

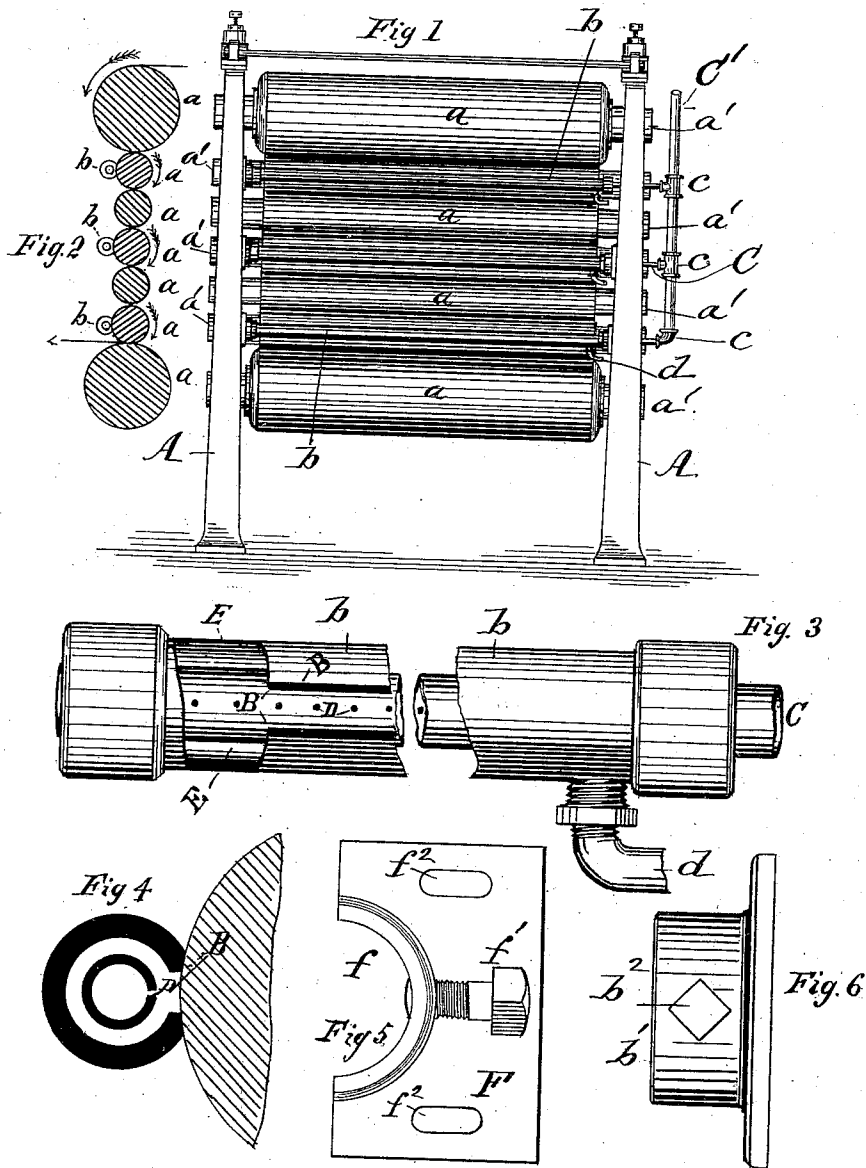
(No Model.)

F. BREWER.

STEAM CONDENSING DOCTOR FOR PAPER MACHINES.

No. 334,415.

Patented Jan. 19, 1886.



WITNESSES:

Josiah B. Frost
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FRANK BREWER, OF MARSEILLES, ILLINOIS.

STEAM-CONDENSING DOCTOR FOR PAPER-MACHINES.

SPECIFICATION forming part of Letters Patent No. 334,415, dated January 19, 1886.

Application filed July 18, 1885. Serial No. 171,806. (No model.)

To all whom it may concern:

Be it known that I, FRANK BREWER, of Mar-
seilles, La Salle county, Illinois, have invented
a new and useful machine called a "Steam-
5 Condensing Doctor," of which the following
is a clear, full, and exact description, by which
those skilled in the art to which my invention
appertains may be enabled to make and use
the same, reference being had to the accom-
10 panying drawings, which form a part of this
specification.

Similar letters of reference refer to like parts
in all the drawings.

This invention relates to improvements in
15 mechanism for moistening the calender-rolls
of paper-making machines, the objects being
to heat the rolls from the exterior and to
moisten the same; and it consists in the con-
struction and novel arrangement of parts here-
20 inafter described, and pointed out in the ap-
pended claims.

The device, besides performing the above-
mentioned functions, acts as a doctor to re-
move any waste from the rolls and prevent
25 them from clogging.

In the accompanying drawings, Figure 1
represents a side elevation of a stand of cal-
ender-rolls with the device attached. Fig. 2
is a transverse vertical section through the
30 rolls and the device. Fig. 3 is a longitudinal
view of one of the pipes of the device partly
broken away and partly in section. Fig. 4 is
an enlarged sectional detail view of one roll
and pipe. Fig. 5 represents one of the brack-
35 ets to hold the pipes to the rolls, and Fig. 6
represents the end cap of one of the pipes.

Referring to the accompanying drawings by
letter, A designates the frame, upon which the
rolls *a a* are journaled in proper bearings, the
40 journals being designated by *a' a'*.

b b b are pipes having their ends closed by
the screw-caps *b'*, Fig. 6. The caps have cen-
tral circular openings, for a purpose hereinafter
explained. The caps may be secured in
45 position, when screwed on the ends of the
pipes, by the set-screws *b'*.

Brackets F, Fig. 5, are secured to the stand-
ards of the frame in such position that pipes *b*,
near their ends, will rest in the concave notches
50 *f* of said brackets, and may be firmly held

therein by the set-screws *f'*, which pass through
the flanges of the notches, as shown. The
brackets may be secured in place in any de-
sirable manner, but are preferably secured by
means of set-screws passing through the slots 55
f'' and entering the outer sides of the stand-
ards, thus making the brackets adjustable
thereon.

The pipes *b* cross the frame A transversely,
and are preferably so situated as to lie adja- 60
cent to every second one of the smaller rolls
a, as shown in Fig. 2, the axis of each roll and
its corresponding pipe being in the same hori-
zontal plane.

Each pipe *b* has a longitudinal slot, B, the 65
edges of which form a close joint against the
surface of the roll. The said slot does not
extend the entire length of the pipe, its end
being equally distant from the ends thereof.
The axis of the slot lies in the plane with those 70
of the roll and pipe.

C C are small steam-pipes running through
the pipes *b*, passing through the openings in
the caps F, and having their ends on one side
closed. Their other ends are connected by 75
proper couplings, *c c c*, to the steam-pipe C,
Fig. 1, which takes steam from any suitable
source of supply.

Each pipe C, Fig. 2, has a longitudinal
series of small equidistant openings, D, on 80
the side facing the roll, and lying in the same
plane as the axes of the roll and pipe.

d d are discharge-pipes for water of conden-
sation, which pipes depend from the pipes *b*
on the side adjacent to the steam-pipe C'. 85

Steam being admitted through the pipes
C' C will pass out of the openings D and fill
the spaces E between the pipes *b* and C, and
as the rolls rotate will heat and moisten them.

The pipes *b*, on account of their contact to 90
the rolls, will act as doctors to the same to
remove waste that might clog the rolls.

Having described my invention, I claim—

1. The combination of the rolls with a sys-
tem of steam-pipes to heat and moisten them 95
on their exterior surfaces, substantially as
specified.

2. The combination of the rolls with a sys-
tem of steam-pipes provided with longitudi-
nally slots lying closely against the rolls, and 100

through which they receive heat and moisture, the pipes acting as doctors to keep the rolls clear, substantially as specified.

5 3. The combination, with a stand of calendar-rolls, of the pipes *b*, provided with the slots B, the interior steam-pipes, C, having the openings D, and the main steam-pipe C', con-

necting with the pipes C, all constructed and arranged substantially as shown and described, for the purpose specified.

FRANK BREWER.

Witnesses:

H. E. WESTERVELT,

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