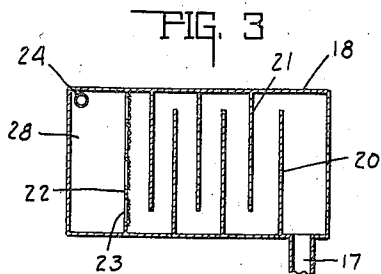
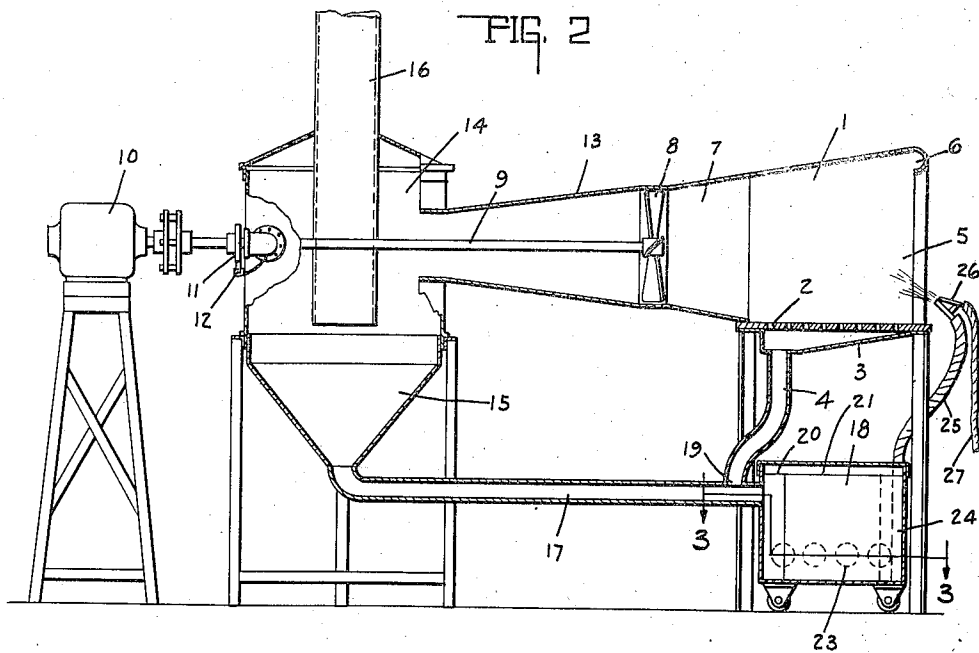
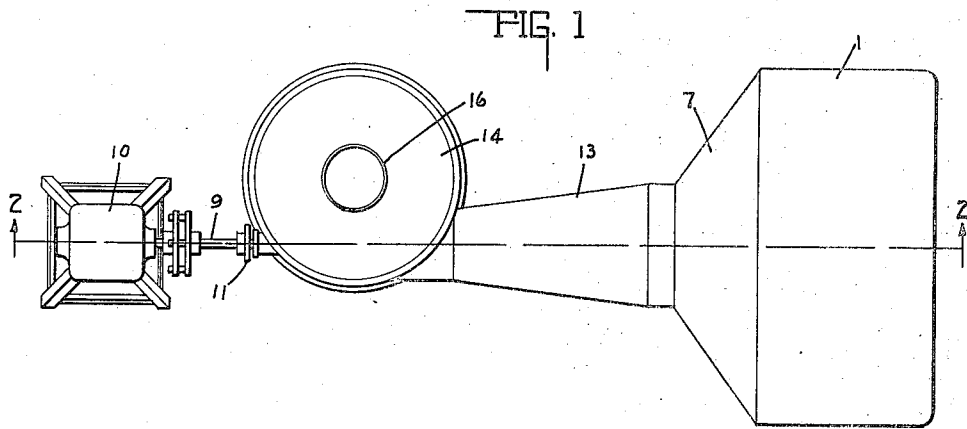


S. A. BLAIR.  
WASHING SYSTEM.  
APPLICATION FILED JAN. 20, 1920.

1,352,867.

Patented Sept. 14, 1920.



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# UNITED STATES PATENT OFFICE.

SHIRAS A. BLAIR, OF INDIANAPOLIS, INDIANA.

## WASHING SYSTEM.

1,352,867.

Specification of Letters Patent. Patented Sept. 14, 1920.

Application filed January 20, 1920. Serial No. 353,148.

*To all whom it may concern:*

Be it known that I, SHIRAS A. BLAIR, a citizen of the United States, residing at Indianapolis, in the county of Marion and State of Indiana, have invented certain new and useful Improvements in Washing Systems, of which the following is a specification.

This invention relates to washing systems, more especially to a system for washing metallic or other machine parts, it being among the objects of my invention to produce such a system and method which will allow of rapid, continuous and economical washing of parts, which does not require skilled operators, in which the cleansing liquid is continuously recleaned, and in which the operator is protected from injurious fumes or spray.

In carrying the objects of my invention into effect, I provide a chamber in which the parts are placed and one side of which is open to the air to allow the operator to spray the cleansing liquid, such as gasolene, kerosene, etc., and means are provided to prevent the spray from being thrown out through the opening upon the operator. I generally insert a fan whereby the spray and vapor generated are drawn away to a device which separates the liquid from the air and the liquid then passed through a cleansing process for removing all impurities. Preferably I operate the fan member by an electric motor to give steady operation and provide an anti-sparking device to prevent static electricity from igniting the cleansing liquid when an inflammable liquid is used. I usually provide a separating chamber of the "cyclone" type to cause the liquid to be deposited therein, whence it is then led to a baffle chamber in which it is caused to drop its contained dirt and grease and becomes purified for further use.

Referring to the accompanying drawings forming a part hereof and in which similar reference characters denote similar parts,

Figure 1, illustrates a plan view of my machine,

Fig. 2, a vertical longitudinal section thereof, some parts being shown in elevation, and

Fig. 3, a section on line 3—3 of Fig. 2.

The chamber 1, which is preferably rectangular in shape, is provided with a false perforated bottom 2 and a sloping bottom

3 thereunder, which leads to a drain pipe 4. The front of the chamber 1 has an opening 5 the sides 6 of which are bent around inwardly to form a pocket which catches the spray and prevents it from being thrown out upon the operator. In a restricted portion 7 of chamber 1 is placed a fan 8 carried by a shaft 9 and driven by motor 10; an anti-sparking device is provided and consists of a metallic ring 11 fixed to shaft 9, and a carbon brush 12 held against the ring 11 by a spring on the body of the machine.

A casing 13 extends rearwardly from the fan and communicates with a separating chamber or cyclone 14 having a converging bottom 15 for collecting the liquid formed, and a waste pipe 16 for the removal of the air. The bottom 15 communicates with a pipe 17 leading into baffle chamber 18, the pipe 4 communicating with pipe 17 at a point 19 just before entering the baffle chamber. Baffles 20 and 21 are provided throughout the length of the chamber near the end of which opposite to pipe 17 a partition 22 is formed having a series of openings 23 covered with wire gauze, or other suitable material, to strain the liquid. A pipe 24 extends to nearly the bottom of the partitioned chamber 28 and is connected by flexible pipe 25 to a nozzle 26, the nozzle having a flexible pipe 27 connected to a source of compressed air attached thereto.

The operation of the system is as follows:

Metallic parts to be cleaned are placed on false bottom 2 and the fan started rotating. The operator manipulates nozzle 26 so as to spray the parts with a mixture of air and cleansing liquid, most of the spray which is formed being caught by the inwardly bent portion 6 of the chamber 1 and the remainder sucked in by fan 8 into the separating chamber 14 the liquid descending to the bottom of the separating chamber and is carried by means of pipe 17 into the baffle chamber 18, while the air drawn into the chamber 14 passes out through the waste pipe 16. Liquid from chamber 1 also flows into the baffle chamber where impurities are removed by passing relatively slowly between the baffles depositing its dirt and grease, and being strained at 23, the cleansed liquid flowing into the partitioned chamber 28 from which it is sucked up by the ejector and nozzle 26 to be used again.

Having thus fully described my said in-

vention, what I claim as new and desire to secure by Letters Patent, is:

1. A washing system comprising a chamber having an opening in one end thereof, means for spraying cleansing liquid in said chamber through said opening, the top and side edges of said opening being formed with an inwardly curved portion for catching and preventing the escape of the sprayed liquid, means for removing said liquid from the chamber, and means for cleansing said liquid.

2. A washing system comprising a chamber, means for spraying cleansing liquid therein, means for removing said liquid therefrom comprising a pipe in the bottom of said chamber and an exhaust fan connected to said chamber, a separating chamber connected to said first chamber, means for removing the liquid from said separating chamber, and means for cleansing said liquid.

3. A washing system comprising a chamber, means for spraying cleansing liquid therein, means for removing said liquid therefrom comprising a pipe in the bottom of said chamber and an exhaust fan connected to said chamber, a separating cham-

ber connected to said first chamber, means for removing the liquid from said separating chamber, and a chamber for cleansing said liquid.

4. A washing system comprising a chamber, having an opening in one end thereof, a false bottom therein, means for spraying cleansing liquid into said chamber through said opening, means around the edges of said opening for collecting and preventing the escape of said sprayed liquid, means for removing said liquid from said chamber comprising a pipe in the bottom of said chamber and an exhaust fan connected to said chamber, means for driving said fan, a separating chamber connected to said first chamber, means for removing liquid from said separating chamber, and a chamber for cleansing said liquid.

In witness whereof, I have hereunto set my hand and seal at Indianapolis, Indiana, this 17th day of January, A. D. nineteen hundred and twenty.

SHIRAS A. BLAIR. [L. S.]

Witnesses:

H. C. BIERMAN,  
M. L. SHULER.