C. SEŸBOLD.

COUCHING PRESS FOR PAPER MACHINES.

APPLICATION FILED DEC. 6, 1915.

1,205,672. Patented Nov. 21, 1916.

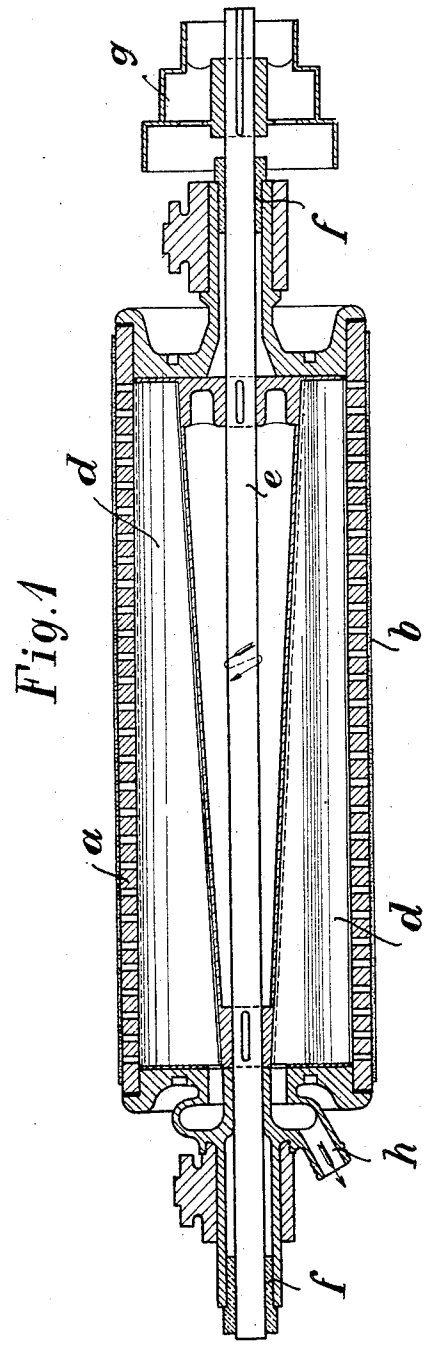


Fig. 1

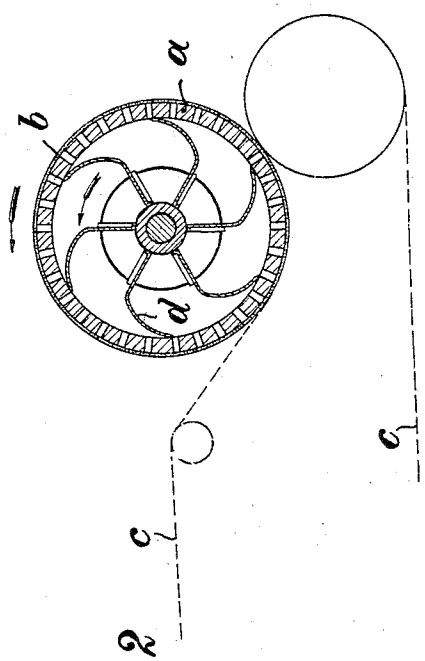


Fig. 2

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UNITED STATES PATENT OFFICE.

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COUCHING-PRESS FOR PAPER-MACHINES.

1,205,672. Specification of Letters Patent. Patented Nov. 21, 1916.

Application filed December 6, 1915. Serial No. 65,343.

To all whom it may concern:

Be it known that I, CHRISTIAN SEŸBOLD, a subject of the German Emperor, residing at Düren, Germany, have invented new and useful Improvements in Couching-Presses for Paper-Machines, of which the following is a specification.

The present invention relates to couching presses for paper-machines of that kind, where the top or the bottom-cylinder of the couching press is provided with a perforated jacket, through which the water squeezed out of the breadth of paper contained between the couching cylinders gets into the interior of the perforated drum and is laterally led off from there.

The characteristic feature of the invention consists therein that inside this pressing cylinder, designed as a perforated drum, a shovel-wheel is rotatably journaled independently from it and turns with a different speed and, in case of need, also in an opposite direction. By this independently rotating shovel-wheel, intended for the discharge of the water squeezed out by the press, different advantages are attained. With a reduced speed of the machine-sieve, consequently also of the perforated drum, the shovel-wheel may be brought to rotate within the latter with an increased speed, for the purpose of obtaining the quickest possible discharge of the accumulated water of the press. With an increased speed of the machine-sieve, on the contrary, as it is usual, especially with the more modern machines for the manufacture of printing paper, the press-water, accumulated on the inside periphery, is liable to adhere there in consequence of the centrifugal force. In such case it is convenient to give the shovel-wheel inside the quickly rotating drum a slow rotation in the opposite direction, whereby the press-water is, so to say, lifted from the inside of the drum and led off without being permitted to adhere for a long time.

The new couching-press is shown, by way of example, in Figures 1 and 2 of the accompanying drawing, wherein similar letters refer to similar parts throughout the several views, Fig. 1 being a longitudinal section and Fig. 2 a transverse section.

The top couching-cylinder *a* is constructed with a perforated jacket and provided with a felt-jacket *b*. The machine-sieve *c* runs in known manner in the first place around the bottom part of the top couching-cylinder *a* and embraces then the bottom cylinder of the couching-press. Inside the perforated couching-cylinder *a* the shovel-wheel *d* is rotatably journaled and guided with its shaft *e* through corresponding stuffing boxes *f*. The shaft *e* of the shovel-wheel carries at either of its ends, outside the hollow couching-cylinder, a step pulley, by means of which the shovel-wheel may be brought to turn with a corresponding speed in the same or an opposite direction.

When the machine-sieve and the couching-press are running, the water discharged from the paper enters through the perforated jacket into the top couching-cylinder. The water entered into the couching-cylinder is led off through the separately rotating shovel-wheel, in consequence of the shape of the shovels, toward either side, in Fig. 1 to the left side, through the ports located in the front of the couching-cylinder. Owing to the curvature of the shovels shown in Fig. 2 the shovel-wheel rotates in the same direction as the couching-roller with a greater or smaller speed than the latter, so that the water squeezed out is at once lifted from the shovels and led out of the couching-cylinder, as soon as it begins to accumulate in the bottom part of the couching-roller. With greater speeds of revolution the shovel-wheel may also be caused to turn, as already mentioned, in an opposite direction, in which case the shovels must, of course, be curved in the opposite direction. In such case the water adhering to the inside periphery of the couching-cylinder is caught by the shovels running in opposite direction and led off to the side. Instead of the top couching-cylinder also the bottom couching-cylinder, or even both cylinders of the couching-press may be provided with a perforated jacket and an inner shovel-wheel, turning independently from the drum. Furthermore the lateral discharge of the water squeezed out of the drum might be quickened by means of the action of a sucking pump and the like.

What I claim as my invention and desire to secure by Letters Patent is—

A couching-press for paper-machines, thereby characterized, that within the pressing roller *a*, constructed as a perforated

drum, independently from it a shovel-wheel *d* is rotatably journaled, the same being adapted to rotate with a different speed of revolution from that of the perforated drum, substantially as set forth and for the purpose specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

CHRISTIAN SEYBOLD.

Witnesses:
J. D. ZIESECKE,
G. OBERGETHMANN.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."