

(No Model.)

A. YOUNG.

PAPER MACHINE WIRE CLOTH PROTECTOR.

No. 542,581.

Patented July 9, 1895.

FIG. 1.

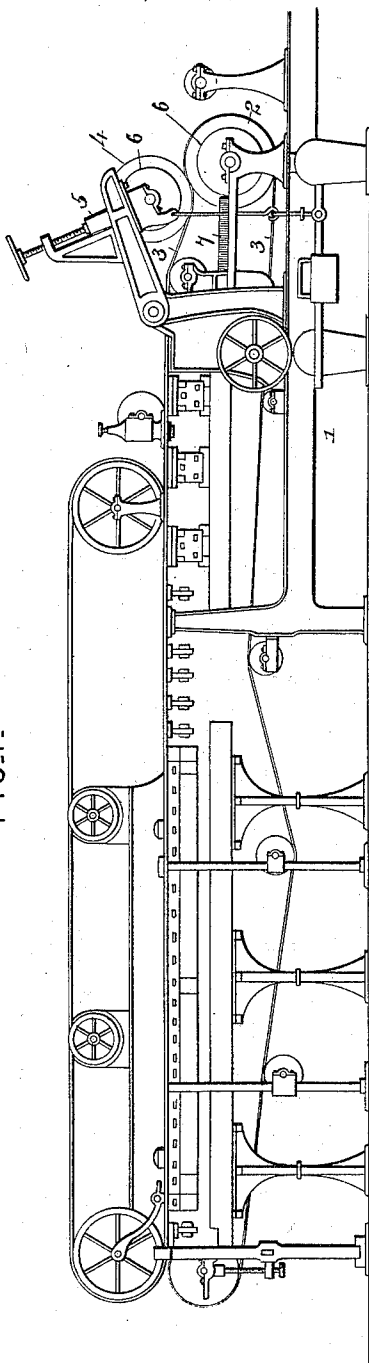


FIG. 4.

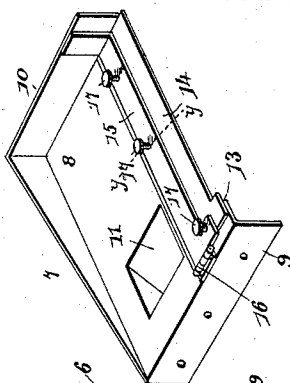


FIG. 5.

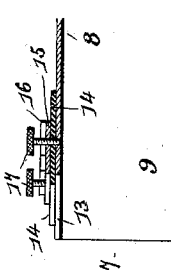


FIG. 3.

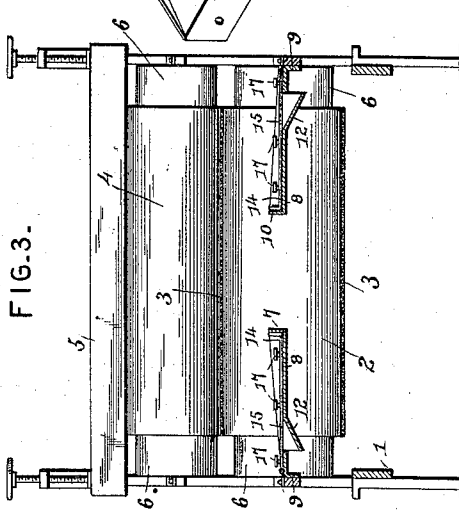
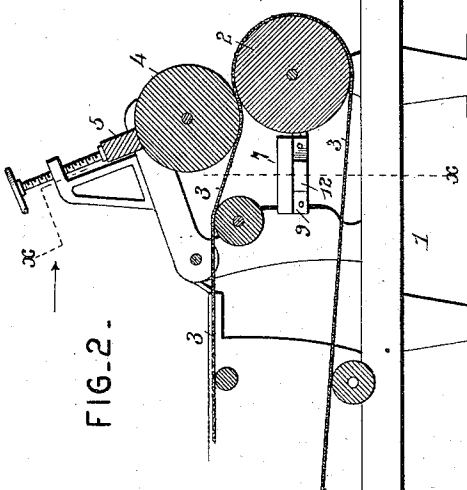


FIG. 2.



Inventor

Witnesses

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UNITED STATES PATENT OFFICE.

ADAM YOUNG, OF BERKLEY, MARYLAND, ASSIGNOR OF ONE-HALF TO
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PAPER-MACHINE WIRE-CLOTH PROTECTOR.

SPECIFICATION forming part of Letters Patent No. 542,581, dated July 9, 1895.

Application filed August 28, 1894. Serial No. 521,508. (No model.)

To all whom it may concern:

Be it known that I, ADAM YOUNG, a citizen of the United States, residing at Berkley, in the county of Harford and State of Maryland, have invented a new and useful Paper-Machine Wire-Cloth Protector, of which the following is a specification.

This invention relates to paper-machine attachments; and it has for its object to provide a new and useful protector attachment for paper-machines employing wire-cloth, and particularly in connection with the Fourdrinier paper-machine.

To this end the main and primary object of the present invention is to provide a paper-machine attachment that will receive and carry off from the machine the paper-pulp which may happen to adhere to the upper couch-roll and which is washed off at the ends of such roll, and thereby obviate the impairment of the wire-cloth by the pulp dropping onto the inside edges thereof, which ordinarily occurs in paper-machines of the character noted, inasmuch as the paper web in passing between the top and bottom couch-rolls sometimes adheres to the top roll, and if not carefully watched, in being washed off the ends of the top couch-roll, will drop onto the inside edges of the wire or wire-cloth and will be carried to the nearest stretch-roll on which it will accumulate, thereby causing the edges of the wire-cloth to be stretched and the same rendered practically useless.

With these and other objects in view, which will readily appear as the nature of the invention is better understood, the same consists in the novel construction, combination, and arrangement of parts hereinafter more fully described, illustrated, and claimed.

In the accompanying drawings, Figure 1 is a side elevation of a Fourdrinier paper-machine, showing the herein-described protector in position thereon. Fig. 2 is a sectional view of the top and bottom couch-roll and a portion of the wire or wire-cloth of the Fourdrinier paper-machine, showing the herein-described protector attached to one side of the frame of the machine. Fig. 3 is a vertical sectional view on the line *x x* of Fig. 2, showing a pair of protectors in their applied position, one at each end of the bottom or lower couch-

roll. Fig. 4 is a detail in perspective of one of the herein-described protector attachments for paper-machines. Fig. 5 is a detail sectional view on the line *y y* of Fig. 4.

Referring to the accompanying drawings, 1 designates the frame of a Fourdrinier paper-machine, in which is journaled the usual bottom couch-roll 2, over which passes one end of the usual wire or wire-cloth 3, and above which is arranged to work the top couch-roll 4. The top couch-roll 4 works under the guard or scraper-board 5, supported in position thereover for the purpose of holding back any pulp that may adhere to the top couch-roll either in starting up the machine or from other causes, and such pulp as is taken from the top couch-roll by the board 5 is washed off at the ends of the said couch-roll in the usual manner, as will be well understood by those skilled in the art, the features described being common accessories of a paper-machine of the class described.

Both the top and bottom couch-rolls 2 and 4 extend at their ends beyond the side edges of the wire 3, and are reduced at such ends, as at 6, in the usual manner, and the present invention provides for the attachment of a wire-protector 7 directly behind the bottom couch-roll, at both ends thereof and between the upper and lower portions of the wire 3, for the purpose of catching and discharging at one side of the machine the pulp that is washed over the ends of the top couch-roll, and which would otherwise drop upon the inside of the lower portion of the wire above which the protectors are arranged.

The wire-protector 7 consists essentially of a shallow pulp-pan 8, made of suitable sheet metal and provided at one end with the downturned attaching-flange 9, that is bolted or otherwise suitably secured to the inner side of the frame of the paper-machine directly in rear of the ends of the bottom couch-roll, and said pulp-pan 8 is provided at one side and end with the upturned dam-flanges 10, which serve to hold the water and pulp in the pan to insure the discharge thereof through the bottom discharge-opening 11, formed in the bottom of the pan near the outer end thereof, adjacent to the attaching-flange 9. The bottom discharge-opening 11 opens into the in-

5 declined side-inclosed discharge-spout 12, fitted to the under side of the pan over said opening 11. The discharge-spout 12 is disposed outwardly at an angle, so as to direct the
 10 pulp passing therethrough under the machine and away from the wire-cloth into a waste-trough or other receptacle designed to receive the pulp-washings from the top couch-roll.
 15 One side edge of the pulp-pan 8 is notched or cut away, as at 13, to conform to the shape of the reduced ends of the bottom couch-roll, in rear of which the same is located, and projecting over the notched or cut-away edge of
 20 the pan is a rubber or other suitable flexible joint-strip 14, which forms a water-tight contact with the bottom couch-roll and insures the running of the pulp and water onto the pan, while at the same time preventing the
 25 direct contact of one edge of the pan with the bottom couch-roll. The flexible joint-strip 14 is held removably clamped onto the cut-away edge of the pan by means of the clamp-plate 15, hinged at one end at 16 to one end of the
 30 pan and engaged by thumb-screws 17 or other suitable securing or clamping means for clamping the same tight down onto the joint-strip, while at the same time permitting the ready removal and replacement of such
 35 strip when necessary. The said joint-strip 14 and the clamp-plate 15, holding the same in position, have outer notched edges conforming to the notched or cut-away edge 13 of the pulp-pan.
 40 As already described, one pulp-pan is arranged at each end of the bottom couch-roll, and by means of this arrangement a sufficient portion of such pans will project beyond the edges of the wire or wire-cloth so as to receive
 45 the falling portions of the pulp-washings from the ends of the top couch-roll that would otherwise drop onto the inside edges of the wire or wire-belt and ruin the same by accumulating on the nearest stretch-roll.
 50 From the above, it is thought that the construction, usefulness, and many advantages of the herein-described protector attachment will be readily understood by those skilled in the art.
 55 Changes in the form, proportion, and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.
 Having thus described the invention, what

is claimed, and desired to be secured by Letters Patent, is—

1. A protector for paper machine wires consisting of a pulp pan adapted to be supported in rear of the bottom couch roll of a paper machine between the upper and lower portions of the wire to receive the pulp washings from the top couch roll, and provided with a bottom discharge opening, substantially as set forth.

2. A protector for paper machine wires consisting of a pulp pan adapted to be supported at one end and in rear of the bottom couch roll of a paper machine to receive the pulp washings from the top couch roll, and provided with a bottom discharge opening and an inclined discharge spout leading off from said opening, substantially as set forth.

3. The herein described protector for paper machine wires, consisting of a shallow pulp pan provided at one end with an attaching flange, upturned dam flanges at one side and end, a bottom discharge opening, and a notched side edge adapted to register with one end of the bottom couch roll of a paper machine, substantially as set forth.

4. The herein described protector for paper machine wires, consisting of a shallow pulp pan provided near one end with a bottom discharge opening, an inclined side inclosed discharge spout leading off from said opening, and a notched side edge adapted to register with one end of the bottom couch roll of a paper machine, and a flexible joint strip clamped onto the notched side edge of said pan, substantially as set forth.

5. The herein described protector for paper machine wires, consisting of a shallow pulp pan provided near one end with a bottom discharge opening and with a notched side edge adapted to register with one end of the bottom couch roll of a paper machine, a flexible joint strip fitted on the notched side edge of the pan and projecting beyond the same, and a hinged clamp plate attached to the pan and removably clamped onto said flexible joint strip, substantially as set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

ADAM YOUNG.

Witnesses:

NARD KEMP,
ROBT. E. PRIGG.