

Feb. 26, 1935.

O. C. ROESEN

1,992,840

PRODUCTION CONTROLLING DEVICE

Original Filed May 11, 1929

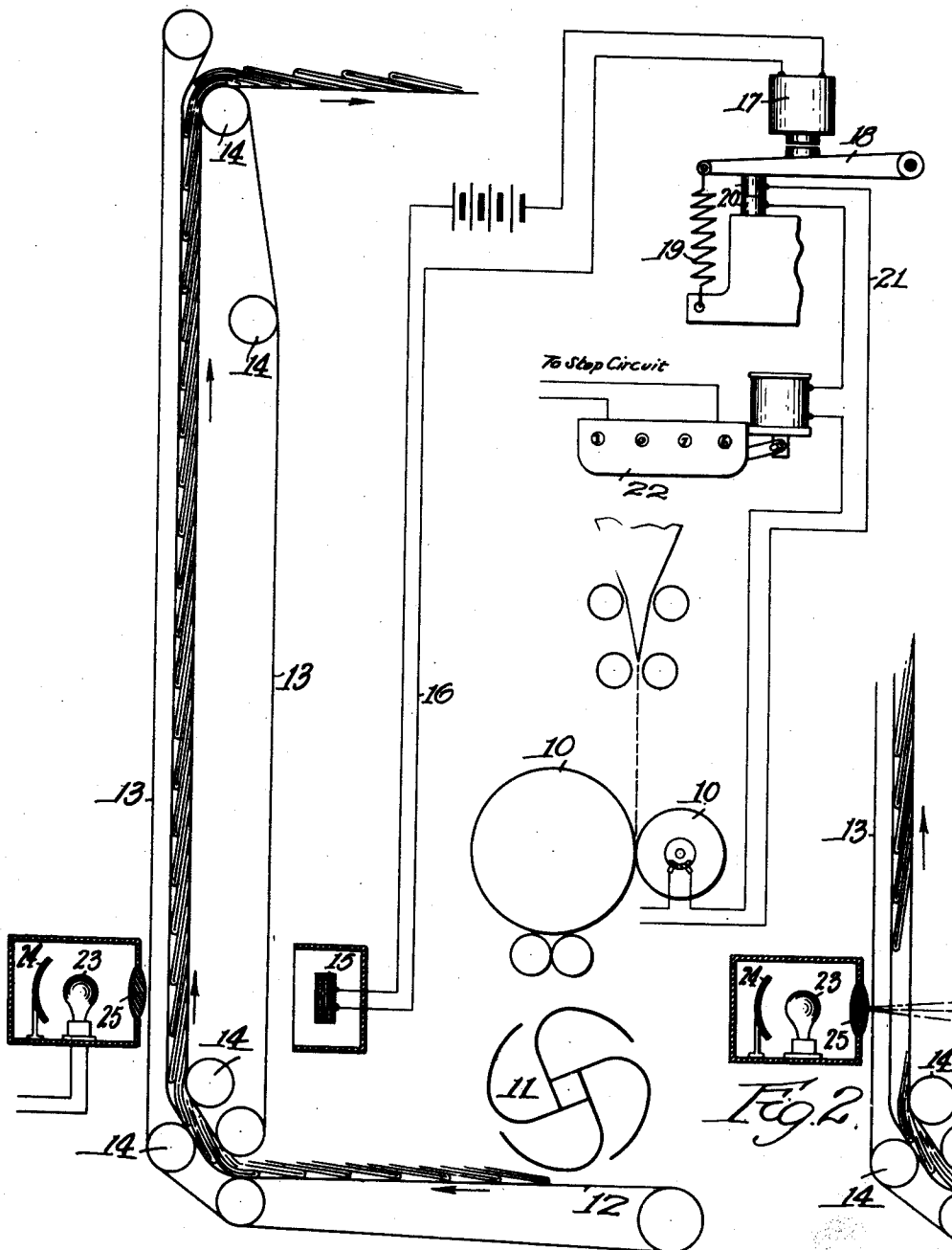


FIG. 1

Inventor
Oscar Charles Roesen
By attorneys

Southgate Fay & Hardy

Witness
C. F. Munn

UNITED STATES PATENT OFFICE

1,992,840

PRODUCTION CONTROLLING DEVICE

Oscar Charles Roosen, Eastchester, N. Y., assignor to Wood Newspaper Machinery Corporation, New York, N. Y., a corporation of Virginia

Application May 11, 1929, Serial No. 362,282

Renewed July 29, 1932

6 Claims. (Cl. 271-63)

This invention relates to the counting of the products of one or more machines and the control of the production thereof. It is particularly designed for use with the production of newspapers and other printed products, but capable of use for other purposes.

The principal objects of the invention are to provide an instantaneously acting and particularly sensitive means for controlling the production of a machine and to provide a device of this character which involves a minimum of mechanism.

Other objects and advantages of the invention will appear hereinafter.

Reference is to be had to the accompanying drawing in which

Fig. 1 is a side view, diagrammatically presented, of the delivery of a printing press showing a preferred embodiment of this invention applied thereto, and

Fig. 2 is a similar view of a portion of the same showing it in action for stopping the count.

The drawing shows the invention as applied to the delivery mechanism of a printing press involving the folding couple 10, delivery fan 11 and delivery belts 12. The folded products are deposited on these belts and the record of the count of papers is taken from the stream of papers going up a vertical conveyor 13 therefrom. This is desirable because removal of papers from the delivery belt 12 is not always compensated for on the counter which is attached to the folding machine. Accordingly, when the papers leave the belts 12, the belts 13, carried on rolls 14, take them vertically up a considerable distance and then deliver them horizontally or in any other direction as may be desired.

This invention provides means whereby when there is a gap in the otherwise continuous stream of papers up the vertical part of this delivery, the production controller 22 will be stopped. This controller consists of a counting device for one or more machines which stops the machine when a certain number of products are delivered. By stopping it automatically and starting it again automatically, its recording the production of more papers than are actually delivered will be avoided.

The means provided is in the form of a photo-electric cell 15 which is sensitive to light rays and normally keeps a circuit 16 in which it is located open, but when acted on by the light rays, will close this circuit. This circuit is connected with a magnet 17. When the magnet is energized, a lever 18 is raised against the action of a spring

19 and a pair of contacts 20 are opened. This opens a circuit 21. In this circuit 21 is a production controller 22 or any other form of recorder. When this contact 20 is open, this production controller stops recording until the magnet 17 is again de-energized and then the spring 19 closes the contacts 20.

It will be noted that the production controller is a counting device adapted to be set to any desired number which operates with each operation of the press and thus accurately counts the product. Furthermore, when the production controller reaches the point to which it is set, or in other words records the desired number of papers, it stops the operation of the press and folder by automatic means. This production controller, however, is not a part of this invention except as it enters into the combination.

The way in which the operation takes place automatically is to provide an electric lamp 23 with a reflector 24 behind it and a lens 25 in front of it to concentrate the light and throw it directly on the photo-electric cell 15. Between them is the stream of papers coming out of the folder. When this stream is unbroken, the light of course does not strike the photo-electric cell and does not effect it and the counting goes on continuously. But if one or more papers are missing, when they get to this point, an opening is provided, as is indicated in Fig. 2, and the light is thrown on the cell 15. The controller is stopped as long as the papers fail to come between the lamp and the cell and started automatically when the papers are again interposed.

It will be seen, therefore, that when the papers obstruct the light path between the light and the cell, the circuit 16 is kept open and the magnet 17 is not energized. Therefore, the spring 19 holds the contacts 20 together and the production controller or recorder is operated. Thus when papers are removed from the delivery belt, the count is automatically interrupted.

This automatic control of the count from the papers on the delivery conveyor 13 permits connecting the actuating mechanism of the production controller, or any other recorder, to either the press or the conveyor. In the normal course, the photo-electric cell must be near the delivery to minimize errors which are possible when the press is stopped and the conveyor is driven ahead by its own auxiliary driving mechanism. When the production controller contacts are connected with the conveyor, however, the photo-electric cell could be placed at any point along the path of the conveyor and still record the count accurately.

Although I have illustrated and described only a single form of the invention, I am aware of the fact that modifications can be made therein by any person skilled in the art without departing from the scope of the invention as expressed in the claims. Therefore, I do not wish to be limited to all the details of construction herein shown and described, but what I do claim is:—

1. The combination with a delivery for a machine and a recorder, of means for stopping the action of the recorder and photo-electric means for controlling said means, having two parts located on opposite sides of a stream of products coming from the delivery.

2. The combination with a delivery for a machine and a production controller, of means for stopping the action of the production controller, a photo-electric cell for controlling said means, an electric lamp for energizing the photo-electric cell, said lamp and cell being located on opposite sides of a stream of products coming from the delivery and normally continuous so that they will protect the photo-electric cell from the lamp unless some one or more of the products have been removed.

3. In a delivery for a printing press arranged to deliver folded products, the combination with delivery belts for the folded products, of a lamp located on one side of the stream of products, a photo-electric cell located on the other side in such position that when the products are flowing in a normal manner the light is cut off from the cell by said products all the time, a circuit connected with the photo-electric cell, a recording machine, and means whereby the operation of the recording machine will be controlled by said circuit.

4. In a delivery for a printing press arranged to deliver folded products, the combination with delivery belts for the folded products, of a lamp located on one side of the stream of products, a photo-electric cell located on the other side in such position that when the products are flowing in a normal manner the light is cut off from the cell by said products all the time, a circuit connected with the photo-electric cell in which is a magnet, a second circuit connected with a recording machine, a pair of contacts in the second circuit controlled by said magnet, whereby the circuit to the recording machine will be broken when the magnet is energized by the striking of rays from the light on the photo-electric cell owing to the absence of products from between them.

5. The combination with means for delivering products in a continuous unbroken stream, of a recorder, of means for stopping the action of the recorder and photo-electric means for controlling said last mentioned means, said photo-electric means coming into operation on a break or separation occurring in said stream of products, said photo-electric means having two parts located on opposite sides of a stream of products coming from the delivery.

6. The combination of a printing press delivery, means for counting the number of products passing over the delivery, and photo-electric means in two parts, one located on each side of the products on the delivery, for stopping the action of the counting means when a blank space on the delivery comes between the two parts of the photo-electric means.

OSCAR CHARLES ROESEN.