

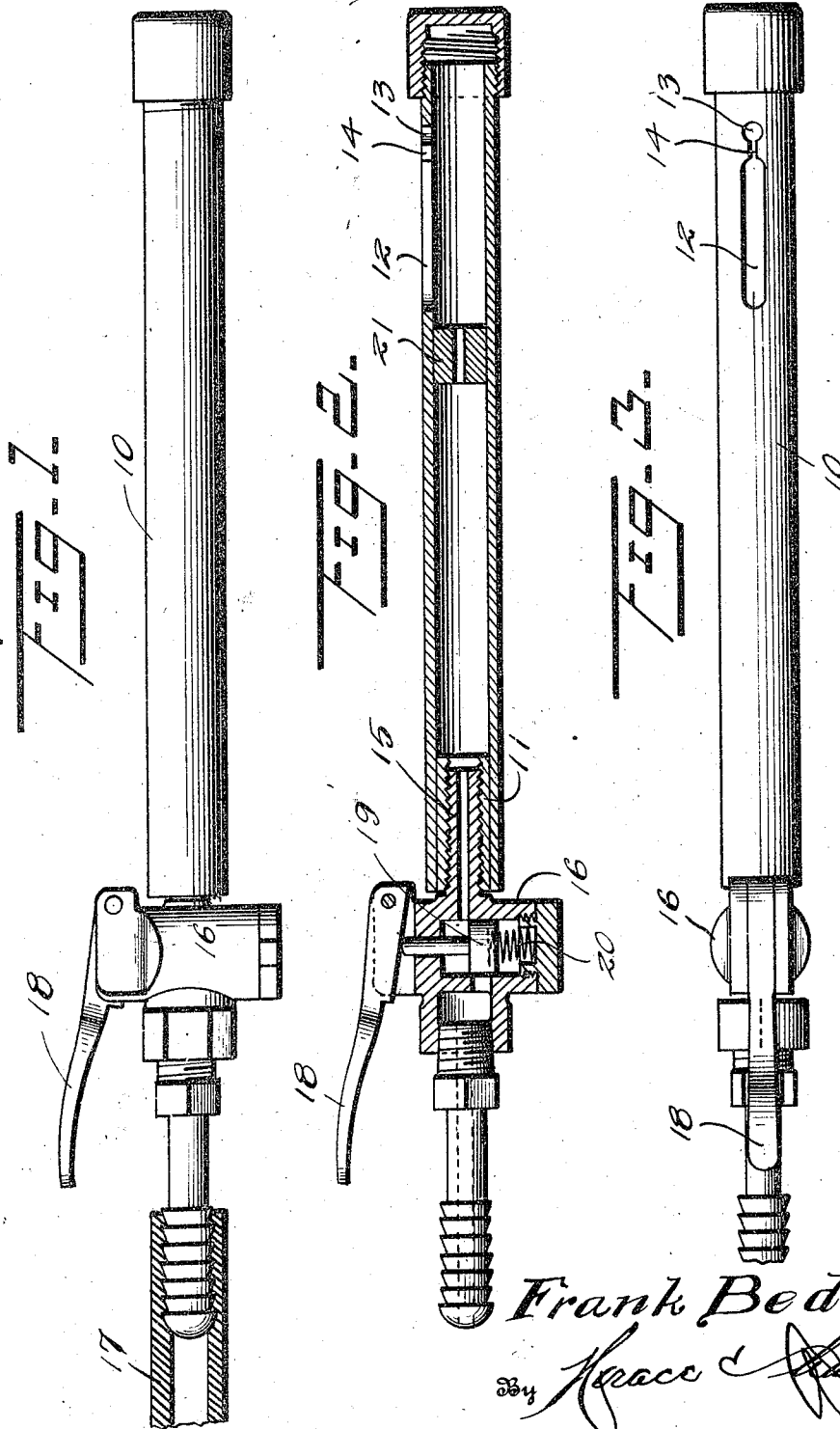
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PORTABLE AIR JET FOR PAPER MACHINES

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PORTABLE AIR JET FOR PAPER MACHINES.

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This invention relates to new and useful improvements in devices used in connection with paper making machines.

In some paper making machines, when the paper web sticks to the wire, or to the press rolls, it is removed by hand. This is only possible in connection with slow moving machines, but where the machines run at a speed of seven hundred and fifty feet per minute, it will readily be appreciated that manual removal of the paper web is impossible. Various devices have been used to accomplish the removal of the sticking paper web, but all of such devices have been permanently fixed to some portion of the machine, and capable of operation at one point only. For instance, when the device is mounted to remove the web from the wire, as it is about to pass to the first press rolls, it is impossible to remove the web when it adheres to the next press rollers, or when leaving such presses to pass through the drying rolls. This necessitated the mounting of such removing devices at all of the places where needed.

The present invention has for its principal object the provision of an air jet device, which is portable, thereby enabling the attendant to move from place to place, with respect to the machine, so that he can quickly and easily remove the adhering paper web from the wire, or from the pressing or drying rolls, and properly guide the web to that portion of the machine through which the web is next to pass.

Another object is to provide a device of this character wherein the operator can easily control the flow of air from the jet, thus permitting him to use the required force to suit the conditions.

Other objects and advantages will be apparent from the following description when taken in connection with the accompanying drawings.

In the drawings:

Figure 1 is a side elevation of an air jet made in accordance with the present invention.

Figure 2 is a vertical longitudinal central sectional view through the jet.

Figure 3 is a plan view of the jet.

Referring particularly to the accompanying drawing, 10 represents a suitable length of pipe, of the required length and diameter.

One end of the pipe is closed, as shown, while a flanged sleeve 11 is fixed in the other

end of said pipe, said sleeve having a bore of slightly smaller diameter than the bore of the pipe. In one side of the other end of the pipe, inwardly of the closure thereof, is a longitudinally extending slot 12, and at a short distance beyond the outer end of said slot, there is formed a circular opening 13, of a diameter equal to the width of the said slot, said opening being connected with the adjacent end of the slot by means of a narrower slot 14. Properly engaged in the flanged end of the sleeve 11 is the stem 15, of the air controlling valve casing 16. From the other side of this casing there extends a suitable nipple for attachment of an end of a flexible air conveying hose 17. The valve is provided with a pivoted handle 18, which is adapted to be depressed by the thumb or finger of the operator, the valve 19 being normally maintained in closed position by a spring 20. The said stem 15 is provided with a bore of small diameter, and in the pipe, inwardly of the inner end of the slot 12, there is disposed a plug 21 having a small opening therethrough. When the handle 18 is depressed, the valve will be opened to permit air to pass into the pipe 10, by means of the small bore of the stem 15, such air being discharged through the small opening in the plug 21, into the portion of said pipe in which the slot 12 and opening 13 are formed, and finally escaping through said slot and opening. It will be particularly noted that a large space, or chamber, is formed between the block 21, and the stem 15, and that a similar, but slightly shorter space is formed between the block 21 and the closed end of the tube. Air pressure entering the first space is checked in its escape from the slot 12, by the block 21, with its small opening, whereby the air will accumulate in said space, and issue into the second space, through the opening of the block, in a very small, but constant and forceful stream, so that the air will be delivered to, and issue from the slot 12, in a steady stream, of constant size and pressure.

In the operation of the device, the attendant grasps the device just back of the valve casing, so that he may easily apply his thumb or finger to the handle 18, for depressing same and permitting air to flow from the slot 12. Should the paper web adhere to the wire, the attendant places the slotted end of the device close to the wire.

so that the slot is positioned to direct the air beneath the paper web, whereby to lift the same from the wire. He then turns the device so that the web is held in suspension, and guides the same to the felt of the first press rolls. Should the web stick to the said press rolls, he can quickly carry the jet, and apply it to this part of the machine, so as to release the web. Thus, by reason of the device being portable, the attendant can quickly move from one part of the machine to another, for the purpose of releasing the sticking web wherever it is necessary.

What is claimed is:

15 A portable air nozzle for a paper making machine comprising a pipe having one end

closed and a longitudinal slot in the said closed end, a conduit for compressed air connected to the other end of the pipe, a manually controlled valve in said conduit, and 20 a block within the pipe, intermediate the closed end and the valve dividing the interior of the pipe into two chambers, said block having a longitudinal opening of small diameter, said block serving to cause 25 the air to accumulate within the chamber adjacent the conduit whereby to provide a constant stream of air of even pressure delivered to the second chamber and said slot.

In testimony whereof, I affix my signature.

FRANK BEDARD.