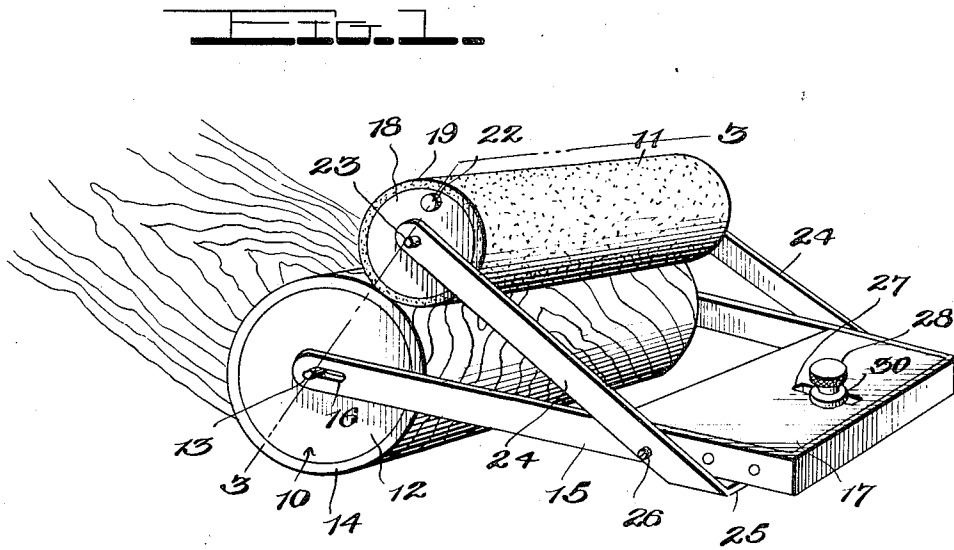
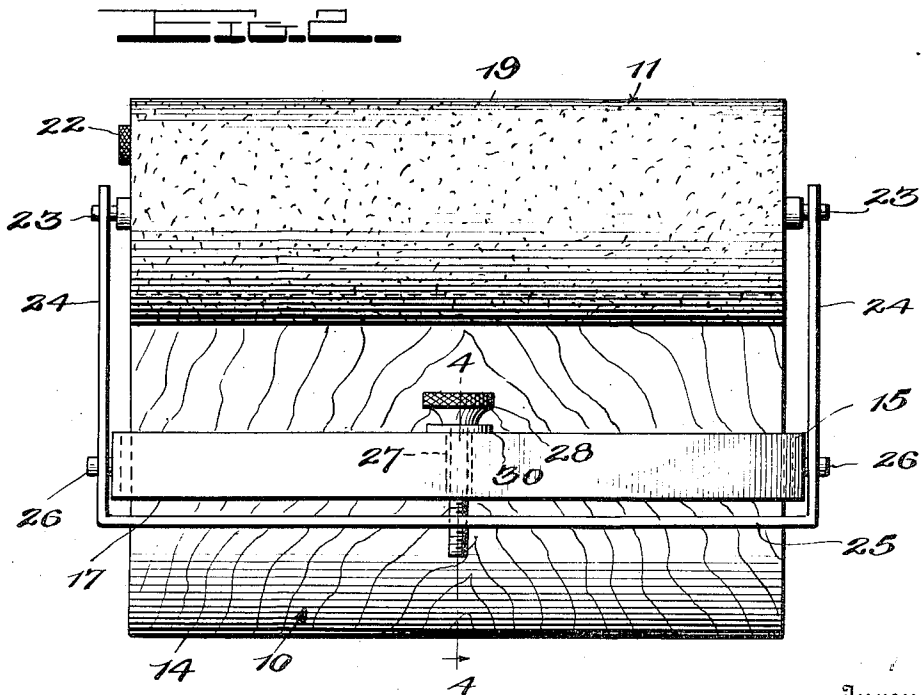


F. W. KUEHN.
 APPARATUS FOR GRAINING AND THE LIKE.
 APPLICATION FILED MAY 19, 1915.

1,173,523.

Patented Feb. 29, 1916.

2 SHEETS—SHEET 1.



Inventor
Frederick W. Kuehn,

By *August. Lushman Rea*

Attorney

1,173,523.

2 SHEETS—SHEET 2.

By Supervisor, Construction Dept

Attorney

UNITED STATES PATENT OFFICE.

FREDERICH W. KUEHN, OF ST. LOUIS, MISSOURI.

APPARATUS FOR GRAINING AND THE LIKE.

1,173,523.

Specification of Letters Patent.

Patented Feb. 29, 1916.

Application filed May 19, 1915. Serial No. 29,167.

To all whom it may concern:

Be it known that I, FREDERICH W. KUEHN, a citizen of the United States, residing at St. Louis, State of Missouri, have invented new and useful Improvements in Apparatus for Graining and the like, of which the following is a specification.

This invention relates to an apparatus for graining, ornamentation, fresco-relief work and the like, and relates more particularly to that type of apparatus having a relief or distributing roll and a paint-carrying roll in contact with the relief-roll.

The objects of my invention are to provide a device for graining and the like, whereby the graining, etc., may be expeditiously effected and the paint or other coloring fluid applied to the surface treated in a uniform and ready manner; to provide a device with improved means for holding the rolls in frictional and yielding contact with one another, and whereby the rolls may be readily adjusted relative to one another, so that wearing down of the rolls is provided for, and the depth of color may be easily varied; to provide a device with an improved paint-carrying roll wherein the paint carried by the roll has ready access to the absorbent covering and whereby the covering throughout its entire surface may be uniformly supplied with the paint or other coloring fluid; to obviate the stoppage or choking of the apertures or perforations in the paint-carrying roll; and, to provide a paint-carrying roll on which the absorbent covering may be easily and readily adjusted or removed.

The above and other objects of my invention are accomplished by the structure set forth in the accompanying drawings, in which—

Figure 1 is a perspective view of my improved apparatus or device. Fig. 2 is an end view of the same. Fig. 3 is a sectional view taken on line 3—3 of Fig. 1. Fig. 4 is a detail sectional view taken on the line 4—4 of Fig. 2. Fig. 5 is a sectional view taken on line 5—5 of Fig. 4.

My device consists substantially, in a distributing or pattern relief-roll 10, a paint-carrying or feed roll 11, a frame for each of said rolls, and means for adjusting the frictional contact between the peripheries of the rolls 10 and 11.

The distributing roll 10 comprises a hollow cylinder 12 of sheet metal, preferably

tin, and has a shaft 13 passing therethrough, the shaft protruding beyond the ends of the cylinder to form suitable trunnions. About the perimeter of the cylinder 12 is a covering 14 preferably of rubber or other suitable soft and elastic material. Upon the exterior surface of the covering 14 is a suitable pattern in relief, the particular form of pattern varying according to the desired use.

The distributing roll 10 is mounted in a frame 15, preferably formed of metal, and which is substantially U-shape in form, and the side pieces of which are provided adjacent their ends with elongated slots 16 which receive the trunnions of the shaft 13. At the closed end of the U-shaped frame 15 is an oblong member or handle 17, which is adapted to be grasped in the hand to manipulate the device.

The feed or paint-carrying roll 11 comprises a hollow cylinder 18, formed preferably of tin or other suitable metal, and a covering 19 about the perimeter of the cylinder 18. The covering is preferably formed of felt, although it may be composed of any suitable absorbent material.

The feed cylinder or body 18 is provided upon its perimeter with indentations or corrugations, this being accomplished preferably by means of a screw-thread 20, which passes spirally from one end of the cylinder to the other. In the bottom of the spiral groove formed by the screw-thread 20 is a series of apertures or perforations 21 which permit the paint within the cylinder 18 to flow to the outside of the same into contact with the felt or absorbent covering 19.

Various advantages are obtained by corrugating or providing the cylinder 18 with the screw-thread 20, one of these being that the covering 19 is held in spaced-apart relation from the apertures or perforations 21 and therefore the choking of the latter is prevented. It is, of course, evident that should a cylinder of uniform diameter be used the covering would rest over the apertures or perforations and prevent the ready flow of the paint therethrough, and, furthermore, due to the incrustation of the paint held in position in the perforations by the covering, the perforations would rapidly become choked.

Another advantage obtained by the use of my improved paint-carrying cylinder is that the paint passes through the perforations 21 and flows about the cylinder 18 in the

groove between the perimeter of the cylinder 18 and the inner surface of the covering 19 so that all portions of the covering 19 may be uniformly supplied with a proper amount of coloring fluid. It is, furthermore, evident, that should the old form of cylinder having a uniform diameter, be used, after the apparatus has been placed in use and allowed to rest, the paint would dry and form incrustations between the surfaces of the cylinder and the covering thereon which would render it difficult to remove the covering, especially in view of the extensive contact surface between the covering and the cylinder. By providing the cylinder 18 with the screw-thread 20 as shown, but a comparatively small portion of the surface of the covering 19 comes into contact with the wall or perimeter of the cylinder. The covering 19 will sag very slightly into the spiral groove formed by the screw-thread 20, (but without coming into contact with the bottom of the groove and the perforations 21) and, therefore, when it is desired to adjust or remove the absorbent covering, it is merely necessary to give a quick twist to the covering and then remove the same by revolving it about the cylinder similar to the manner of removing a nut from a bolt. The cylinder 18 is provided at one end with a screw-cap 22 whereby the paint may be introduced into the cylinder. The cylinder 18 has a shaft 23 passing therethrough which extends beyond the ends of the cylinder.

The paint-carrying roll 11 is mounted upon a frame constructed, preferably, of a strip of spring metal which is bent substantially into U-shape to provide a cross-strip 25 and side-pieces 24. The cross-strip 25 is adapted to extend transversely across and beneath the handle 17 with the side pieces 24 extending forwardly and upwardly on the outside of the frame 15. The side-pieces 24, at their forward ends, are provided with round bearings which receive the ends of the shaft 23 of the roll 11. The frame for the paint-carrying roll 11 is pivotally secured to the frame 15 of the distributing roll by means of pivot screws 26 which extend through the side-pieces 24 and into the frame 15 and the handle 17. When the parts are assembled, the peripheries of the rolls 10 and 11 contact and the outer ends of the frames for the rolls are thereby maintained in spaced-apart relation and the cross-strip 25 is spaced slightly below the under-surface of the handle 17.

The handle 17 is provided with an elongated slot 27 through which passes an adjusting screw 28 having a suitable finger-engaging top whereby the same may be easily manipulated. The lower end of the adjusting screw 28 also passes through a

threaded aperture 29 of the cross-strip 25 intermediate its ends. To prevent the screw 28 from passing through the slot 27 a washer 30 is provided. By the mechanism just described the perimeter of the feed or paint-carrying roll 11 may be caused to yieldingly and frictionally bear against the perimeter of the distributing roll 10 throughout the length of the rolls, so as to insure the supply of a uniform quantity of paint or other suitable coloring material carried by the cylinder 18 to be supplied to the parts of the pattern on the roll 10. Should it be desired to adjust the rolls 10 and 11 relatively to one another, it is merely necessary to manipulate or revolve the adjusting screw 28 so as to carry the cross-strip 25 to or from the handle 27, as desired. Should the surfaces of the rolls 10 and 11 become worn, or should it be desired to apply a thicker coat of paint on the article to be decorated, the screw 28 is turned so as to draw the cross-strip 25 toward the handle. It will be noted that as the frame for the paint-carrying roll is formed of resilient material, the cross-strip 25, will give or bend (as shown in dotted lines of Fig. 5) upon the proper manipulation of the adjusting screw 28, so that the roll 11 may bear yieldingly with the proper amount of force upon the roll 10. By providing this yielding means and locating the ends or trunnions of the shaft 13 of the distributing roll 10 in the elongated bearings or slots 16 in the ends of the frame 15, a proper amount of play is allowed for when rolling the apparatus over an uneven surface, and, therefore, the perimeters of the pair of rolls 10 and 11 are always maintained in correct contact with one another.

It will be observed that in the practical use of my device, the paint or other coloring matter within the cylinder 18 will be fed through the perforations therein and become absorbed by the covering of felt 19, and that as the two rolls are frictionally held in contact and revolve in unison, the paint will be supplied to the relief-covering on the distributing roll, and that when the latter is rolled over a surface, the pattern will be produced on the surface.

In the present embodiment, I have shown but one form of my device, but is it, of course, understood that various structural and mechanical changes may be made which would be within the spirit of my invention, and without departing from the scope of the following claims.

What I claim as new is:—

1. In a device as specified, a paint-carrying roll comprising a hollow cylinder having upon its periphery a winding groove provided with apertures and an absorbent cover for said cylinder.

2. In a device as specified, a paint-car-

rying roll comprising a cylinder, and a
covering for said cylinder, said cylinder
having its perimeter corrugated to provide
spaces beneath the inner surface of said
5 covering, said cylinder also having per-
forations in the grooves formed by said
corrugations whereby the paint within the
cylinder may readily flow into the spaces
beneath said covering, the corrugations of
10 said perimeter being in the form of a screw-

thread to permit the ready adjustment and
removal of said covering.

In testimony whereof I have hereunto set
my hand in presence of two subscribing
witnesses.

FREDERICH W. KUEHN.

Witnesses:

DANIEL M. SCANNELL,
MATHIAS HEIL.