

E. G. BURKAM & R. W. E. YARDLEY.
MACHINE FOR COOLING STEREOTYPE PLATES.

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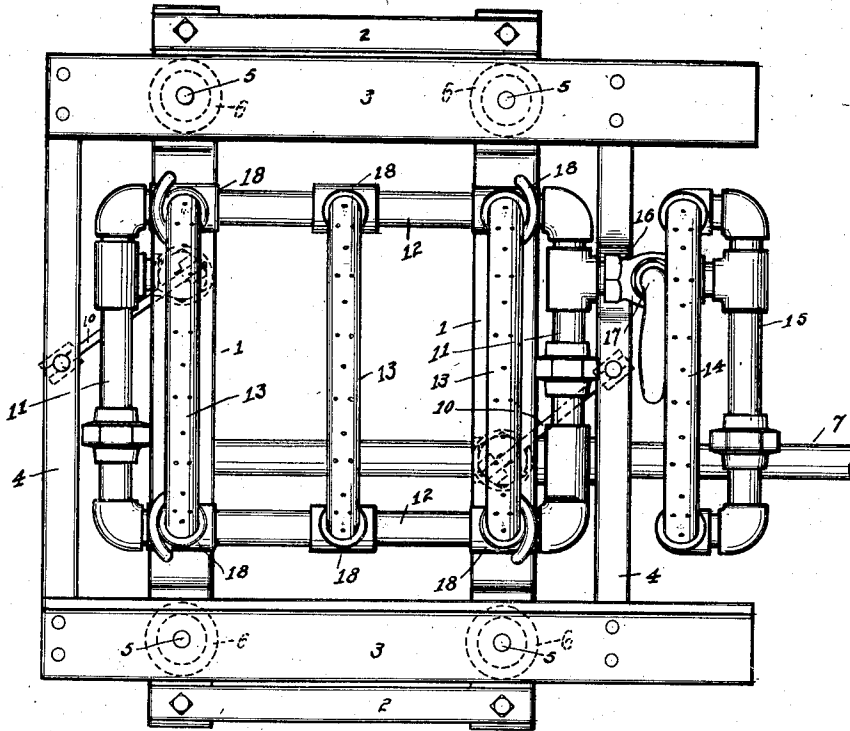


Fig. 1.

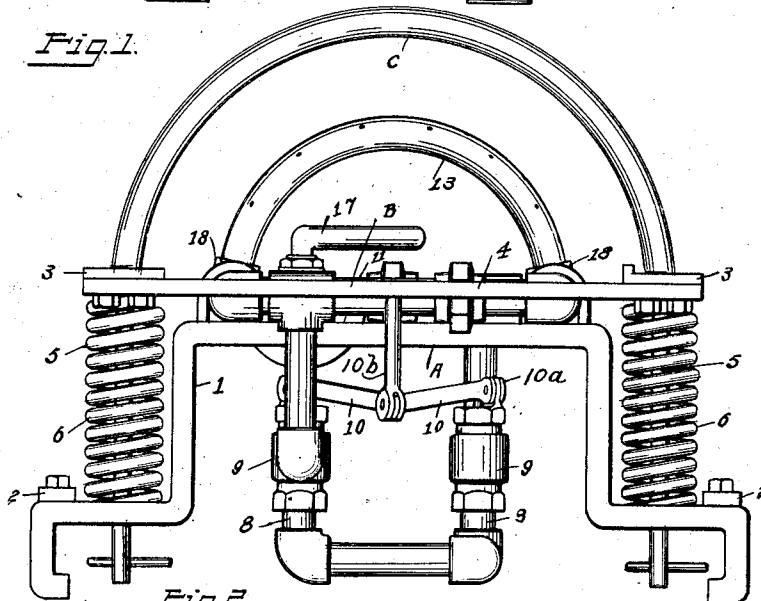


Fig. 2.

Witnesses

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MACHINE FOR COOLING STEREOTYPE-PLATES.

997,437.

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To all whom it may concern:

Be it known that we, ELZEY G. BURKAM and RALPH W. E. YARDLEY, citizens of the United States, residing at Columbus, in the county of Franklin and State of Ohio, have invented certain new and useful Improvements in Machines for Cooling Stereotype-Plates, of which the following is a specification.

The present invention relates to certain novel and useful improvements in a machine for cooling stereotype plates.

In the larger printing offices, such as newspaper offices and the like, plates are usually heated as they come to the press room, so that the operators are unable to place the plates on the presses until they have sufficiently cooled. This naturally causes considerable delay and loss of time, which is an important factor when the work must be rushed.

It is therefore our purpose to provide a machine whereby the plates may be rapidly cooled so that a considerable saving of time is effected.

A further object of our invention is to cool the plates by directing a stream of water or other cooling agent against the underside of the plate, said stream of water being automatically controlled so that the water is turned on when the weight of the plate rests upon the machine, and is automatically cut off when such plate is removed.

With these and other objects of a similar nature in view, our invention consists in the construction, combination and arrangement of parts set forth in and falling within scope of the appended claims.

In the accompanying drawings: Figure 1 is a top plan view of a machine embodying our invention, and Fig. 2 is an end view of the same.

Referring now to the accompanying drawings in detail, the letter A designates as a whole, the stationary frame of the machine, said frame comprising the side bars 1—1 and the end bars 2—2. The preferred shape of the frame is shown in Fig. 2, and it will be noted that the frame is preferably elevated at the center.

Mounted upon the stationary frame, is a yielding frame B comprising the side bars 3—3 connected through the medium of the end bars 4—4. This frame is yieldingly mounted upon the stationary frame through

the medium of the rods 5, which extend downward through openings formed in the stationary frame, the tension spring 6 normally tending to thrust or force the yielding plate upward.

The numeral 7 designates the inlet or supply pipe of the machine, said pipe leading from any suitable source and is provided with vertically extending branches 8—8, each branch being controlled through the medium of a suitable valve 9 operated by the arms 10. One end of each of the arms 10 is pivoted as at 10^a to the stem of one of the valves, the opposite end of each arm being pivotally connected to the lower end of the vertical arm 10^b, said arm being connected at its upper end to the bar 4. It will be noted by reference to Fig. 1, that there are two of the bars 4, and two of the arms 10, one for each valve, but as these arms are similar in construction, a description of one is sufficient for both. These valve controlled branch lines communicate with horizontally disposed branch pipes 11—11 and 12—12 coupled together through the ordinary elbow, while the numeral 13 designates curved cross pipes connected with the longitudinally extending branch pipes 12, so that the entire structure forms a pipe frame. Each of the curved cross pipes 13 is provided with a series of perforations through which the cooling agent may pass into contact with the under-surface of the ordinary stereotype plate C when the latter is placed upon the machine.

In case an extra long plate should be required to be cooled, we have provided the auxiliary perforated pipe 14, connected through the branch 15 and the connections 16 with the main cooling pipes of the machine, said connections 16 having located therein the cut-off valve 17, the construction being such that it being desired not to use the pipe 14, the latter may be cut out of operation through the valve.

In order to mount the cooling pipes upon the stationary frame, I provide a series of staples or other suitable fastenings 18 connecting the pipes at the cross bars of the frame A.

From the above description taken in connection with the accompanying drawings, the construction and operation of our improved cooling device, will be readily apparent.

The stereotype plate which is of the ordi-

nary form, is placed with its edges resting upon the bars 3—3 of the yielding frame. The weight of the metallic plate, depressing the bars against the sustaining action of the springs 6, causes the bars 4 to operate the arms 10 of the valves 9, thereby opening said valves and permitting the cooling agent to issue from the inlet pipe through the valve controlled branch pipes and into the curved perforated cross pipes extending beneath the inner surface of the frame. The fluid being then directed against the underside of the plate, the cooling is conducted with rapidity and facility. The instant the plate is lifted from the yielding frame, the extension springs 6 throw such frame back to its normally elevated position and the valves 9 are cut off, thereby stopping the issuance of the water.

While we have herein shown and described one particular embodiment of our invention by way of illustration, we wish it to be understood that we do not limit ourselves to all the precise details of construction shown, as modification and variation may be made without departing from the spirit of the invention or exceeding the scope of the claims.

What we claim, is—

1. A machine for cooling stereotype plates comprising a base structure, spray pipes, a frame carried by said base and resiliently movable into proximity thereto under applied weight of the stereotype plate, valves controlling said spray pipe and adapted to be opened by such movement of said frame whereby the cooling fluid is sprayed upon the plate simultaneously with the movement of all points of the area of the plate into closer relation with the spray ports.

2. The combination with a stationary frame and water distributing devices carried thereby, said devices including a plurality of perforated pipes extending in parallelism, and valves controlling said pipes, of a movable frame mounted upon the stationary frame and comprising side members, and end bars connecting the same, and connecting means between each of the side bars and the stem of one of the valves whereby the fluid distributing devices are operated when a plate is placed upon the movable frame.

3. The combination with a stationary frame, water distributing devices mounted thereon, valves for controlling the water

distributing devices, a movable frame extending transversely above the stationary frame, and connected to the valves, a plurality of spring members interposed between the stationary frame and the bottom of the movable frame, the construction being such that upon the depression of the movable frame, the valves are opened to permit the flow of water through the distributing devices.

4. The combination with a stationary frame having an elevated portion, a movable frame comprising end members and side members and mounted above the elevated portion of the stationary frame, tension springs interposed between the movable frame and the stationary frame, water distributing devices carried by the stationary frame, and valves controlling the same and connected to the movable frame whereby the water distributing devices are operated upon the depression of the movable frame.

5. The combination with a stationary frame comprising two parallel members provided with a raised portion intermediate the ends thereof, bars connecting said members adjacent to their ends, a movable frame provided with a plurality of rods passing through openings near the ends of the stationary frame, a spring surrounding each of said rods and adapted to tension the movable frame, water distributing devices, valves controlling said water distributing devices, and connections between said valves and the frame whereby upon the depression of the frame the valves are operated to permit the discharge of water through the distributing devices.

6. The combination of a rectangular stationary frame provided with a raised portion, a rectangular yielding frame mounted above the stationary frame, a plurality of springs interposed between the stationary frame and the movable frame, water distributing devices, valves for controlling the same, and connections between said valves and the yielding frame whereby the valves are opened upon the depression of the yielding frame to permit the discharge of water against a plate or the like carried thereby.

In testimony whereof we affix our signatures in presence of two witnesses.

ELZEY G. BURKAM.

RALPH W. E. YARDLEY.

Witnesses:

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