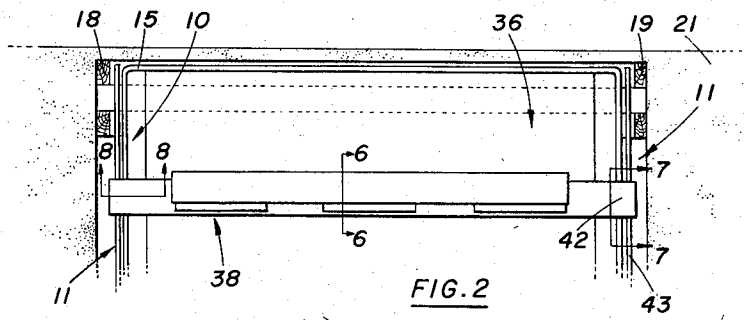
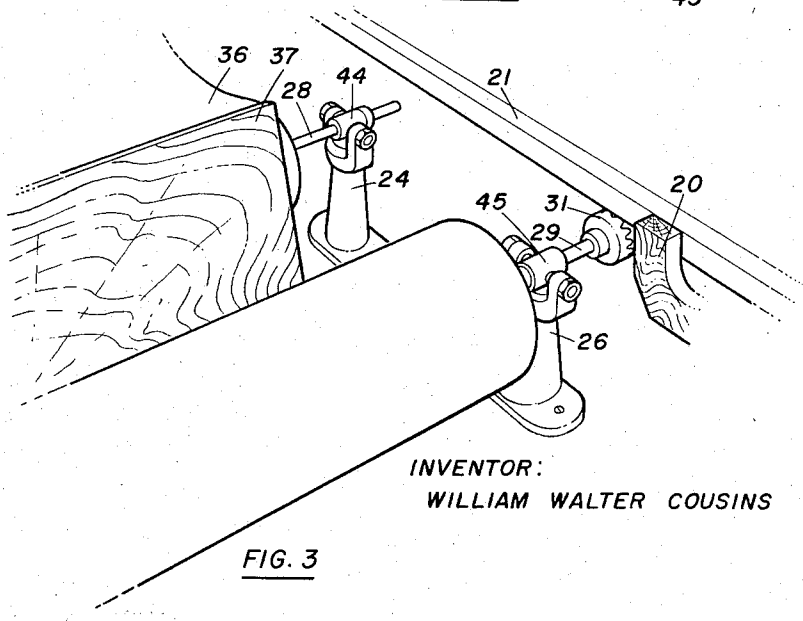


FIG. 2



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FIG. 3

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WORK TABLE FOR HAND PRINTING

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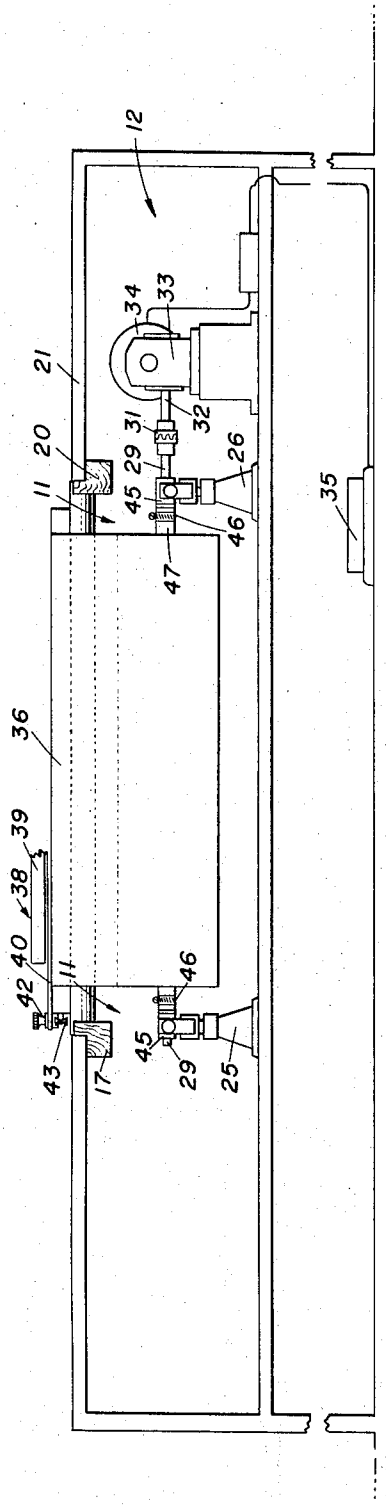


FIG. 4

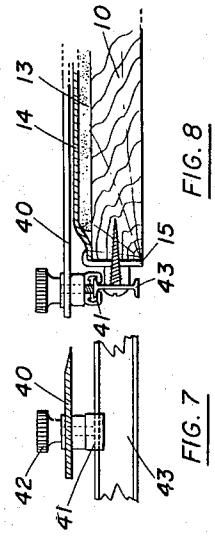


FIG. 8

FIG. 7

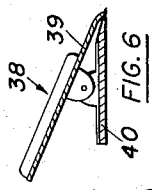


FIG. 6

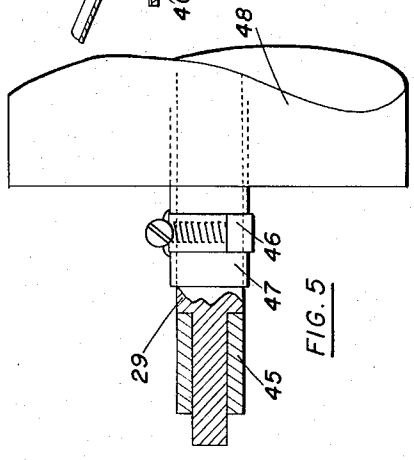


FIG. 5

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WORK TABLE FOR HAND PRINTING

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Claims priority, application Canada, Apr. 13, 1965, 928,103
9 Claims. (Cl. 34—151)

ABSTRACT OF THE DISCLOSURE

This specification discloses a work table comprising a flat rectangular, padded working surface with spaces on the sides thereof and a chamber therebelow. An exhaust fan in the chamber draws air and fumes from the space above the working surface and delivers it to an exhaust conduit. A roll of paper is mounted in the chamber and the strip therefrom is passed over the working surface and back to a motor driven take up roll. Clamps are provided for securing stock in position on the working surface.

This invention relates to a clean work table which may be used when hand printing and reproducing pictures or graphic images in color or black and white.

There are available various types of support surfaces and tables for use in conjunction with hand printing and reproduction with and without means for clamping the stock many of which are bulky in construction and heavy in weight. One great disadvantage with most types of available apparatus is that after the application of each different color or image the stock must be removed and the table completely cleaned off ready for the next color or image application. It may be seen therefore that if many applications are required a great deal of time is wasted in this cleaning off process.

This necessary cleaning off procedure has the additional disadvantage that it must be done each time by hand with the operator often getting dirty in the process. Also with the removal of each part of the apparatus for cleaning the surrounding work space becomes splashed and soiled. A further disadvantage in this cleaning off procedure is that more space is required than that which is utilized for the printing apparatus alone in order that as the parts are removed for cleaning they may be laid out.

Another disadvantage in most types of hand, color printing and reproduction apparatus is that once each color has been applied to the stock the operator has to wait for the application to dry of its own accord, this further increasing the time necessary to complete the finished reproduction.

Those types of work tables used in conjunction with printing apparatus which are equipped with extractor fans in order to draw off the fumes from the evaporating solvent on the stock have the disadvantage that the operator usually is situated in or near the path of such fumes, these fumes in many instances being injurious to the eyes.

Accordingly, it is a general objective of the invention to provide a work table which may be used in conjunction with apparatus for the purpose of hand printing and reproducing pictures or graphic images in color or black and white.

More particularly, it is an objective of this invention to provide a work table having the foregoing advantages and in addition having retaining means for stock of any varying thickness.

More particularly, it is an objective of this invention to provide a work table having the foregoing advantages and in addition having means of covering the working surface by a removable sheet of material.

More particularly, it is an objective of this invention to provide a work table having the foregoing advantages and in addition having means of automatically removing the sheet of material from the working surface when soiled.

More particularly, it is an objective of this invention to provide a work table having the foregoing advantages and in addition having means of quickly and easily replacing the supply of sheet covering the working surface when the whole quantity of sheet is soiled.

More particularly, it is an objective of this invention to provide a work table having the foregoing advantages and in addition having means of drying the color coating on the stock by the evaporation of its solvent by means of an exhaust fan extracting air from beneath the work area through openings on each side of the working surface.

The foregoing and other advantages will become apparent from the following description of the preferred embodiment of the invention which is here made by way of example only with reference to the following drawings in which like references refer to like parts thereof throughout the various views and diagrams, and in which:

FIGURE 1 is a side view of the work table showing its various apparatus and function in schematic form;

FIGURE 2 is a plan view of a portion of the working surface of the work table and showing the openings through which the fan extracts fumes;

FIGURE 3 is a perspective illustration showing part of the apparatus beneath the working surface for storing and moving the sheet covering the working surface;

FIGURE 4 is a front view of the work table with front covering removed;

FIGURE 5 is an enlarged detailed view of one end of the shaft on which the supply of sheet covering the working surface is attached;

FIGURE 6 is an enlarged side view of the clamping bar which holds the stock in place on the working surface as seen from the direction of arrows 6—6 on FIGURE 2;

FIGURE 7 is an enlarged side view of the sliding and locking device for the stock clamping bar, as seen from the direction of arrows 7—7 on FIGURE 2; and

FIGURE 8 is an enlarged front view showing the sliding and locking device for the stock clamping bar and its method of attachment to the board, as seen from the direction of arrows 8—8 on FIGURE 2.

From the drawings it will be seen that the work table according to the invention comprises essentially of a working surface consisting of a padded board **10** suspended over an opening **11** in the top of a table with an enclosed area **12** below.

As may be seen from FIGURE 8 the board **10** is padded by means of a sheet of sponge material **13** and covered by a rubber blanket **14**. This rubber blanket is held and stretched into position by a retaining strip **15** attached around the edges of the board.

The padded board **10** is suspended over the opening **11** by two rods **16** and **16a** attached to the underside of the padded board and fitting into clamps **17**, **18**, **19** and **20** attached to the top of the table **21** as seen in FIGURES 1, 2 and 4. The padded board does not exactly fit the opening over which it is suspended being smaller in width thus leaving part of the opening **11** exposed at each side.

At the rear of the enclosed area **12** beneath the padded board there is a ventilating shaft **22** through which fumes are extracted after they have been drawn down through the opening **11** from the working surface by means of an extractor fan (not shown).

Mounted beneath the padded board in the enclosed area **12** are two pairs of shaft supports, the rear pair **23** and

24 for mounting a shaft 28. This shaft rotates freely in a bush 44 at each end and supports the supply roll of newsprint 27 which is used for covering the working surface. The front pair of shaft supports 25 and 26 are used for mounting a rewind shaft 29. This shaft 29 supports the soiled newsprint as it unwinds from the supply roll 27 and rotates in a sleeve bearing 45 at each end.

The newsprint is unwound from the supply roll 27, passed up over the rear edge of the padded board 10 and across the working surface over a small adjustable roller 30 which is mounted on the front edge of the padded board to control lateral movement of the newsprint sheet and down onto the rewind shaft 29. This rewind shaft, as seen in FIGURE 4, has at one end a multi-jaw coupling 31 which connects it to the reduction gear shaft 32 of a reduction gear 33. The rewind shaft is rotated by means of an electric motor 34 which drives the reduction gear and is operated by a foot switch 35.

A tension board 37 is mounted in front of the supply roll of newsprint and by applying enough friction against the roll prevents it from rotating freely thus keeping the web of newsprint 36 stretched taut across the working surface of the padded board.

The stock is held into position on the padded board by means of a clamping bar 38 as seen in FIGURES 2 and 4. The clamping bar consists of a spring loaded clamp 39 mounted on a bar 40. At each end of the clamping bar is a runner 41 attached by a knurled knob 42, each runner sliding along a track 43 which is mounted on each side of the padded board and running parallel to the edge. The clamping bar, therefore, may be adjusted up or down the padded board by releasing the knurled knobs thus allowing it to slide freely up or down on the tracks.

From the above description it may be seen that the work table may be utilized with a hand printing process for printing pictures or graphic images in color or black and white on stock. In practice all color coatings and coating removal operations are performed on the padded board. The stock on which the image or reproduction is to be made is placed on the padded board 10 and held in position by a clamping bar 38.

The coating operation consists of placing a quantity of liquid (ink, lacquer, etc.) along the top edge of the stock below the clamping bar and by means of a rod, placed on the stock just above the liquid, the liquid is drawn down over the stock in a thin even coat. In order to dispose of any remaining excess liquid the padded board is covered with a web of newsprint 36 which is unwound from the supply roll 27, passes up and over the board and down onto the rewind shaft 29. The rewind shaft is coupled to a motor 34 and is set in motion by a foot switch 35. When the newsprint is rewound in order to bring a fresh covering of newsprint to the padded board friction is applied to the supply roll 27 in order to provide tension on the newsprint web by means of a tension board 37 mounted in front of the newsprint roll. The tension board has a braking action on the newsprint roll thus preventing it from rotating too freely on the shaft 28. The excess liquid is thus carried down to the roll onto the rewind shaft 29, leaving the board covered with a web of clean newsprint ready for the next operation.

The clamping bar 38 is adjustable so that various sizes of sheet stocks can be held on the board. The clamping bar is moved by unscrewing the knob 42 at each end which releases the sliding device 41, thus allowing the clamping bar to be moved up or down the board by running along the metal tracks which are mounted on the left and right edges of the board. When the clamping bar has been adjusted to the required position it is locked into position by screwing tight the knurled knob at each end.

The liquid coating on the stock dries by the evaporation of its solvent. This solvent vapour is exhausted from the work area by means of and exhaust fan which pulls the solvent laden air down through the opening 11 from the work surface and through the ventilating shaft 22 to the outside of the building.

When required a fresh roll of newsprint may be easily inserted when the original roll has been soiled and completely rewound onto the rewind shaft 29.

First the rewind shaft 29 together with the soiled roll 48 of newsprint are dismounted from the shaft supports 25 and 26, at the same time uncoupling the multi-jaw coupling 31. The soiled roll will be seen to be wound onto a cardboard core 47 and held in position on the rewind shaft by an adjustable clip 46 at each end as may be seen in FIGURE 5. The adjustable clips are released and the soiled roll together with the cardboard core are slid off the rewind shaft. A fresh cardboard core is placed onto the rewind shaft and the adjustable clips used as before to hold it in position, the rewind shaft then being replaced onto the shaft supports, 25 and 26 and recoupled to the multi-jaw coupling.

The rear shaft 28 is similarly removed from its shaft supports 23 and 24 and the cardboard core and adjustable clips removed from the shaft. A fresh roll of newsprint, which is supplied ready rolled onto a cardboard core, is slid onto the shaft and held in position by replacing the adjustable clips onto the new cardboard core which extends some distance from the roll. The roll and shaft are then replaced onto the shaft supports 23 and 24 and the end of the newsprint roll is pulled up and over the board (but under the clamping bar) then down onto the rewind shaft 29, where it is taped into position. The tension board 37 provides enough friction against the roll of newsprint to prevent it from revolving freely and keeps the newsprint web taut.

A foot switch 35 actuates the motor 34 which is coupled to the rewind shaft 29 thus providing means of rotating the rewind shaft and unwinding fresh newsprint across the board as required whilst still keeping both hands free.

The foregoing is a description of a preferred embodiment of the invention which is here made by way of example only. The invention is not to be taken as limited to the specific steps described but comprehends all such variations that come within the spirit and scope of the appended claims.

What I claim is:

1. A clean work table for use when hand printing and reproducing pictures, graphic images and the like in color and black and white, and comprising:
- a generally rectangular flat working surface supported at an elevation defining a spacing therebeneath and means defining an opening formed around at least part of said surface;
- clamping means for stock mounted on said working surface;
- ventilating means beneath said working surface communicating with said opening;
- and air extracting means for said ventilating means.

2. A clean work table for use when hand printing and reproducing pictures, graphic images and the like in color and black and white, and comprising:
- a generally rectangular flat working surface supported at an elevation defining a spacing therebeneath and means defining an opening formed around at least part of said surface;
- a rectangular sheet of sponge rubber or like substance covering the surface of said working surface;
- a rectangular sheet of material covering said rectangular sheet of sponge rubber or like substance on said working surface;
- retaining means for said rectangular sheet of material about the edge of said working surface;
- clamping means for stock mounted on said working surface;
- ventilating means beneath said working surface communicating with said opening;
- and air extracting means for said ventilating means.

3. A clean work table for use when hand printing and reproducing pictures, graphic images and the like in color and black and white, and comprising:
a generally rectangular working surface supported at an elevation defining a spacing therebeneath and means defining an opening formed around at least part of said surface;
clamping means for stock mounted on said working surface;
track means mounted on at least one side of said working surface;
running attachments fitting said track means mounted on at least one end of said clamping means for movably locating same;
locking means on said running attachments for said track means for releasably locking same in a desired position;
ventilating means beneath said working surface communicating with said opening;
and air extracting means for said ventilating means.

4. A clean work table for use when hand printing and reproducing pictures, graphic images and the like in color and black and white, and comprising:
a generally rectangular working surface supported at an elevation defining a spacing therebeneath and means defining an opening formed around at least part of said surface;
a rectangular sheet of sponge rubber or like substance covering the surface of said working surface;
a rectangular sheet of material covering said rectangular sheet of sponge rubber or like substance on said working surface;
retaining means for said rectangular sheet of material about the edge of said working surface;
clamping means for stock mounted on said working surface;
track means mounted on at least one side of said working surface;
running attachments fitting said track means mounted on at least one end of said clamping means for movably locating same;
locking means on said running attachments for said track means for releasably locking same in a desired position;
ventilating means beneath said working surface communicating with said opening;
and air extracting means for said ventilating means.

5. A clean work table for use when hand printing and reproducing pictures, graphic images and the like in color and black and white, and comprising:
a generally rectangular flat working surface supported at an elevation defining a spacing therebeneath and means defining an opening formed around at least part of said surface;
clamping means for stock mounted on said working surface;
and mounting means below said working surface for a rotatable shaft supporting a roll of material which is passed over said working surface.

6. A clean work table for use when hand printing and reproducing pictures, graphic images and the like in color and black and white, and comprising:
a generally rectangular working surface supported at an elevation defining a spacing therebeneath and means defining an opening formed around at least part of said surface;
clamping means for stock mounted on said working surface;
ventilating means beneath said working surface communicating with said opening;
air extracting means for said ventilating means;
and mounting means below said working surface for a rotatable shaft supporting a roll of material.

7. A clean work table for use when hand printing and reproducing pictures, graphic images and the like in color and black and white, and comprising:
a generally rectangular working surface supported at an elevation defining a spacing therebeneath and means defining an opening formed around at least part of said surface;
clamping means for stock mounted on said working surface;
mounting means below said working surface for a rotatable shaft supporting a roll of material;
mounting means below said working surface and in front of said mounting means for a rotatable shaft supporting a roll of material for a rotatable rewind shaft;
and braking means applied to said rotatable shaft supporting a roll of material.

8. A clean work table for use when hand printing and reproducing pictures, graphic images and the like in color and black and white, and comprising:
a generally rectangular working surface supported at an elevation defining a spacing therebeneath and means defining an opening formed around at least part of said surface;
clamping means for stock mounted on said working surface;
mounting means below said working surface for a rotatable shaft supporting a roll of material;
mounting means below said working surface and in front of said mounting means for a rotatable shaft supporting a roll of material for a rotatable rewind shaft;
braking means applied to said rotatable shaft supporting a roll of material;
manually responsive means for rotating said rewind shaft;
and a roller adjustably mounted and parallel to the front edge of said working surface.

9. A clean work table for use when hand printing and reproducing pictures, graphic images and the like in color and black and white, and comprising:
a generally rectangular working surface supported at an elevation defining a spacing therebeneath and means defining an opening formed around at least part of said surface;
clamping means for stock mounted on said working surface;
mounting means below said working surface for a rotatable shaft supporting a roll of material;
mounting means below said working surface and in front of said mounting means for a rotatable shaft supporting a roll of material for a rotatable rewind shaft;
braking means applied to said rotatable shaft supporting a roll of material;
manually responsive means for rotating said rewind shaft;
a roller adjustably mounted and parallel to the front edge of said working surface;
ventilating means beneath said working surface communicating with said opening;
and air extracting means for said ventilating means.

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