

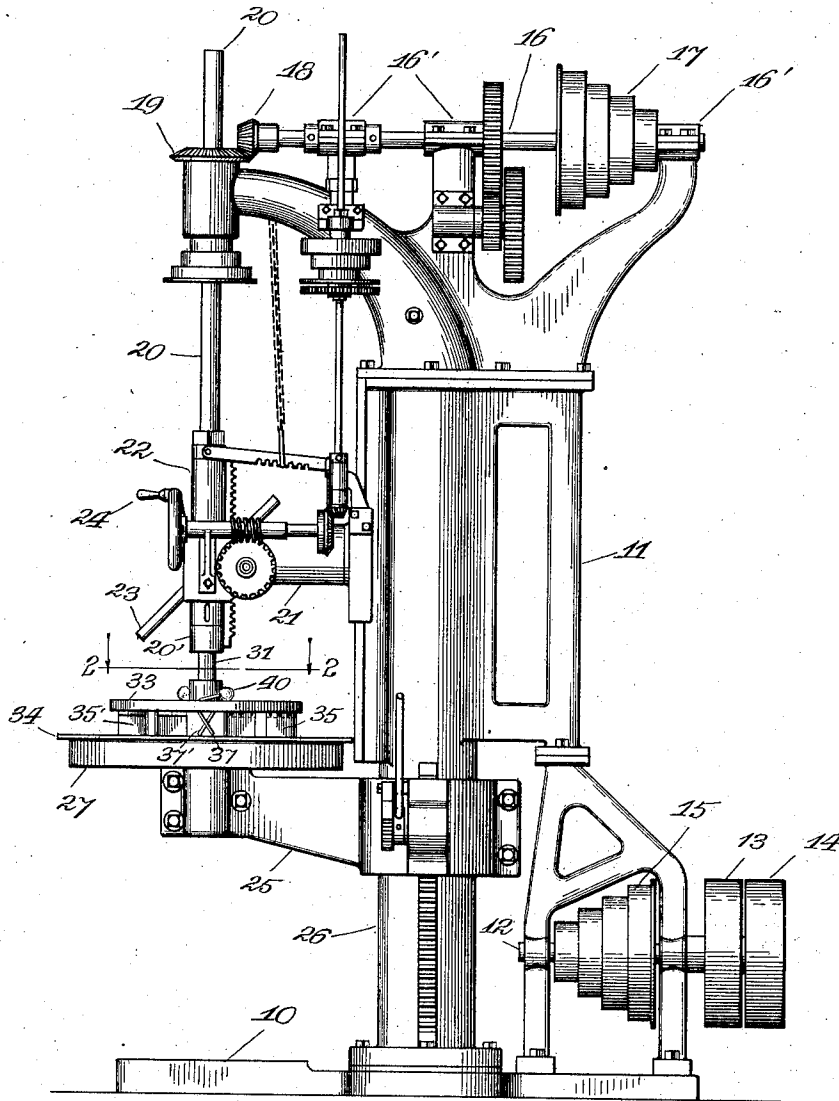
J. W. HASBURG.
PAINT MIXING APPARATUS.
APPLICATION FILED JUNE 15, 1911.

1,025,396.

Patented May 7, 1912.

2 SHEETS-SHEET 1.

Fig. 1.



Witnesses:
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2 SHEETS—SHEET 2.

Fig. 2.

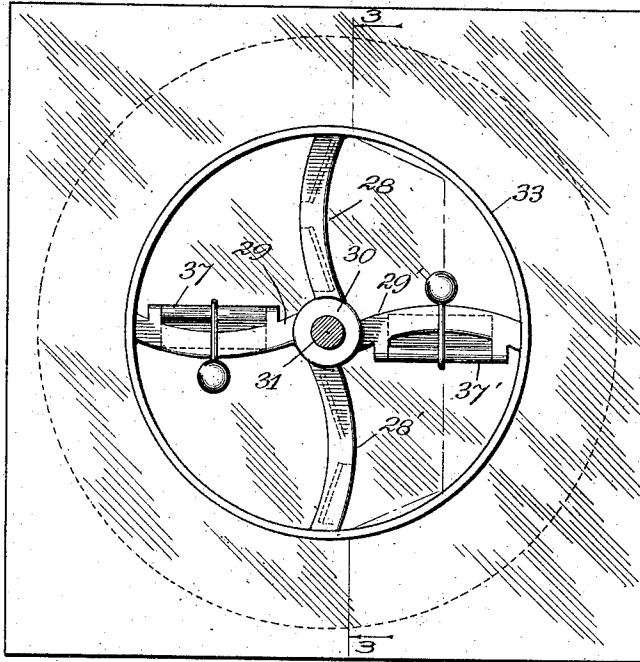


Fig. 3.

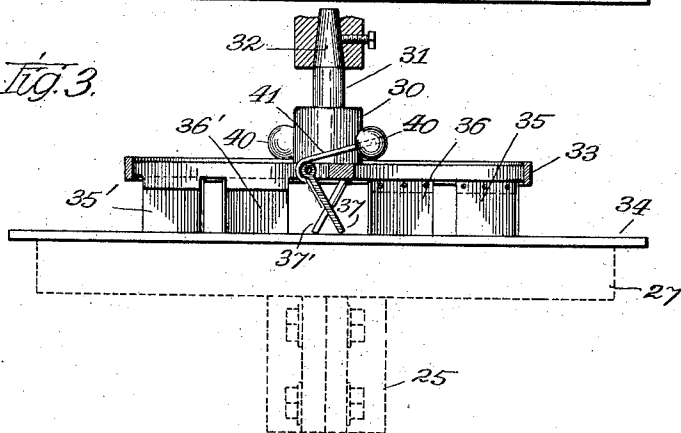
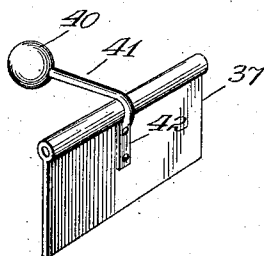


Fig. 4.



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UNITED STATES PATENT OFFICE.

JOHN WILLIAM HASBURG, OF CHICAGO, ILLINOIS.

PAINT-MIXING APPARATUS.

1,025,396.

Specification of Letters Patent.

Patented May 7, 1912.

Application filed June 15, 1911. Serial No. 633,271.

To all whom it may concern:

Be it known that I, JOHN WILLIAM HASBURG, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Paint-Mixing Apparatus, of which the following is a specification.

One of the objects of my invention is to provide a machine whereby the ingredients of a mass of plastic paint may be thoroughly and completely mixed and incorporated with a suitable vehicle by the automatic operation of a machine.

Another object of my invention is to provide a machine for mixing paints containing valuable ingredients and by the use of which a minimum quantity of such valuable ingredients is lost.

Other and further objects of my invention will readily become apparent to persons skilled in the art from a consideration of the description taken in conjunction with the drawing wherein;

Figure 1 is an elevation of my apparatus and a machine to which it is attached, and by which it is driven. Fig. 2 is a section taken on line 2—2 of Fig. 1. Fig. 3 is an enlarged elevation of the mixing apparatus. Fig. 4 is a detail of one of the plates of the mixing apparatus.

In all the views the same reference characters indicate similar parts.

I have shown my mixing apparatus associated with, and operable by, an ordinary drill press which contains a flat horizontal platen and a vertical, movable and rotatable spindle, as a machine admirably adapted for this purpose. The general construction and operation of the drill press is well known, I shall therefore not describe it specifically, referring only to the principal parts.

In the exemplification illustrated 10 is the base of the drill press machine provided with a vertically extending frame 11. Near the bottom of the vertical frame is a shaft 12 with driving pulleys 13 and 14, carrying a cone pulley 15 of four speeds. A counter-shaft 16 is supported in bearings near the top of the frame and carries a four speed cone pulley 17. The shaft 16 is adapted to be driven by the cone pulley 17, from the corresponding cone 15 of the shaft 12, by means of a belt, as usual in such a machine.

The shaft 16, is provided on its outer end with a beveled gear 18, which has driving associations with the beveled gear 19, rotatably connected with the vertically moving spindle 20.

Projecting from one side of the frame 11, is a bracket 21, which affords a bearing 22, for the vertically movable spindle 20. The bracket is adapted to be moved vertically on the frame 11 and to be fixed at any given point and the spindle, 20, is adapted to move vertically with reference, to the bracket 21 and the bearing 22. The handle 23 is the means by which the spindle 20 may be quickly raised or lowered, while the hand wheel 24 affords a means for more gradually moving the spindle and in smaller gradations. A larger bracket 25 projects laterally from the pillar 26 of the frame 11 and may be fixed at any position on the pillar. On its outer end it provides a socket for receiving a trunnion, not shown, projecting downwardly from the platen 27. The upper surface of the platen 27 is at right angles to the axis of the spindle 20. The end 20' of the spindle 20 may be vertically adjusted with reference to the upper surface of the platen.

My new mixing apparatus, adapted to be operated by the device heretofore described, consists of a four arm structure surrounded with a rim. Specifically the arms 28 and 28', 29 and 29' radiate from the central hub 30, which carries an upwardly-projecting trunnion 31, tapered at 32, for an engagement with the tapered socket of the drill press. For the purpose of strength and preventing contact with the arms when they are being rotated, I join the outside ends of the arms by an integral rim 33.

On the top of the platen 27, I rest a, preferably, glass pallet 34, or pallet of similar character providing an upper vitreous surface, upon which the paint is to be manipulated during the mixing operation.

Fixed to each of the arms 28 and 28' are two vertical plates 35 and 36, and 35' and 36' respectively. The plates are separated some distance near their approximate edges and are not radially placed but have their approximate edges set rearwardly from a true radial line so that the mass of material, with which the plates engage, is gradually moved toward the space, intervening be-

tween the plates, thereby to form a sort of a windrow or ridge concentric with the axis of rotation.

To the arms 29 and 29' are hinged respectively scraper plates 37 and 37'. The plates 37 and 37' are of such width, with respect to the width of the plates 25 and 26, that when the latter make contact with the pallet 34, the lower edges of the plate 37 and 37' are displaced from the vertical plane somewhat in the rear of the hinged edge. In order that the lower edge of the plate 37 and 37' shall bear with some degree of tension on the upper surface of the pallet 34, I provide a weight 40 and 40' one for each plate respectively, carried by an arm 41 secured to the front surface of the plate 37 as at 42. By this means the lower edge of the plate 37 is made to bear with some force upon the surface of the pallet and it is yieldingly held in contact therewith by the weights.

As the plates 35 and 36 pass over the plastic material, which is spread out on the pallet 34, it tends to form it into a concentric ridge, and when the plates, 37, and 37', pass over the material, that has been so formed, they flatten it out into a mass, the upper surface of which is substantially parallel with the upper surface of the pallet 34, thereby causing constant shifting of the material in a radial and rotatable direction upon the upper surface of the pallet 34 and producing intimate association of all of the particles of the component mass and affording a most efficient and thorough mixer.

When the mixing apparatus, is lifted from the pallet 34, for the purpose of removing the latter, the plates 37—37' never assume a perfectly vertical position, as the arms 41 engage the radial arms 29 and 29', before the plates could assume such positions and are therefore maintained at such an angle, and positioned properly and deflected in the right direction, as the spindle 20 is rotated, when the mixing apparatus is once more placed in contact with the upper surface of the pallet 34.

In the exemplification illustrated, I have shown four arms, in the mixing apparatus, but a larger or smaller number might be used, if desired, and I have performed very efficient work with a device of this character employing two opposite arms with the two types of scrapers heretofore described.

My mixing apparatus is especially desirable for mixing small quantities of gold paint that is used for ceramic decorations. The parts of the apparatus which are subject to come into contact with sticky, tenacious, plastic material such as gold paint, are smooth and even and may be readily cleansed of all such adhering material. As

this paint is very expensive this is an important feature. Ceramic gold paint is rather sticky in character and adheres with great tenacity to all surfaces with which it is brought into contact, there is therefore danger of loss of material unless the machine is of the character described in which smooth even surfaces adapted to be readily cleaned of all adhering material are employed in its construction.

As, heretofore stated, it is not essential that so elaborate a machine, as the drill press illustrated, is necessary for the purpose of rotating the mixing apparatus and vertically raising it from the platen. I have used this sort of a machine, in connection with my mixer, because it affords the necessary convenient means for operating the mixing device, but it is obvious that a cheaper and less elaborate machine may be employed for the purpose.

While I have herein described, with some particularity, a single embodiment of my invention, it is apparent that many changes may be made in its structure without departing from the spirit of the invention and within the scope of the appended claims.

What I claim is:

1. A paint mixing apparatus comprising a rotatable carrier, two substantially vertical, fixed, spaced apart, scraper plates on one side of the axis of the carrier, and having their lower edges in the same horizontal plane, and their approximate edges in a generally radial plane in the rear of the plane in which their remote, or front edges, are located, and a trailing plate, in a different radial plane, bridging the opening between said plates, and having its lower edge adapted and arranged to occupy the same horizontal plane.

2. A paint mixing apparatus comprising two substantial vertical, fixed, radially separated plates angularly arranged in a generally radial plane from the axis of rotation with their proximate edges in the rear of a radial line, a trailing plate bridging the opening between said angulated plates hinged to a rotatable frame and having its lower edge located behind its upper hinged edge, a yielding means for depressing the lower edge of said plate, a rotatable frame for supporting said plates, and a stop to prevent said hinged plates from assuming a vertical position.

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

JOHN WILLIAM HASBURG.

In the presence of—
W. LINN ALLEN,
MARY F. ALLEN.