

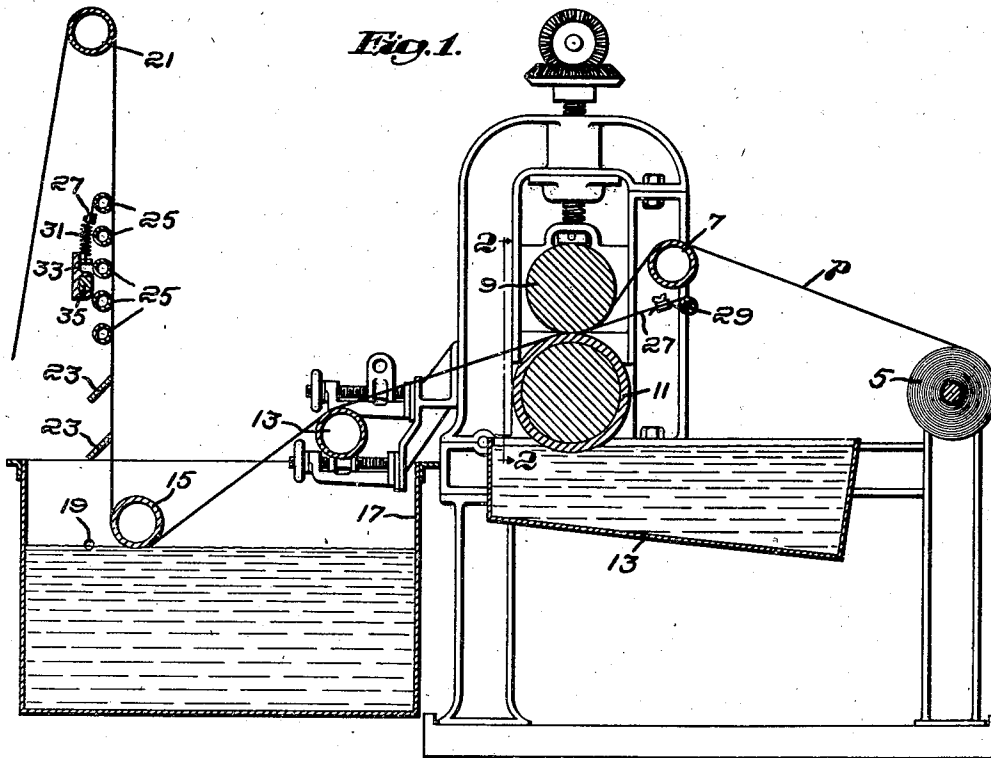
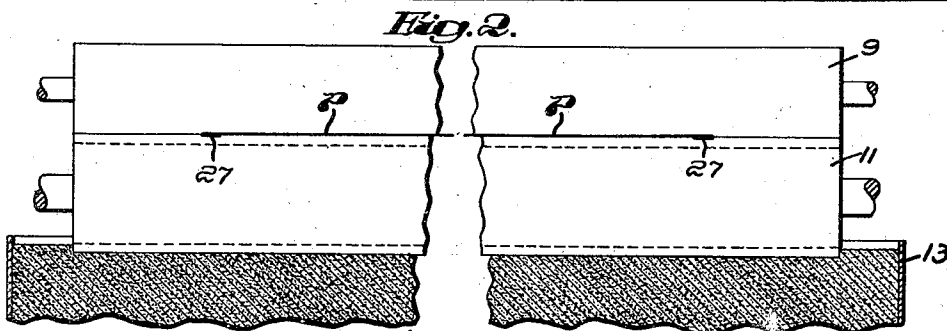
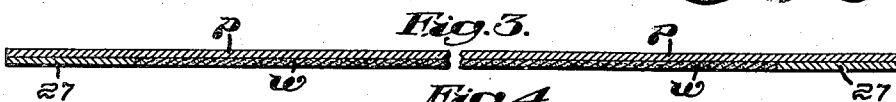
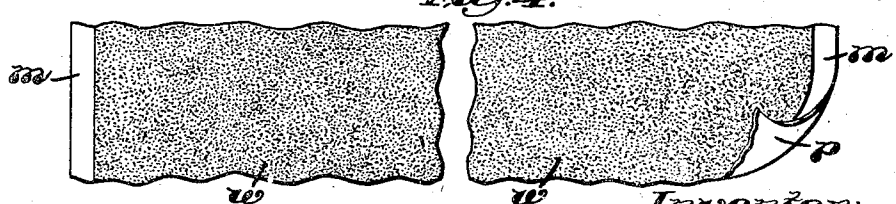
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2,083,273

PRODUCTION OF WAXED PAPER

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PRODUCTION OF WAXED PAPER

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7 Claims. (Cl. 91—55)

This invention relates to the waxing of paper and the object is to provide mechanism for producing paper having a highly lustrous and smooth coating of wax solely on one face thereof.

My invention will be well understood by reference to the following description of the illustrative embodiment thereof shown by way of example in the accompanying drawing, wherein:—

Fig. 1 is a simplified diagrammatic longitudinal section of a mechanism embodying the invention;

Fig. 2 is a section on line 2—2 of Fig. 1 with parts broken away;

Fig. 3 is an enlargement of certain parts shown in Fig. 2 wherein they appear too small for clearness; and

Fig. 4 is a fragmentary broken plan view of a portion of the product.

Referring to the drawing, I have there shown a machine providing at one end thereof a support for the roll 5 of paper *p*. The web of paper may be led from the supply roll over guide roll 7 and between the rubber squeeze roll 9 and the steel surfaced coating roll 11 running in tank 13 of wax, the coating roll serving to supply a coating *w* of wax to the lower face of the paper web. From this couple the paper web may pass over a burnishing roll 13 driven in the opposite direction to the travel of the paper.

To preserve the finish imparted by the burnishing roll the wax is set and hardened by treatment with water and herein the web leads from the burnishing roll 13 around a roll 15 partially submerged in a water bath in tank 17, the level of water being maintained in the tank, as by means of an overflow 19, so that only a small arc of the roll is submerged. The paper passes from the roll 15 past other mechanism hereinafter to be described and over a guide roll 21 from which it may be led for rewinding. The arrangement is such that the arc of contact of the paper web with the roll is substantially greater in extent than the submerged arc and includes the same. Thus where the paper comes in contact with the water its edges are sealed against the roll 15 and the water has no access to the rear or uncoated face thereof so that the paper as such is not wetted, the water being applied solely to the water-resisting wax coating *w* on the lower face of the web to set and harden the same. The water may be removed from the waxed face of the web by the scraper blades or squeegees 23 and suction rolls 25 which may be substantially similar in construction to those described in the patent to Decker and Van Sluys 1,385,042, July 19,

1921, and which therefore require no extended description here.

In various applications of a waxed paper of the kind described, for example, its application for use as a box covering, it is desirable to have a margin thereof free of wax in order that it may receive adhesive to permit the covering to be sealed about the box. I have herein shown means cooperating with either marginal portion of the web to provide an uncoated longitudinal zone *m* free of the wax coating *w*, as indicated in Fig. 4. Means are also provided for protecting this uncoated margin from contact with water so that it may neither itself be wetted nor conduct moisture to the body of the sheet in the rear of the wax coating *w*. In the drawing I have shown light steel tapes 27 trained through the couple 9—11 and over the rolls 13 and 15 in a path corresponding substantially to the path of the paper web, these tapes being herein shown as anchored at one end to a cross girt 29 with provision for transverse adjustment across the width of the machine and the other end is anchored with suitable tension by means of springs 31 to blocks 33 mounted for transverse adjustment on a cross-bar 35. The tapes 27 are here shown (see Figs. 2 and 3) as covering the margins of the paper web *p* and, being interposed between the same and the coating roll 11 as illustrated in Fig. 2, the coating of wax is not applied to these marginal portions *m* which are left bare in the manner shown in Fig. 4. The coating of wax applied by the rolls on the surface of the steel tapes at this point permits the parts to move readily and without objectionable friction. The tapes partially encircle roll 15 through an arc of contact greater in extent than its submerged arc and including the same and thus cover the uncoated margins *m* when the web is exposed to the water so that the water contacts only with the waxed face and is not permitted to soak into these margins or through the same to the paper web at the rear of the wax coating.

I am aware that the invention may be embodied in other specific forms without departing from the spirit or essential attributes thereof, and I therefore desire the present embodiment to be considered in all respects as illustrative and not restrictive; reference being had to the appended claims rather than to the foregoing description to indicate the scope of the invention.

I claim:

1. Paper waxing mechanism comprising means for applying a wax coating to one face only of the paper web, a water tank, a roll dipping there-

in and means to train the paper web over the roll with its waxed face outwardly to touch the water and serving to maintain it with an arc of contact exceeding in extent the submerged arc of the roll and including the latter.

5 2. Paper waxing mechanism comprising a coating roll, an indurating bath, a guide roll dipping therein, means to guide a paper web over the coating roll and over the guide roll and
10 serving to maintain it through an arc of contact on the latter exceeding in extent the submerged arc of the roll and including the latter and a tape separate from and unconnected with the paper positioned to overlie a longitudinal zone
15 of the web on the rolls, the arc of contact of said tape with the submerged roll exceeding and including the submerged arc whereby to protect the paper from contact with the coating material and the bath.

20 3. Paper waxing mechanism comprising a coating roll, an indurating bath, a guide roll dipping therein, means to guide a paper web over the coating roll and over the guide roll and serving to maintain it through an arc of
25 contact on the latter exceeding in extent the submerged arc of the roll and including the latter and a stationary tape trained over said rolls in the path of the paper web, the arc of contact of said tape with the submerged roll exceeding and including the arc of submergence
30 whereby the tape overlies a longitudinal zone of the web to protect it from contact with the coating material and the bath.

35 4. Paper waxing mechanism comprising means for applying a wax coating to one face only of a paper web, an indurating bath, means for maintaining a maximum level of the bath and means for guiding the paper into the bath pro-

viding surfaces cooperating with the edges of the paper beneath the liquid level for sealing off the opposite side.

5 5. A mechanism for finishing paper having a wax coating on one side only comprising a roll about which the paper is trained and in contact with which it is maintained through a substantial arc of contact and with the coated face
10 outermost, a tank opposing the roll for containing liquid for indurating the wax coating and means for maintaining a maximum level of liquid therein to submerge said roll along an arc smaller in extent than and included within the arc of contact.

6. Paper waxing mechanism comprising a 15 coating roll, a burnishing roll and a partially submerged roll running in an indurating bath, means to guide a paper web over said rolls serving to maintain it with an arc of contact on the submerged roll exceeding in extent its arc
20 of submergence and including the same and a stationary tape for protecting a longitudinal zone of the paper trained over said rolls substantially in the path of the paper thereabout, its arc of contact with the submerged roll exceeding and
25 including the arc of submergence.

7. Paper waxing mechanism comprising means to apply a wax coating to a face of the paper with a longitudinal zone thereof unwaxed, a roll
30 partially submerged in an indurating bath, means to guide the coated paper over said roll serving to maintain it with an arc of contact thereon exceeding in extent its arc of submergence and including the same and a tape for overlying said zone encircling the roll for an arc
35 likewise exceeding the arc of submergence and including the same.

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