

Aug. 31, 1926.

1,598,400

C. S. SIMMONDS
PAINT MIXING MACHINE
Filed March 14, 1925

Fig. 1

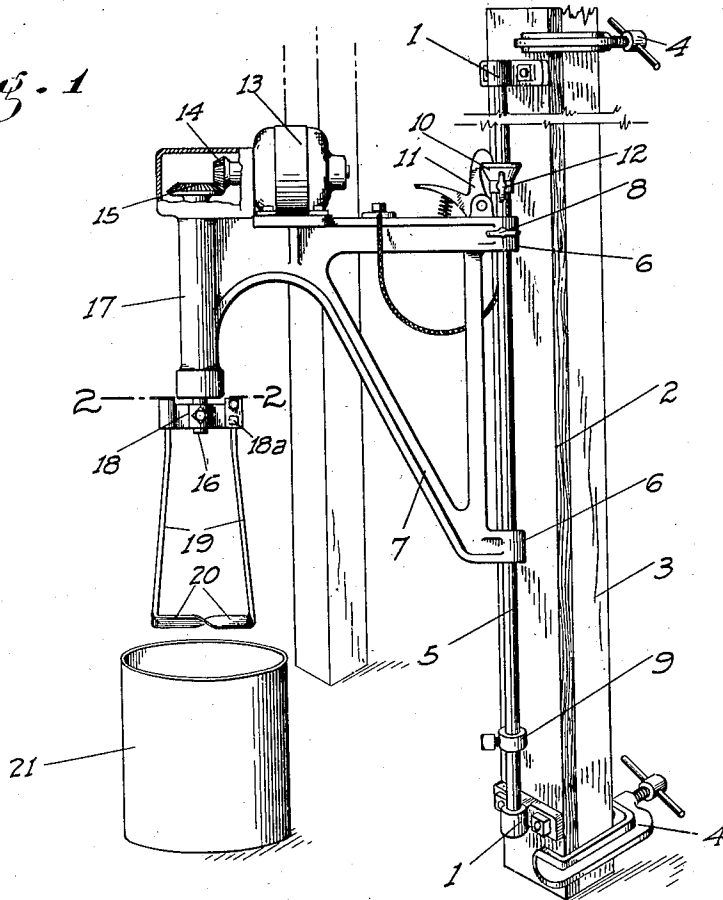


Fig. 2

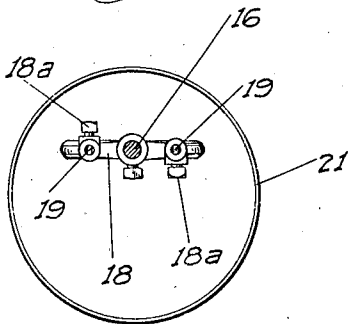
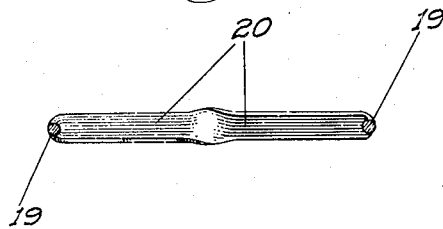


Fig. 3



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PAINT-MIXING MACHINE.

Application filed March 14, 1925. Serial No. 15,506.

This invention relates to improvements in devices for mixing liquids and paints, and particularly represents an improvement over the device shown in my co-pending application for patent, Serial No. 741,570 filed October 4th, 1924.

The principal objects of my present invention are to provide a device of this character arranged as a portable structure which may be readily transported to any desired point and easily set up at any suitable location; one in which the mixing element is of increased efficiency over what I previously provided and is more easily attached to or detached from the machine; and to make the device lighter and therefore more easy to handle, while at the same time keeping the same of a substantial nature such as will give long service without deterioration.

These objects I accomplish by means of such structure and relative arrangement of parts as will fully appear by a perusal of the following specification and claims.

In the drawings similar characters of reference indicate corresponding parts in the several views:

Fig. 1 is a side elevation of the mixer showing the same as supported in connection with a fixed post.

Fig. 2 is a cross section on the line 2—2 looking down showing the most efficient position of the mixing element, with respect to the can in which the paint is to be mixed.

Fig. 3 is a top plan view enlarged of the mixing blade.

Referring now more particularly to the characters of reference on the drawings, the numeral 1 denotes a pair of vertically spaced brackets rigidly fixed at the upper and lower ends of a plank 2 or the like. This plank is adapted to abut against a door casing or a pillar or post of a building, as at 3, and to be detachably secured thereto by means of the common form of C-clamp, as shown at 4.

Fixed in and extending between the brackets 1 is a circular rod or post 5 such as a pipe or the like on which are turnably and slidably mounted the vertically spaced bosses 6 of a substantially triangular and rigid frame 7 of suitable design. One or both of the bosses 6 is provided with a thumb screw 8 adapted to engage the rod 5 so as to hold the frame from turning on the shaft whenever desired.

To maintain the frame 7 at any predetermined level relative to the post 5 I mount a vertically adjustable collar 9 on the latter against which the under face of the lower boss 6 may bear.

To hold the frame and parts attached thereto against downward movement independently of the collar 9 and a predetermined distance above the same, I provide a catch collar 10 on the post above the frame 6, said collar being adapted to be engaged by a spring pressed pawl 11 mounted on the frame and disengageable therefrom by the operator at will.

When the frame is thus supported from the collar 10 it may be swung around in one direction or the other to any desired extent, since the collar is continuous on the post 5 and consequently the pawl 11 will maintain its engagement therewith irrespective of its rotation.

The collar 10 is also vertically adjustable on the post and is provided with a thumb screw 12 to enable it to be set at any height desired. In this manner the collars 10 and 9, which represent the limits of movement of the frame at any given time being independently adjustable, the distance which the frame may move up and down and the location of the frame relative to a distance from the floor may be altered easily and at any time to suit different conditions of operation.

Mounted on the top of the frame is an electric motor 13 having a bevel pinion 14 on its shaft which engages a bevel gear 15. This gear 15 is fixed on a vertical spindle 16 which is turnably mounted in a bearing sleeve 17 formed integral with the frame 7 at the outer end thereof.

Fixed on the lower end of the spindle 16 is a cross head 18 having diametrically opposed vertical orifices therethrough to receive the upper ends of the arms 19 of the mixing element.

This mixing element, includes with the arms 19 a member 20 extending there-across at the lower ends thereof. This member is flat and bent in opposite directions intermediate its ends, as shown in Figs. 1 and 3 so as to form two oppositely disposed impeller plates. This construction enables a very efficient mixing of the paint to be had when the impeller is lowered into the same and rotated, since the opposed plates impart an agitating movement to the paint

which would not otherwise be had. The arms 19 of the mixer are removably attached to the cross head 18 by set screws 18^a, so that in the event that a mixing element of a different length or width is desired, it may be readily mounted in place of the original one.

In operation the collar 10 is initially set so that when the pawl 11 is engaged therewith the lower cross arm 20 of the mixing element will be above the level of the can 21 in which the mixing is to be done. The lower collar 9 is adjusted so that when the lower boss 6 is resting thereon the said mixing element 20 is clear of the bottom of the can a suitable distance. While the material to be mixed is being supplied to the can the frame 7 is swung to one side so as to be out of the way.

When the mixing operations are to be started the frame is swung around so that the mixing element is in central alinement with the can. The pawl 11 is then released and the frame 7 allowed to descend slowly, and the element 20 contacts with the material in the can. At the same time of course the motor 13 is being driven so that said element is rotating.

As the frame 7 is allowed to gradually descend, so that the element 20 likewise descends into the material, said frame is given a short swing from side to side for several times so as to cause the mixing element with such swinging movement to move from one side of the can to the other. When the element has reached the desired location in the can, at which time the boss 6 is resting on the collar 9, the frame 7 is set so that the mixing element is eccentrically located in the can, as shown in Fig. 2. This position is maintained as long as may be desired by tightening up the thumb screw 8.

I have found from experience that this position of the mixing element provides the most efficient mixing, since instead of merely churning the material around and throwing it centrifugally its eccentric location in the can causes the material to move to be

thrown in a circular path which is intersected by the revolving mixing element. All the material therefore sooner or later is thrown into direct contact with said element with the result that the materials are very thoroughly, efficiently and quickly mixed together.

Owing to the extreme lightness of the frame and parts connected thereto, which together do not weigh over 35 pounds, it will be evident that it does not take any great physical strength to manipulate the frame, as above stated.

From the foregoing description it will be readily seen that I have produced such a device as substantially fulfills the objects of the invention as set forth herein.

While this specification sets forth in detail the present and preferred construction of the device, still in practice such deviations from such detail may be resorted to as do not form a departure from the spirit of the invention, as defined by the appended claims.

Having thus described my invention what I claim as new and useful and desire to secure by Letters Patent is:

1. A paint mixer including a vertical post, a frame for carrying a mixing element slidably and turnable mounted on the post, adjustable means on the post for limiting the downward movement of the frame, an independent member on the post above the frame and vertically adjustable thereon, and a pawl on the frame engageable with the said member and releasable therefrom at will.

2. A paint mixer including a vertical post, a member extending parallel to the post, and arranged to be secured in a vertical position, bracket means between the post and said member adjacent the ends of the former, and arranged to maintain the post in spaced relation to said member, and a frame for carrying a mixing element mounted on the post and movable thereon between the brackets.

In testimony whereof I affix my signature.
CLYDE S. SIMMONDS.