

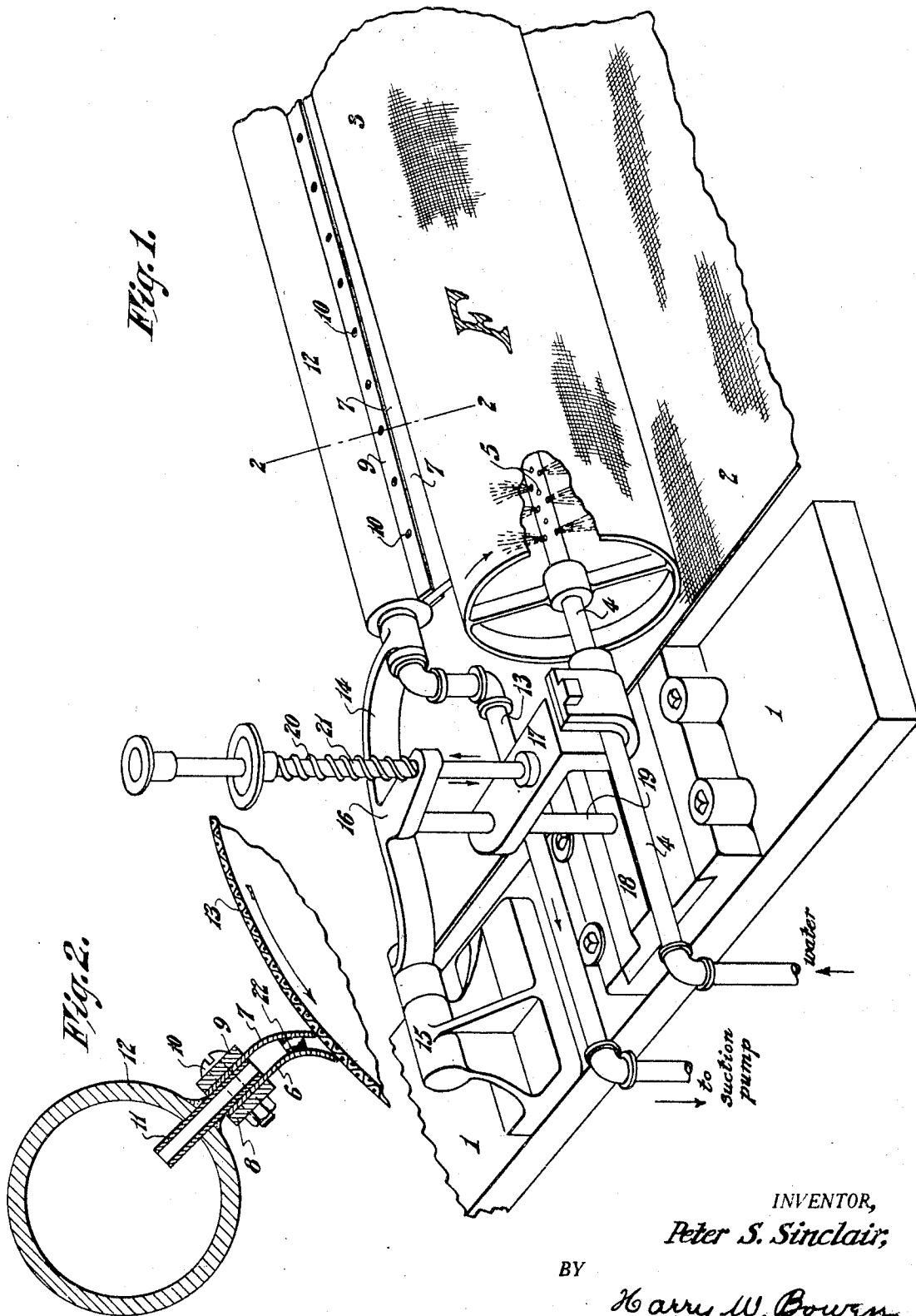
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P. S. SINCLAIR

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WIPER OR CLEANER FOR THE DANDY ROLLS OF PAPER MAKING MACHINES

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PETER S. SINCLAIR, OF HOLYOKE, MASSACHUSETTS

WIPER OR CLEANER FOR THE DANDY ROLLS OF PAPER MAKING MACHINES

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This invention relates to improvements in wipers or cleaners for the dandy roll of a paper making machine.

An object of the present invention is to provide a suction device for automatically removing the particles of paper that become attached to the fine wire netting of a dandy roll. At the present time, the small interstices, or openings, of the dandy roll become wholly or partially filled up, or clogged to such an extent that the watermark often becomes partially or wholly obliterated. The present method of cleaning or removing the particles or small pieces of paper pulp is to remove the dandy roll from the machine and clean the same with a brush, or other means. This operation is not only a slow one and involves loss of time and production of paper, but the results are not entirely satisfactory.

The present invention comprises a tubular bearing for the dandy roll for the purpose of supplying streams of water under pressure, which streams, as the roll revolves forcibly engages the inner surface of the dandy roll and serve to loosen the small pieces of paper pulp which have become attached to the wire mesh, which composes the roll. A suction wiper device is employed which engages the outer surface of the roll, as it is revolved. This device comprises two strips of rubber that are spaced from each other which drag on the outer surface of the roll. They are attached to a suction chamber which is connected to a suction pump for producing sufficient vacuum at the edges of the wiper, whereby the loosened particles or pieces of paper pulp are effectively removed from the meshes of wire cloth of the dandy roll for producing or making an impression of the mark in the web of paper, as will be described.

Referring to the drawings:

Fig. 1 is a perspective view showing a portion of a dandy roll and a portion of the Fourdrinier wire and the suction attachment in engagement with the roll, and

Fig. 2 is a detail sectional view taken on the line 2—2 of Fig. 1 illustrating the device in engagement with the roll.

Referring to the drawings in detail:

1 indicates a portion of the framework, or side rail, of a paper making machine, 2 the usual Fourdrinier wire, 3 a portion of a dandy roll which is composed of wire cloth having a water marking letter, as "F" thereon. This roll is rotatably supported on the shaft 4 which preferably comprises a member having perforations 5 for forcibly directing a spray, or streams of water, against the inner surface of the roll 2 for the purpose of loosening any particle of paper pulp, or other material that may have become lodged in the mesh openings of the wire cloth of the roll. 6 and 7 designate two longitudinal strips of pliable material, as rubber, which are firmly clamped between the metal pieces 8 and 9 with the bolts 10. Located within the rubber strips 6 and 7, at suitable intervals are tubes 11 which extend into the tubular member 12 that may be termed a vacuum chamber. Connected, or attached, to one end of this chamber is a pipe 13 which leads to a suitable suction pump, (not shown) for exhausting the air from the chamber 12 and from the space between the strips for removing and carrying off any particles or pieces of paper pulp that may become adhered to the wire mesh of the dandy roll. It is to be understood that the water issuing from the pipe 4 first serves to materially loosen the adhered pulp. The chamber member 12 is pivotally supported on the frame 1 by means of the arm 14 which has a support in the bearing 15. 16 is an extension or bracket which is secured to or formed as a part of the arm 14. 17 designates a bearing support for the shaft 4 which is guided, as shown, by means of the rod 19 which is secured to the extension or bracket arm 16 and therefore rises and falls with the arm 14 to which the vacuum chamber 12 is attached. The bearing support 17 is supported from the bracket 16 by the rod 21 and spring 20. 20 is a spring on the rod 21 for cushioning the movements of the rubber strips 6 and 7 on the dandy roll. The mounting of the bearing is a common structure and forms no part of the present invention. The arm 14 and the bearing 17 may therefore move as a

unit, or by compression of the spring 20, the arm 14 may move independently, relative to the bearing 17.

Located within the rubber trailer pieces 6 and 7 is a plurality of separator pieces 22 for preventing the collapse of the pieces 6 and 7, due to the suction effect.

It will be seen from this description that I have provided an efficient means of freeing the meshes of a dandy roll of pulp accumulations and one that may be readily installed on existing paper machines.

What I claim is:

1. In a paper making machine having a dandy roll, suction means for removing the accumulations of pulp from the interstices of the roll comprising a trailer engaging the roll, said trailer having flexible members which are spaced from each other.

2. In a paper making machine having a dandy roll, suction means for removing the accumulations of pulp from the interstices of the roll comprising a trailer engaging the roll, said trailer having flexible members which are spaced from each other, and means for producing a suction between the flexible members.

3. In a paper making machine having a dandy roll, suction means for removing the accumulations of pulp from the interstices of the roll, and means for permitting the suction means to rise and fall with the movements of the roll.

4. A pulp cleaner device for dandy rolls comprising a suction chamber, spaced trailer members engaging the roll, means for permitting the suction chamber and said members to rise and fall.

5. A pulp cleaner device for dandy rolls comprising a suction chamber, spaced trailer members engaging the roll, means for permitting the suction chamber and said members to rise and fall and means for spacing the trailer members.

6. A pulp cleaner device for dandy rolls comprising a suction chamber, spaced trailer members engaging the roll, means for permitting the suction chamber and said members to rise and fall and means for spacing the trailer members, also means for flushing the interior of the roll for loosening the pulp which has adhered to the roll.

7. A pulp cleaner device for a dandy roll comprising spring mounted spaced trailer members engaging the roll and means for exhausting the air between the members.

8. A pulp cleaner device for a dandy roll comprising spring mounted spaced trailer members engaging the roll, and means for exhausting the air between the members, also means for ejecting a stream of water against the inside of the roll.

9. In combination, in a paper making machine, a dandy roll, spaced rubber strips en-

gaging the roll, means for permitting the strips to rise and fall, means for exhausting the air between the strips, and means for loosening the pulp on the roll.

PETER S. SINCLAIR. 70

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