July 1, 1930. C. A. ARVIDSON 1,769,250

PAPER OILER AND WAXER

Filed March 8, 1927 2 Sheets-Sheet 1

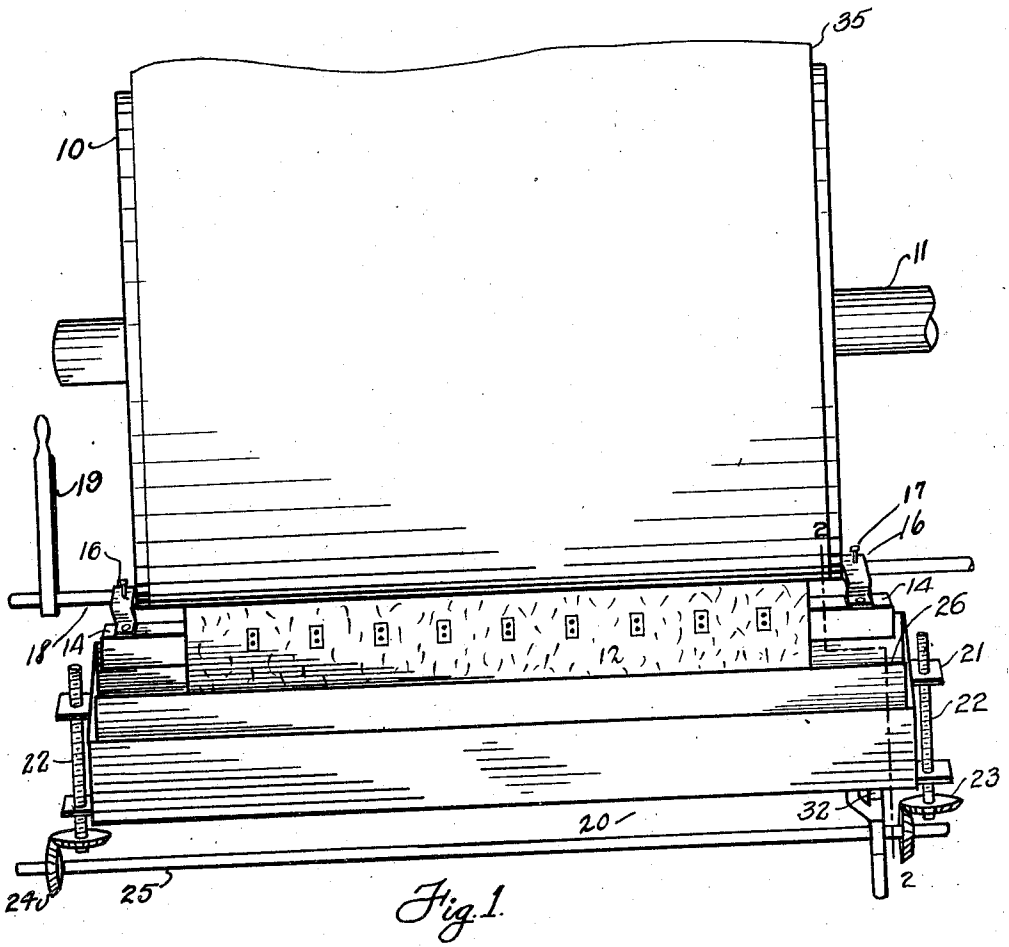


Fig. 1.

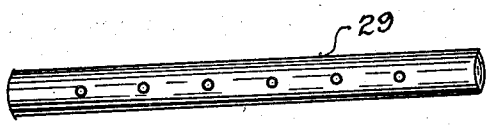


Fig. 4.

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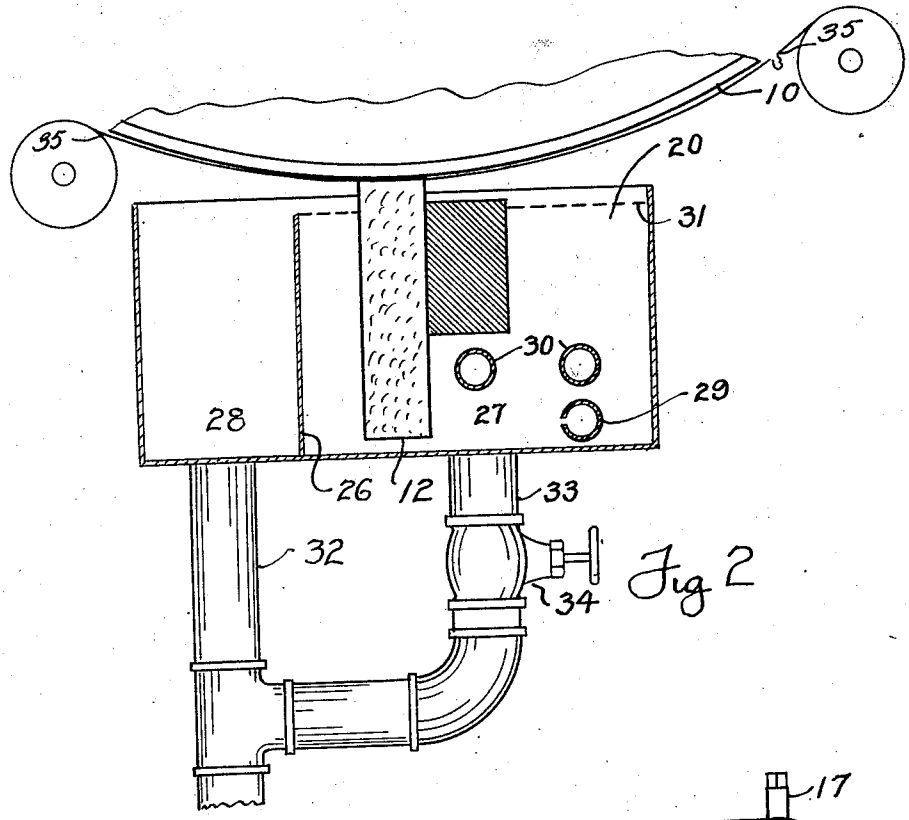


Fig 2

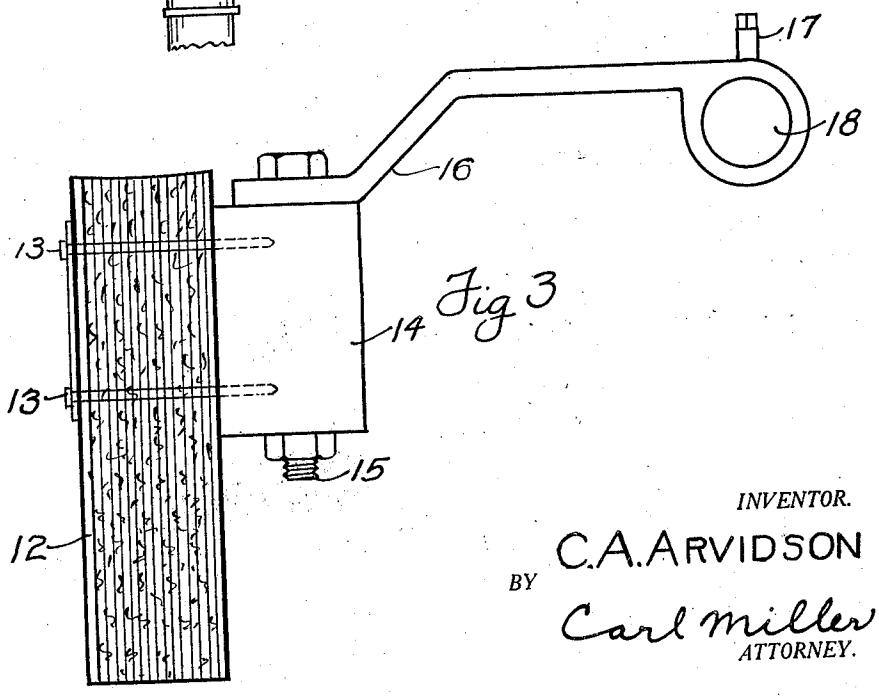


Fig 3

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UNITED STATES PATENT OFFICE

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PAPER OILER AND WAXER

Application filed March 8, 1927. Serial No. 173,751.

This invention relates to an improvement in a means to be attached to a paper-making machine for waxing and oiling the paper as it is about to leave the machine just before it is made up into the roll. More specifically it is a simple and comparatively inexpensive device that may be detachably attached to a paper making machine to the underside of the last top dryer of such machine, and may be used for either oil or wax, appropriate means being a part hereof whereby the oil or wax may be maintained at desirable temperatures so that it may be readily absorbed by the paper.

These and other features of the invention will best be understood and appreciated from the following description of a preferred form thereof selected for purposes of illustration and shown in the accompanying drawings, in which like reference characters refer to like parts in the several figures, and in which:

Figure 1 is a substantially front angular elevation of the improved paper oiler and waxer.

Figure 2 is a sectional view on the line 2—2 of Figure 1.

Figure 3 is an enlarged detail side view of the wick and supports thereof.

Figure 4 is a portion of the feed pipe showing the orifices therein.

Referring now more particularly to the details, the improvement is attached to a paper-making machine, of which only the last top dryer 10 with its axle 11 is shown, over which the paper 35 passes before being made into a reel. A wick 12 which may be made of several strips of felt, is attached by nails or other appropriate means 13 to a wick support 14 of wood or any appropriate material. The wick support 14 is attached by bolts and nuts 15 to arms 16, each of which has a set screw 17 for attaching it on a shaft 18 which is removably and rotatably supported at each end by appropriate bearings affixed to appropriate parts of the framework of the paper machine whereby it may be frictionally held from rotation. On the shaft 18 is a control lever 19 which when moved away from or toward the operator thereof, this shaft 18 is caused to rotate and consequently elevate or lower the arms 16, on which arms 16 the wick 12 is indirectly attached, and as a result of this structure, the wick may be manipulated to bring the wick in contact with or away from the dryer 10, whereby the oiling or waxing process may be started or stopped at will as may be desired. It will be noted that the wick 12 is slightly shorter than the width of the paper to be oiled or waxed, whereby oil or wax is prevented from getting on the dryer felt (not shown), and a small dry margin is left on the paper which may be appropriately trimmed off the paper as it is being reeled on the winder.

The wick 12 draws the oil or wax from a basin 20 which has supporting ears 21 having threaded holes therein and having jacks or screws 22 passing therethrough and thereby adjustably suspending the basin 20, the screws 22 being rotatably supported by and rotatably suspended from an appropriate part of the framework of the paper-making machine (not shown). To the bottom of screws 22 are affixed gears 23 meshing with gears 24 on a shaft 25 having an appropirate rotating means (not shown). It will be obvious that by rotating shaft 25, the basin 20 may be raised or lowered, thereby controlling the level of the oil or wax into which the wick 12 remains dipped, and thus controlling the amount of oil or wax that is fed onto the paper as desired.

The basin 20 has a partition 26 dividing it into two compartments or chambers, a feed chamber 27 and an overflow chamber 28. The oil or wax is fed into the feed chamber 27 from any appropriate reservior through a flexible pipe to a one inch supply pipe 29 having one-quarter inch holes spaced about four inches apart, the supply pipe 29 extending the full width of the feed chamber 27 so as to distribute the incoming oil or wax evenly, which may not be of the same temperature as the supply in the chamber 27. Chamber 27 is also supplied with coils or pipes 30 having flexible connections to the outside thereof, whereby steam or any heating or cooling

medium may be passed through from an appropriate source so as to maintain the supply of oil or wax in the chamber 27 at any desired temperature. By means of the partition 26 the oil or wax is maintained at a constant level 31, which is approximately one-half inch below the edge of basin 20, and the surplus is drained off through overflow chamber 28 through the return pipe 32 to return back to the reservoir or source of supply, whence it is again pumped back through supply pipe 29, thereby keeping it in circulation and eliminating waste of material, yet at the same time keeping the level in the feed chamber 27 constant and helping to maintain an even temperature. A drain pipe 33 with a control valve 34 leads from feed chamber 27 to pipe 32 for use whenever it is desired to drain chamber 27 for any purpose and returns the oil or wax back to the reservoir or source of supply.

It is obvious that the dimensions mentioned above are not to be considered as restricting the invention to such dimensions, but that such particular dimensions are mentioned for illustrative purposes only, and that the invention is not to be considered as being limited to the particular disclosure set forth, but that obvious modifications and variations may be made within the limits of what is claimed, which is:

1. A paper waxer and oiler comprising a wick, a movably mounted support for said wick, a control lever on said support, an adjustable, movably mounted basin, a partition in said basin, a feed chamber and an overflow chamber provided in said basin by said partition, a drain pipe leading from said feed chamber, a return pipe leading from said overflow chamber, a supply pipe in said feed chamber and a heating coil in said feed chamber.

2. A paper waxer and oiler comprising a wick, a movably mounted support for said wick, a control lever on said support, a vertically adjustable basin, a partition in said basin, a feed chamber and an overflow return chamber provided by said partition, a return pipe leading from said overflow chamber, a drain pipe leading from said feed chamber and into said return pipe, a supply pipe in said feed chamber, said supply pipe having suitably spaced outlets along the length thereof, and a heating coil in said basin.

3. A paper oiler comprising a wick, a movably mounted support for said wick, a control lever on said support, an adjustably mounted basin, a partition in said basin, a feed chamber and on overflow chamber provided by said partition, a drain pipe leading from said feed chamber, a return pipe leading from said overflow chamber, a supply pipe in said feed chamber, said supply pipe extending approximately the full length of said feed chamber and having suitably spaced outlets along the length thereof, and a heating coil in said feed chamber.

4. A paper oiler comprising a wick, a movably mounted support for said wick, a vertically adjustable basin, a partition in said basin, said partition being of less height than the sides of said basin, a feed chamber and an overflow chamber provided by said partition, a drain pipe leading from said feed chamber, a return pipe leading from said overflow chamber, and a supply pipe in said feed chamber.

5. A paper waxer and oiler comprising a wick, a movably mounted support for said wick, a controlling means for said support, an adjustable, movably mounted basin, a partition in said basin, a feed chamber and an overflow chamber provided in said basin by said partition, a drain pipe leading from said feed chamber, a return pipe leading from said overflow chamber, a supply pipe in said feed chamber, a heating coil in said feed chamber, said basin having supporting ears thereon, screws passing through said ears, gears on said screws, a control shaft, and gears on said control shaft, said last-mentioned gears meshing with said first-mentioned gears whereby the basin may be vertically adjusted.

6. A paper waxer and oiler device comprising a wick, a movably mounted support for said wick, a control lever on said support, a vertically adjustable basin, a partition in said basin, a feed chamber and an overflow chamber provided by said partition, a return pipe leading from said overflow chamber, a drain pipe leading from said feed chamber and into said return pipe, said drain pipe having a control valve therein, a supply pipe in said feed chamber, said supply pipe having suitably spaced outlets along the length thereof, a heating means in said feed chamber, said basin having supporting ears thereon, screw threads in said ears, screws passing through said screw threads, gears on said screws, a control shaft, and gears on said control shaft, said last-mentioned gears meshing with said first-mentioned gears, whereby the vertical position of the basin may be controlled, substantially as set forth and described.

7. A paper oiling apparatus for attachment to a paper making machine comprising a wick, a movably mounted support for said wick, a control means on said support, a vertically adjustable basin, a partition in said basin, said partition being of less height than the sides of said basin, a feed chamber and an overflow chamber provided by said partition, a drain pipe leading from said feed chamber, a return pipe leading from said overflow chamber, a control valve in the pipe from the feed chamber, a supply

pipe in said feed chamber, said supply pipe extending approximately the full length of said feed chamber and having suitably spaced outlets along the length thereof, a heating means in said basin, said basin having supporting ears thereon, screws passing through said ears, gears on said screws, a control shaft, and gears on said control shaft, said gears on said control shaft and said gears on said screws meshing with each other, whereby the vertical position of said basin may be suitably controlled, substantially as and for the purpose described.

In testimony whereof I affix my signature.

CARL A. ARVIDSON.