

March 25, 1952

M. RAS

2,590,429

CYLINDER DAMPENER FOR OFFSET-PRINTING MACHINES

Filed June 9, 1950

FIG. 1

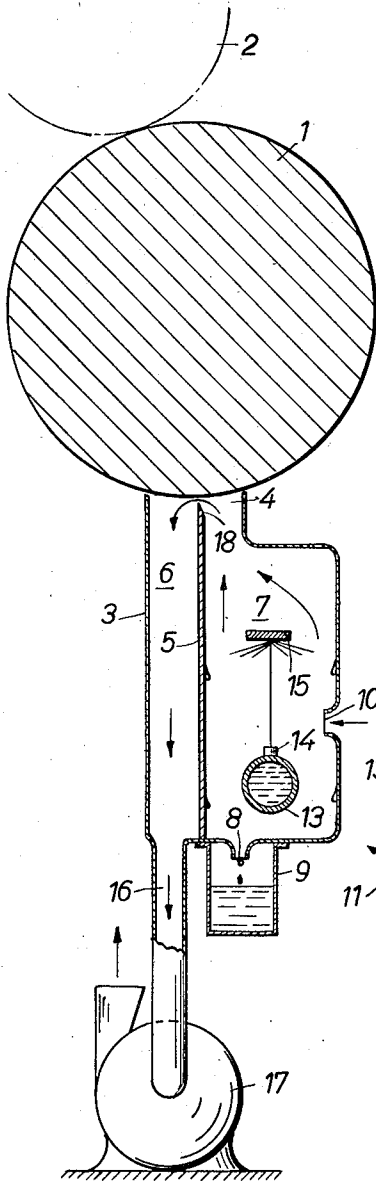
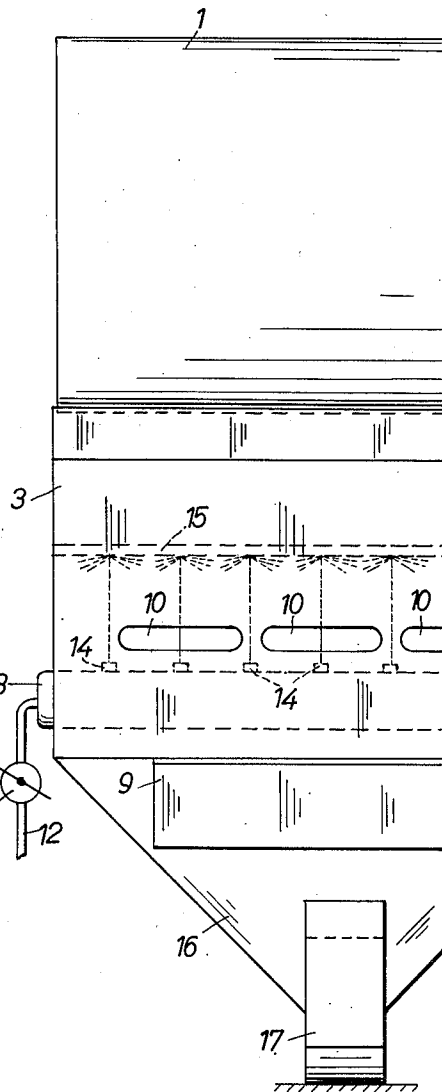


FIG. 2



INVENTOR:

MAX RAS

By - Wendell Lind & Pomech

ATTORNEYS

# UNITED STATES PATENT OFFICE

2,590,429

## CYLINDER DAMPENER FOR OFFSET-PRINTING MACHINES

Max Ras, Zurich, Switzerland

Application June 9, 1950, Serial No. 167,042  
In Switzerland March 20, 1950

4 Claims. (Cl. 101—147)

1

Dampeners for producing jets of moist air for damping the cylinders on offset-printing machines are known in the printing art. A known dampener comprises an elongated box having an open top in form of a longitudinal slot and air-compressor means for producing a stream of air by means of which water atomized in the said box is delivered through the said slot to a portion of the offset printing machine.

In operation, a certain excess pressure is produced in the said box of such known dampeners, which pressure may give origin to leakage losses.

The dampener of my present invention comprises an atomizer box having an open top in form of a longitudinal slot and being subdivided into two chambers by means of a partition of which the top edge projects into the range of said slot. One of said chambers comprises means for atomizing water and at least one air-intake opening. The other chamber communicates with suction means for producing an air stream in the said box in order to discharge the finely atomized and uniformly distributed water through the said slot to a portion of the offset machine.

In operation, therefore a subatmospheric pressure prevails in the said box of my present dampener, which pressure prevents the stream of moist air from leaving the box.

One form of invention is shown in the accompanying drawing in which—

Fig. 1 is a cross-section, and Fig. 2 an elevation of one end portion.

The numerals 1 and 2 designate the damping rollers and 3 the atomizer box of the damping-apparatus. The box 3 is provided with an open top in form of a slot 4 of which the length is at least equal to that of the roller 1. The said box is subdivided into two compartments 6 and 7 by means of a partition 5 of which the top edge projects into the range of the slot 4. In the bottom of the chamber 7 an opening 8 is provided, below which a drip vessel 9 is secured to the box 3. In the side wall of the box 3 defining the compartment 7, slots 10 are provided, which slots serve as air-intake openings. As shown in Fig. 2, a water conduit 12 provided with a pressure reducing valve 11 is connected to the bottom portion of box 3 and communicates with a distributing header 13 which extends through the entire length of the compartment 7. The header 13 on top is provided with discharge nozzles 14 which are directed toward a baffle 15. The lower portion of the chamber 6 opens to a suction funnel 16 which communi-

2

ates with an induced-draft blower 17 which exhausts into the atmosphere. As is shown in Fig. 1, the distance between the chamfered top edge 18 of partition 5 and the roller 1 is somewhat, e. g. from 1 to 1½ millimeters, greater than the distance between the edges of the slot 4 and the said roller.

The mode of operation of the dampener described otherwise is as follows: The water supplied through the conduit 12 to the distributing header 13, the flow of which may be regulated by means of the reducing valve 11, is sprayed through the nozzles 14 in fine jets against the baffle 15 and atomized thereby. Any drops of non-atomized water are precipitated on the wall defining the compartment 7 or on the partition 5, and may run off through the drain 8 into the vessel 9. At the same time, the blower 17 sucks air through the slots 10 and the compartments 6 and 7, the flow of air being indicated by arrows. The atomized water is carried forward by the air stream in form of a jet of moist air and, owing to its kinetic energy, is thrown through the slot 4 onto the roller 1.

The water pressure and, thus, the moisture content of the jet of moist air may be regulated by means of the pressure-reducing valve 11. It further is to be noted that the water is atomized solely through the impact of the water jets on the baffle 15, and that the air stream serves exclusively for the transport of the atomized water. In contra-distinction to damping-apparatus known in the art, compressed-air lines for producing an air stream are not required in my present invention.

The water may be atomized through atomizer nozzles or other known means, instead of in the manner described.

What I claim as new and desire to secure by Letters Patent is:

1. A cylinder damping apparatus for offset printing machines, comprising an atomizer box having an open top in the form of a longitudinal slot, a damping cylinder closely positioned above said slot and extending therealong, a partition wall projecting into the range of said slot and subdividing said box into two compartments, the top edge of said wall being spaced from said cylinder a distance slightly greater than the distance between the edges of the box walls forming the longitudinal slot and said cylinder, means for atomizing water in one of said compartments, an air entrance opening in said one compartment, suction means connected to the other said compartment, said suction means producing an

3

air stream through said box over said top edge of said wall and carrying therewith the atomized water in a uniformly distributed condition through the said slot and onto said cylinder for the damping thereof.

2. A damping apparatus as claimed in claim 1, in which the said suction means comprise an induced-draft blower only.

3. A damping apparatus as claimed in claim 1, in which a drip vessel is secured to the bottom of the compartment containing said means for atomizing water, said vessel communicating with the said compartment through an opening in the said bottom.

4. A damping apparatus as claimed in claim 1, said partition wall being straight and having a

4

tapered top edge on the side thereof facing said compartment having said means for atomizing water therein.

MAX RAS.

5

**REFERENCES CITED**

The following references are of record in the file of this patent:

**UNITED STATES PATENTS**

Number	Name	Date
2,108,984	Grembecki	Feb. 22, 1938
2,178,583	Grembecki	Nov. 7, 1939
2,196,412	Grembecki	Apr. 9, 1940
2,324,787	Lundgren	July 20, 1943

1