F. W. STEINER.

MACHINE FOR WASHING PRINTERS' FURNITURE.

APPLICATION FILED DEC. 3, 1914.

1,156,563.

Patented Oct. 12, 1915.

3 SHEETS—SHEET 1.

Fig. 4.

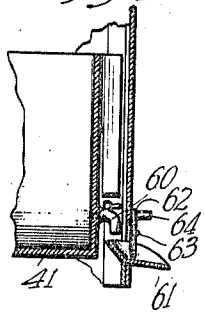
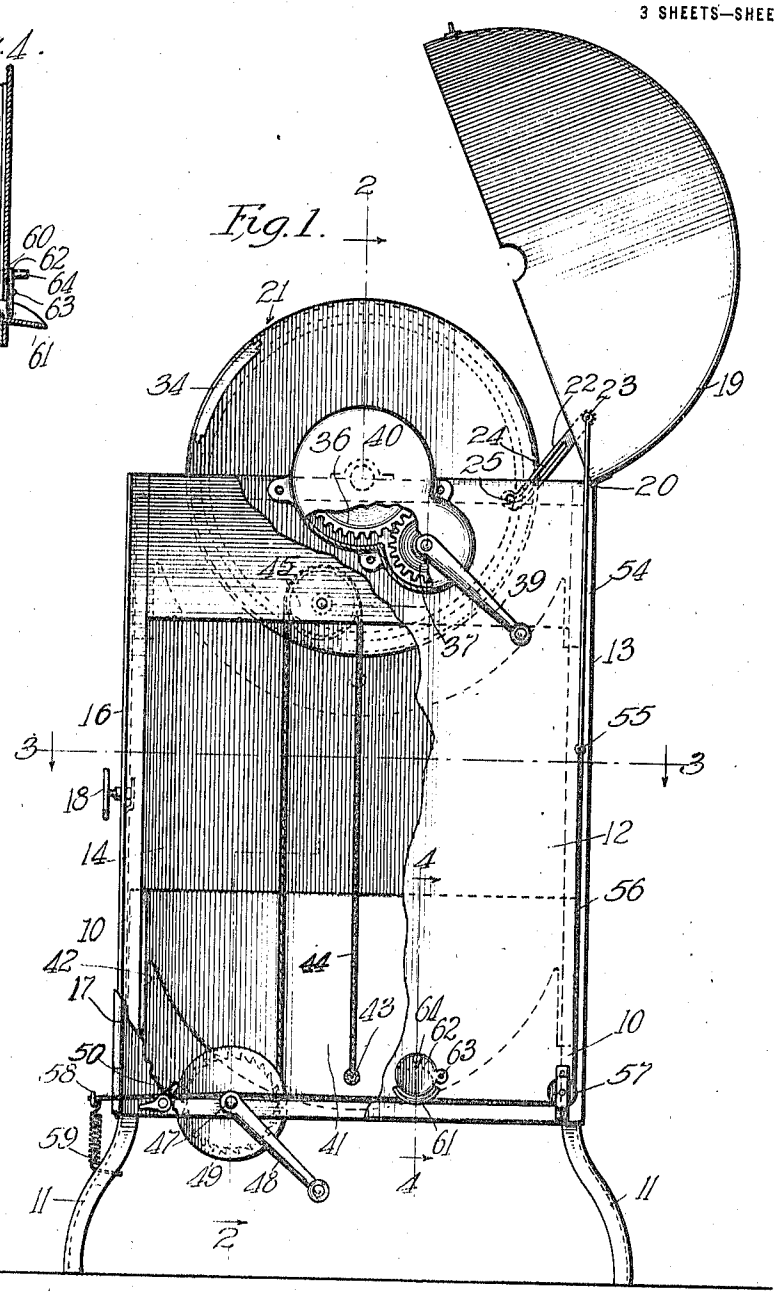


Fig. 1.



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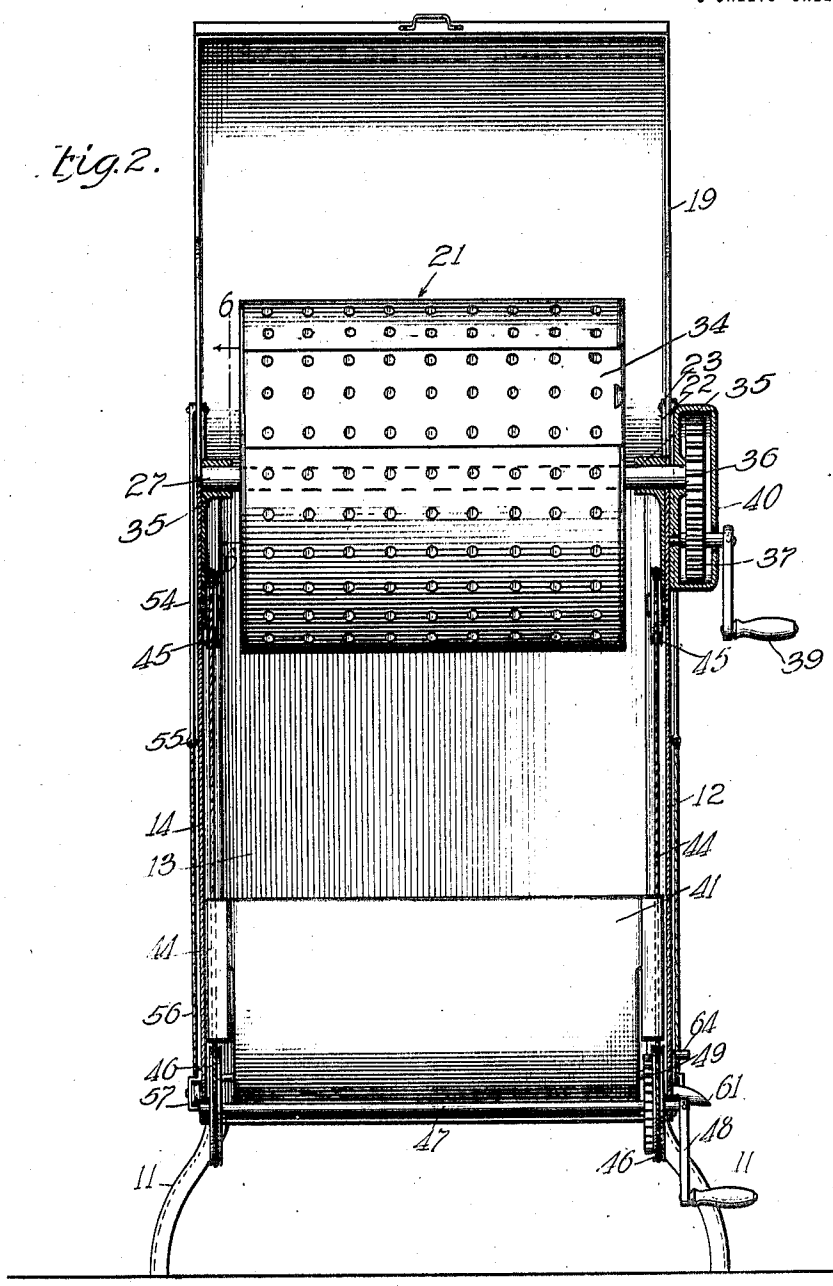
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3 SHEETS—SHEET 2.

Fig. 2.



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3 SHEETS—SHEET 3.

Fig. 5.

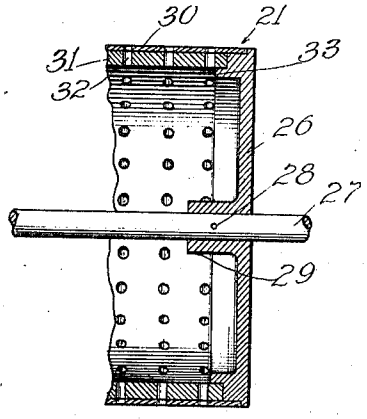


Fig. 3.

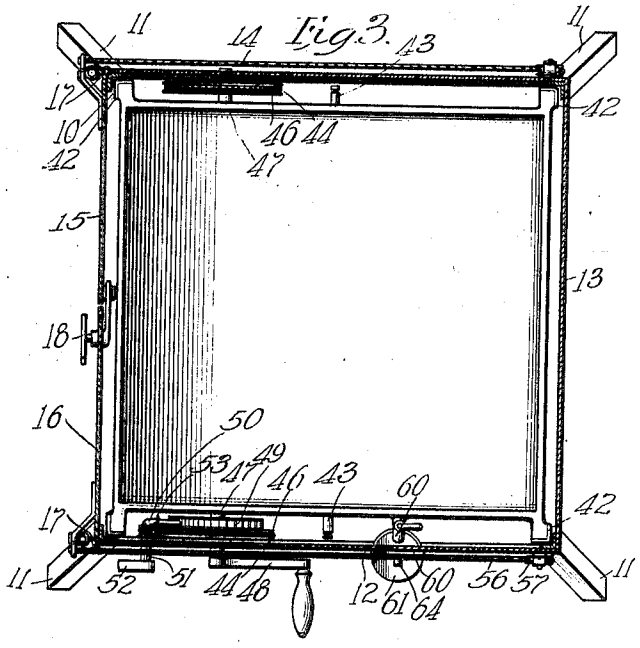
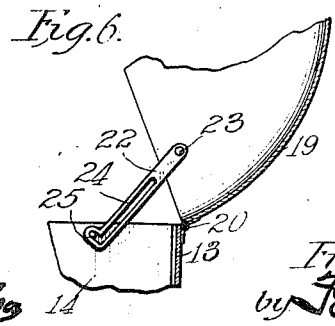


Fig. 6.



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UNITED STATES PATENT OFFICE.

FREDERICK W. STEINER, OF CHICAGO, ILLINOIS.

MACHINE FOR WASHING PRINTERS' FURNITURE.

1,156,563. Specification of Letters Patent. Patented Oct. 12, 1915.

Application filed December 3, 1914. Serial No. 875,281.

To all whom it may concern:

Be it known that I, FREDERICK W. STEINER, 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 Machines for Washing Printers' Furniture, of which the following is a specification.

My invention relates to improvements in machines for washing printer's-furniture.

One of the objects of my invention is to provide a machine that will thoroughly and quickly wash printer's furniture, such as slugs, rules, etc., and which will provide a substantially gas tight closure for the very volatile detergent used to cleanse the articles, such as benzin, gasolene or the like, thereby to reduce the danger of ignition and explosion.

Another object of my invention is generally to improve machines of this character, to cheapen the cost of production; to render them self-draining and to simplify their construction.

Other and further objects of my invention will be readily understood from the following description when taken in conjunction with the drawings, wherein—

Figure 1 is a side elevation of the machine with the top raised and the cylinder in position to be opened, to admit the material to be cleansed. Fig. 2 is a central, vertical section, taken on line 2—2 of Fig. 1. Fig. 3 is a transverse section taken on line 3—3 of Fig. 1. Fig. 4 is a section taken on line 4—4 of Fig. 1. Fig. 5 is an axial section of a fragment of the drum. Fig. 6 is a sectional detail portion of the body part, and a portion of the top, showing means for holding the top open.

In all the views the same reference characters are employed to indicate similar parts.

The main body part of the structure is composed of four substantially vertically disposed angle irons 10, deflected near their bottom, as at 11, to provide feet and having attached to their sides three fixed preferably sheet metal side walls 12, 13 and 14. Secured to the open side of the structure are two swinging doors 15 and 16 hinged, as at 17, and provided with a latch 18 to hold the doors together when they are closed. A semi-cylindrical top 19, is hinged to the side wall 13, as at 20, and when down in position it overlies the upper portion of the rotatable drum 21.

A slotted bar 22 is pivoted to the top, as at 23, and is provided with a slot 24, which includes the pin 25 that projects inwardly from the wall 12 of the structure. The bar 24 and the slot are curved laterally near the bottom end, as shown in Fig. 1, so as to engage the pin 25 for retaining the top 19 in raised position.

The drum 21 is provided with two heads 26, which are substantial duplicates, and which are securely mounted on the shaft 27, as by means of pins 28—28. Each head is provided with an inwardly projecting hub 29, for engagement with the shaft. A circumferential wall 30 is secured to the outer periphery of each of the heads 26, and a wood lining 31, is perforated with holes 32 that register with similar holes in the sheet metal wall 30. The wood lining is placed in the circumferential groove, between the wall 30 and the inner annular flange 33 projecting from the head 26.

A door 34 is adapted to be slid outwardly from the drum to provide an opening for admission of material within the drum. When the drum is in the position shown in Fig. 1 with the top 10 raised the door 34 may be moved laterally without interference of any of the other portions of the structure.

Bearings 35 are provided in the vertical walls of the body portion of the structure for the ends of the shaft 27 and one end of the shaft 27 is fitted with a geared pinion 36 which meshes with the gear wheel 37 that is rotated by means of a handle 39 to rotate the drum. A protecting housing 40 covers this train of gearing.

A semi-cylindrical tray 41, is normally in the bottom of the body portion of the structure, and when lifted it is adapted to receive the lower portion of the drum 21. Each corner of the tray is provided with a guide comprising a short piece of angle iron 42, adapted to slide within the corner angle irons 10 when the tray is being lifted. Projecting laterally from each side of the tray are studs 43 to which lifting cables 44, on each side of the tray are connected. The

cables pass over grooved pulleys 45—45 secured to the side walls 12 and 14 respectively, of the structure. The other end of each of the cables is connected to somewhat larger pulleys 46—46 that are secured to a transversely extending shaft 47, that is adapted to be rotated by a crank arm 48. A ratchet wheel 49 is carried by the shaft and is controlled by a pawl 50. The pawl is secured to a laterally extending pivotal shaft 51 that extends outside of the casing and is provided with a handle 52, by means of which the pawl may be lifted from the ratchet wheel. A spring 53 normally holds the pawl in engagement with the ratchet wheel. When the handle 48 is turned, in clockwise direction, the cables 44 are wound upon the drums 46—46 and the tray 41 is raised until the detergent, contained therein, passes through the perforations 32 made in the cylindrical walls of the drum, the ratchet wheel and pawl hold the tray in elevated position. Now when the handle 39 is rotated the drum 21 is rotated within the tray 41 and the articles contained in the drum are thus moved in the liquid detergent and thus the cleansing operation is performed. After the drum 21 has been rotated sufficiently to cleanse the articles the tray 41 may be lowered by pressing upon the handle 52, controlling the pawl 53 so as to release the ratchet wheel 49, when the handle 48 may be turned to the left and permit the tray 41 to descend to its lowermost position. After this has been done the articles contained within the drum 21 will drain and the surplus fluid will fall back into the tray 41.

It is very essential that the doors 15 and 16, of the casing be closed and that the top 19 shall be down to close the open end of the casing, when the drum 21 is being revolved in the detergent contained in the tray 41, and for this purpose I provide an automatic means for closing the door by the movement of the top 19. To this end I provide on each side of the top 19 a rod 54, which is pivotally connected to the point 53 of the top, which extends any convenient distance down the side walls of the casing, to the lower end 55 of which is connected a cable 56, that passes around a guide pulley 57 and is connected by its free end to a bracket 58 projecting from the respective door. A spring 59, which is connected to one of the legs 11 and to the bracket 58, normally holds the respective door in closed position. When the top is raised, the cables 56—56 are raised, which pulls upon the brackets 58—58 against the operation of the springs 59—59 and causes the doors to open. When the top is lowered the springs 59—59 will be free to operate the respective doors and therefore the doors will thereby be closed; by the effect of the springs the drum 21 will be included in a perfectly gas tight inclosure, when the top is lowered, while the gas is evolved by agitation of the detergent during the process of washing.

To drain the tray of the detergent that is no longer useful I provide a stop cock 60, fixed to the lower part of the tray and a lip 61, that extends through the casing 12 and under the stop cock so that when the cock is opened the fluid from the interior of the tray will be received by the lip 61 from which it may flow into a proper receptacle. To close the opening in the lip 61, I provide a shutter, or door 62, pivoted as at 63, and provided with a lifting knob 64. When the device is not in operation the volatile detergent is protected from danger of fire and loss by evaporation.

I have described a specific structure to disclose my invention but it must be understood that departure from such embodiment may be made in the configuration and disposition of the parts within the scope of the appended claims.

Having described my invention, what I claim is:—

1. A machine of the character described comprising a perforate drum; a closed casing structure, upon which the drum is mounted; a semi-cylindrical tray for containing a detergent mounted within said structure below the drum and means for relatively moving said tray and drum to include the lower portion of the drum within the tray.

2. A machine of the class described comprising a three wall structure, open at one side; a door for closing said side opening; a cover for closing the open top end of the structure; a perforate drum, mounted in said open end; a tray for containing a detergent normally at the bottom end of said structure; means to raise the tray to encompass part of said drum and means, operable by said cover to close the side door.

3. A machine of the character described comprising a three wall structure, open at one side; two doors hinged on opposite sides of the opening for closing said opening; a cover for closing the open top end of the structure; a perforate drum mounted in said open end; a tray for containing a detergent normally at the bottom end of said structure; means to raise the tray to encompass part of said drum; means to hold the tray in elevated position; means operable by said cover to close the side doors when the cover is lowered and a spring to open the doors when the cover is raised.

4. In a machine of the character described, a drum comprising end disks and a circumferentially extending perforate sheet metal wall; a lining of softer material for said

wall having perforations registering with those of the sheet metal wall; a door for said drum comprising a portion of the wall of said structure slidable axially to open same; a shaft upon which said drum is adapted to be rotated and means to rotate said drum.

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

FREDERICK W. STEINER.

In the presence of—
FORÉE BAIN,
MARY F. ALLEN.