March 11, 1969 K. D. LEWIS 3,431,616

WALLPAPER REMOVING ROLLER

Filed Dec. 19, 1966

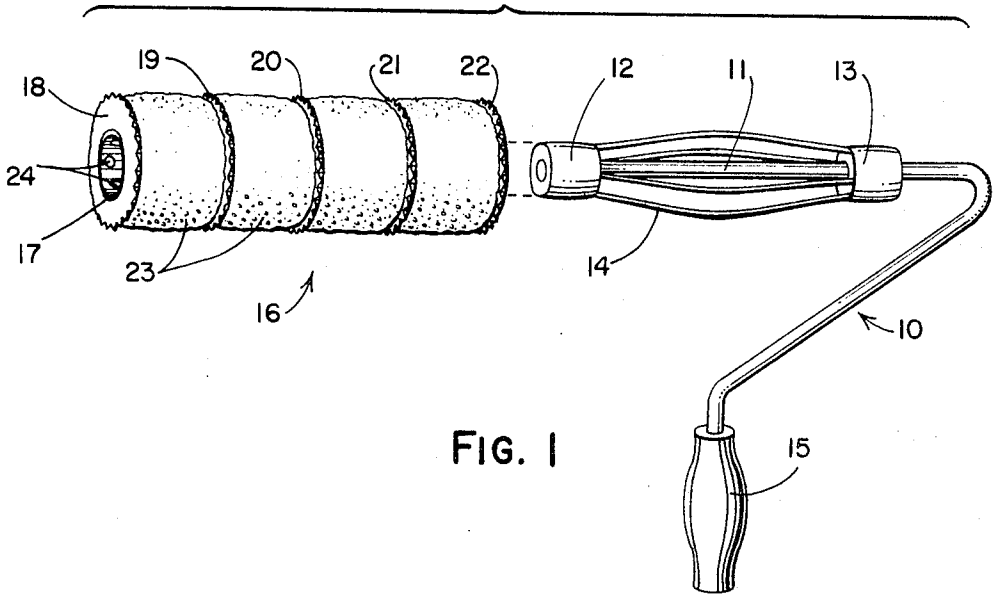


FIG. 1

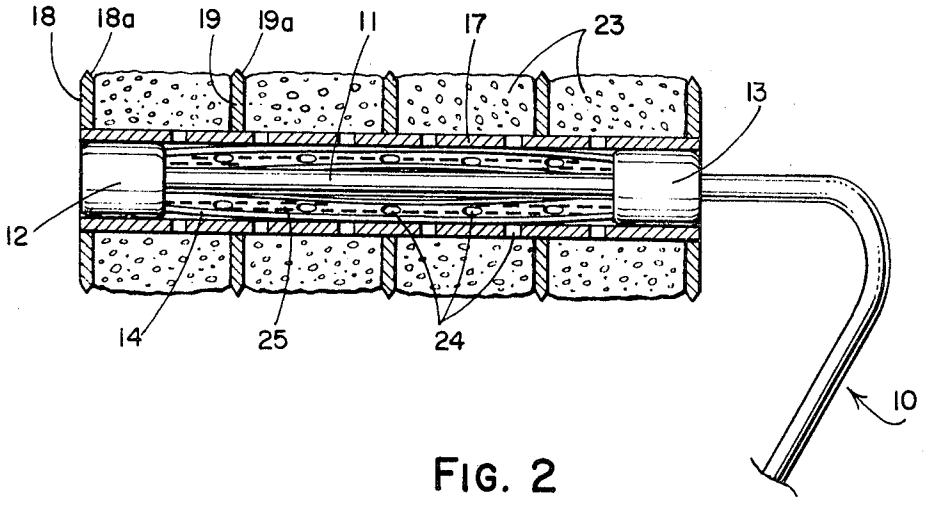


FIG. 2

INVENTOR
KENNETH D. LEWIS
BY Elliott & Pastoriza
ATTORNEYS

United States Patent Office

3,431,616

Patented Mar. 11, 1969

3,431,616

WALLPAPER REMOVING ROLLER

Kenneth D. Lewis, Tarzana, Calif., assignor, by mesne assignments, to Perf-A-Roller Company, Inc., a corporation of California

Filed Dec. 19, 1966, Ser. No. 602,648

U.S. Cl. 29—121 1 Claim

Int. Cl. B21b *31/08, 27/02;* B60b *11/04*

ABSTRACT OF THE DISCLOSURE

Removing wallpaper from plaster or dry-wall surfaces normally involves the use of a steamer or the like to moisten the wallpaper sufficiently to enable it to be scraped or peeled from the surface. The present invention provides a roller dimensioned to be used with a conventional paint roller type supporting frame such that the roller itself may be rolled along wallpaper to be removed. The roller includes a central elongated tubular member supporting a plurality of discs having sharp points on their peripheries. Between the discs there is provided sponge material such that hot water may be absorbed in the sponge material. The roller is then simply rolled along the wallpaper surface. The sharp points of the discs perforate the wallpaper, and water from the sponge is forced through the small perforations to soak the underside of the wallpaper thereby facilitating its removal.

This invention relates to an improved tool for facilitating the removal of wallpaper for use by professional workmen as well as homeowners.

It is important in refinishing walls, either by painting the walls or by providing new wallpaper, that any old wallpaper be completely removed. With respect to painting the wall, failure to remove the old wallpaper will result in seams being visible through the paint unless numerous coats are applied to the wall. Placing of new wallpaper over old wallpaper can cause similar problems, the seam joints often causing unevenness in the new wallpaper.

Heretofore, the removal of old wallpaper has conventionally been carried out by use of a steamer which generally takes the form of a hot iron having a plurality of openings in its bottom surface for ejecting hot steam onto the surface of the wallpaper. The hot steam soaks the surface of the paper and eventually it is possible to remove the paper, after soaking, by scraping the same free of the wall surface.

It is found that wallpaper may most effectively be removed if it is possible to soak the underside of the paper; that is, the sticky portion of the paper in contact with the wall. This can nominally be accomplished by starting a peeling of the paper from the wall and at the peeling underside line attempting to force water under the remaining portion of the paper still on the wall. The process is necessarily tedious and time consuming.

It is a primary object of the present invention to provide a greatly improved tool to facilitate the removing of wallpaper wherein the entire job may be carried out in a far more rapid and effective manner than has heretofore been possible.

Briefly, the invention contemplates the provision of a roller structure adaptable for use with a conventional paint type roller frame support such that the roller may be rolled along the wallpaper surface. The roller itself includes an elongated central tubular member arranged to be received over the conventional rotary structure of a paint roller holder. A plurality of metal discs having central openings and serrated peripheries in the form of sharp points are secured to the elongated tubular member

at spaced points so as to lie in parallel planes generally normal to the axis of the tubular member. Between adjacent discs, there is provided sponge material extending radially outwardly from the periphery of the tubular member to a point at least even with the peripheral points of the various discs.

With the foregoing arrangement, the sponge material may be soaked by simply dipping the entire roller into a pail of hot water. The roller is then rolled along the wallpaper such that the sharp points on the peripheries of the various discs form a series of parallel lines of small perforations through the wallpaper. The sponge material in turn soaks the paper and forces water through the small perforations to soak the underside of the paper in the area of the perforations such that removal of the paper is greatly facilitated.

A better understanding of the invention will be had by now referring to a preferred embodiment thereof as illustrated in the accompanying drawings, in which:

FIGURE 1 is an exploded view illustrating the wallpaper removing roller of this invention preparatory to being inserted on a conventional paintbrush roller support; and,

FIGURE 2 is an enlarged view of the roller in position on the paintbrush roller support showing the roller itself in cross section.

Referring first to FIGURE 1, there is shown a conventional paint roller frame support **10** including an elongated shaft **11** mounting suitable end collars **12** and **13** connected by bowed springs **14** extending between the end members **12** and **13**. The right hand end of the shaft is curved about to terminate in a lower handle member **15**.

The foregoing construction is entirely conventional, the end members **12** and **13** being rotatable on the shaft **11** such that any roller structure supported by the end pieces **12** and **13** and bowed springs **14** will rotate about the shaft **11**.

Rather than a conventional painting roller, the present invention provides a wallpaper removing roller designated generally by the numeral **16** in FIGURE 1. As shown, this roller includes an elongated tubular member **17** supporting a plurality of circular discs **18, 19, 20, 21** and **22**. The peripheries of these discs are serrated to define a series of sharp points similar to saw teeth in a circular sawblade. Disposed between adjacent discs, is suitable sponge material such as indicated at **23**. The tube **17** includes openings **24** providing commuuication between the interior of the tube **17** and the sponge material.

With the roller structure **16** inserted over the supporting frame structure **12, 13** and **14** of the member **10** in FIGURE 1, the roller **16** will be rotatably mounted with respect to the shaft **11**.

With reference now to FIGURE 2 wherein the roller is shown in position, it will be evident that the end pieces **12** and **13** serve to close off the ends of the tubular member **17** so that the interior of the tubular member only has communication with the exterior through the openings **24** to the sponge material.

When the sponge material **23** is soaked in water, it expands somewhat such that it extends for a radial distance from the tubular member to an extent at least even with the ends of the sharp points or teeth of the discs, such as the points **18***a* and **19***a* for the discs **18** and **19**. The discs themselves as illustrated in FIGURE 2, have central openings for receiving the tubular member and are rigidly secured as at **18***b* and **19***b* to the periphery of the tubular member.

With the foregoing description of the structural details of the roller in mind, its operation will now be described. After the roller **16** has been inserted on the frame structure **10**, it may simply be dipped into a pail of hot water.

The sponge material **23** will absorb the water and if the roller is immersed long enough, the interior of the elongated tubular member **17** will also be filled with water, the water seeping through the openings **24** to fill the interior.

After the sponge material and the interior of the tubular member are filled with water, the roller is then simply rolled along the wallpaper surface in the same manner as when a surface is painted by a conventional paint roller. The sharp points on the peripheries of each of the discs will form parallel lines of small perforations into the wallpaper and, simultaneously, the sponge material **23** between the discs will urge the hot water against the paper surface to soak the same and also through the perforations to soak the underside of the paper.

It is found that by means of the foregoing operation, it is thereafter a very simple matter to remove the paper, the paper oftentimes simply peeling off of the wall as a consequence of the soaking of the underside of the paper through the small perforations by the hot water from the sponge material.

From the foregoing description, it will thus be evident that the present invention has provided a very simple and effective roller tool to facilitate the removal of wallpaper. The perforating of the paper and the soaking of the surface and underside thereof is carried on substantially simultaneously by means of the single roller construction. The roller itself may be used with conventional paint roller supports as described and thus may be sold as a separate unit for use with such frame structures normally already in the possession of a worker.

The term sponge material, as used herein for the material **23** is deemed to cover poly-urethane, rubber, or other equivalent material capable of holding a liquid solution. Further, it will be understood that conventional O-rings or other proper sealing means may be provided in the ends of the tube **17** to provide a water tight seal with the ends **12** and **13** of the roller frame in the event the material of the tube itself is insufficient to effect a seal when the frame is inserted in the tube **17**. Also, it will be understood that the water into which the sponge material is dipped may include detergents, wetting agents, and other known additives.

Such modifications would be clear to those skilled in the art and are deemed to fall within the scope and spirit of this invention. The wallpaper removing roller is therefore not to be thought of as limited to the exact construction set forth merely for illustrative purposes.

I claim:

1. A wallpaper removing roller for simultaneously perforating wallpaper and forcing liquid through the perforations and behind the wallpaper, comprising:

(a) an elongated tube dimensioned to fit over and be supported by a rotatably mounted frame structure, the tube including a plurality of openings through its periphery;

(b) a plurality of discs having sharp points along their peripheries, the discs having central openings receivable over the tube and fixed at locations along the tube axis so that the planes of adjacent discs are parallel to each other and normal to the tube axis; and

(c) sponge material surrounding the tube at locations between adjacent discs, the tube openings being arranged to provide communication between the tube interior and sponge material which is dimensioned so that when sufficiently wetted it expands radially outwardly from the tube to a location at least flush with the disc sharp points,

whereby the roller may be dipped into hot liquid to fill the tube interior and sponge material with liquid so that the discs may then be rolled to tear perforations in the wallpaper as liquid from the sponge material is forced to enter the perforations in order to facilitate removal of the wallpaper from its mounting surface.

References Cited

UNITED STATES PATENTS

1,070,241	8/1913	Fischer et al.	156—344
1,518,320	12/1924	Gates	401—208 X
2,435,349	2/1948	Hall	30—365
2,471,763	5/1949	Merrick	30—365
2,824,326	2/1958	Ames	401—208 X
3,336,625	8/1967	Carlee	401—197

FOREIGN PATENTS

490,174	8/1938	Great Britain.

BILLY J. WILLHITE, *Primary Examiner.*

U.S. Cl. X.R.

29—125; 401—23, 197; 156—344; 30—365