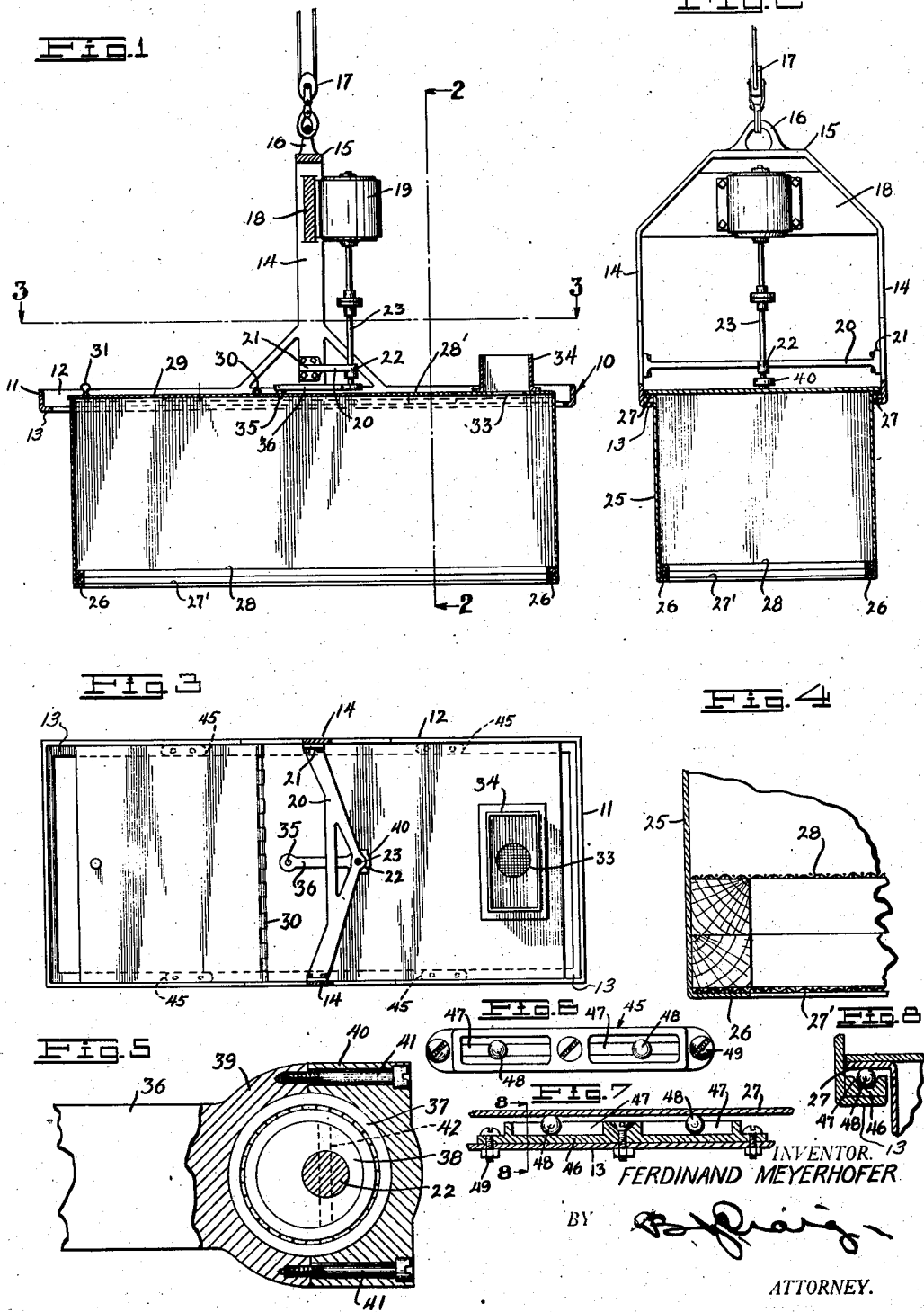


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MECHANICAL STRAINER
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UNITED STATES PATENT OFFICE.

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MECHANICAL STRAINER

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This invention relates to mechanical strainers.

The general object of the invention is to provide an improved mechanical strainer which is particularly adapted for straining paint and similar products.

A specific object of the invention is to provide a mechanical strainer including a fixed member and a movable member and wherein novel means is provided for moving the movable member.

Other objects of the invention will be apparent from the following description taken in connection with the accompanying drawings wherein:

Fig. 1 is a central sectional view through a mechanical strainer embodying the features of my invention:

Fig. 2 is a section on line 2—2, Fig. 1.

Fig. 3 is a section on line 3—3, Fig. 1.

Fig. 4 is a fragmentary section showing the strainer element,

Fig. 5 is a section partly in elevation showing the eccentric mounting,

Fig. 6 is a top plan view of the supporting member,

Fig. 7 is a longitudinal section of the supporting member, and

Fig. 8 is a section on line 8—8, Fig. 7.

Referring to the drawing by reference characters, I have shown a frame embodying the features of my invention at 10. This frame preferably comprises a rectangular member, L-shaped in cross section and comprising end portions 11 and side portions 12. The side portions 12 have flanges 13 thereon and upright members 14 at each side thereof. These members 14 are joined by an upper member 15 which includes an eye 16 to which a lifting device 17 may be attached.

The members 14 are connected by a plate 18 on which a motor 19 is mounted. The members 14 near their lower extremities are connected by a cross member 20 which has a bracket 21 thereon. This bracket may include a bearing 22 for the armature shaft 23 of the motor.

Mounted upon the lower portions of the members 10 I show a hollow receptacle 25. This receptacle has inturned bottom flanges 26 on which removable screens 27 and 28 of different mesh may be arranged. The receptacle 25 is shorter than the frame 10 so that the flanges 27 on the receptacle may slide along the flanges on the frame on

supporting members to be later described. The receptacle has no bottom but has a top 28' which is fixed thereon and which includes a door 29 at one end mounted on a pintle or other hinge member 30. The door has a handle member 31. This door 29 serves to enable the screens 27' and 28 to be removed and inserted as desired. The fixed top is shown as provided with an aperture 33 and with a tray 34 about this aperture. The paint or other products is preferably poured into the tray whence it passes through the aperture 33. The top of the receptacle 25 has a pin 35 thereon which engages a pitman 36. This pitman 36 has a bearing 37 thereon which engages a cylindrical collar 38 which is eccentrically mounted on the armature shaft 22 as shown in Fig. 5. I preferably make the pitman 36 of two parts 39 and 40 which are secured together by removable fastening members 41 as shown. When the motor is operating, the shaft 22 will rotate and will rotate the cylindrical collar 38 which is pinned to the shaft by means of a pin 42, thereby causing a reciprocation of the pitman 36 and a consequent backward and forward travel of the receptacle 25.

I preferably use a motor having a speed of say 1400 revolutions per minute and the resultant extremely rapid movement of the screen together with the short travel thereof causes the paint or other particles engaging the screen to be sheared by brushing against the screen so that not only a straining action but also a mixing action is present.

My strainer may be readily shifted about by operating the lifting member 17 so that the same strainer may be used at a number of stations in a factory.

In Figs. 6, 7 and 8 I show the supporting members which are preferably inserted between the flanges 27 on the receptacle, and the flanges 13 on the frame. These supporting members, indicated generally at 45, comprise a body 46 having a cavity 47 in the upper faces in which anti-friction members such as balls 48 are provided. The supporting members 45 may be held in place by fastening members such as bolts 49. I now prefer to use four of the supporting members though their particular arrangement and construction may be varied.

Having thus described my invention, I claim:

1. In a portable mechanical strainer, a

frame, a motor rigid with respect to said frame work, a strainer slidably mounted on said frame work and eccentric means connecting said motor and said strainer to rapidly reciprocate said strainer.

2. In a portable mechanical strainer, a frame work, means to raise and lower said frame work, a motor rigid with respect to said frame work, a strainer slidably mounted on said frame work and eccentric means connecting said motor and said strainer to rapidly reciprocate said strainer.

3. In a mechanical strainer, a frame having a receptacle slidable therein, a motor adjacent said frame, said motor having an armature shaft, an eccentric on said armature shaft, a pitman engaging said eccentric, said pitman being secured to said receptacle to move the same.

4. In a mechanical strainer, a frame, a yoke carried by said frame, supporting means engaging said yoke, a motor on said frame, a strainer member movable on said frame, and means operated by said motor for reciprocating said strainer.

5. In a mechanical strainer, a frame, means to support said frame, a motor on said frame, said motor having an armature shaft, a strainer member movable on said frame, a pin on said member, a pitman engaging said pin, a bearing carried by said pitman, and means to eccentrically connect said shaft to said bearing.

6. In a mechanical strainer a hollow rectangular frame having flanges thereon, a yoke carried by said frame, a web on said yoke, a motor mounted on said web, said motor having an armature shaft, a strainer member having removable strainer elements therein, a cover on said member, a pin mounted on said cover, a pitman engaging said pin, a bearing carried by said pitman, a collar mounted on said bearing to rotate therein, said armature shaft passing through said collar and being eccentrically arranged with respect to the axis thereof, said shaft being pinned to said collar.

In testimony whereof, I hereunto affix my signature.

FERDINAND MEYERHOFER.