

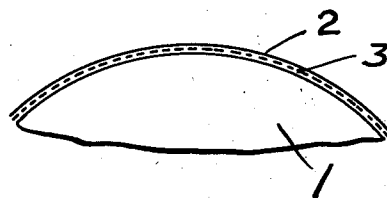
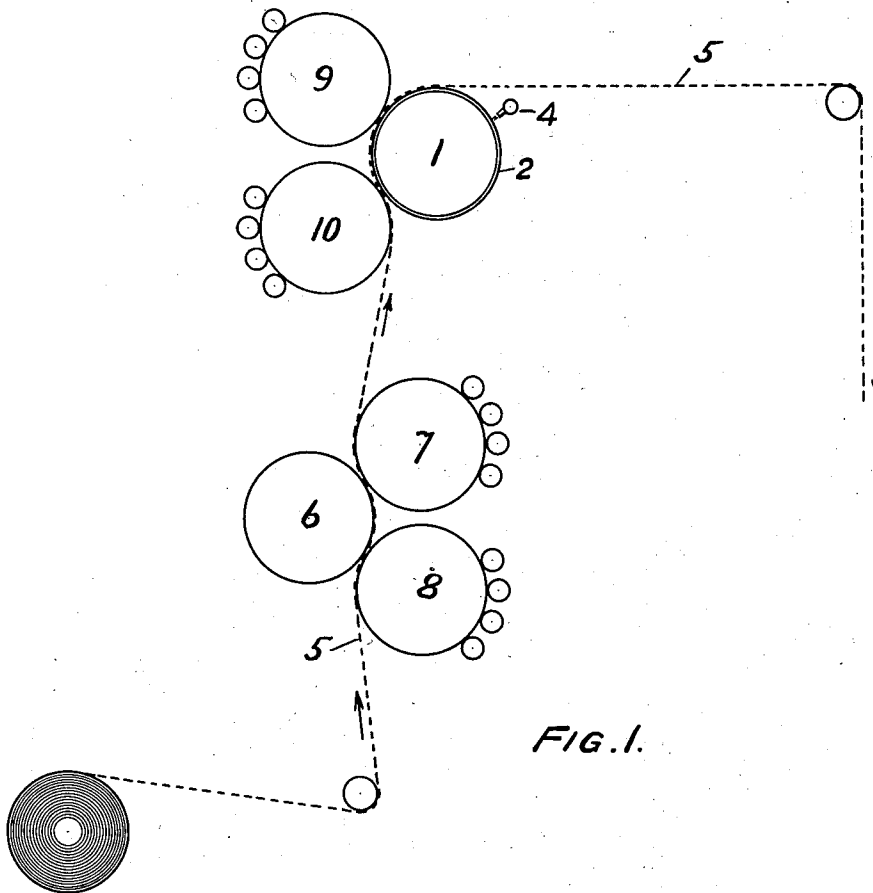
May 7, 1929.

A. L. GRAMMER

1,711,596

PRINTING

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WITNESS:

Prof. Mitchell.

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Patented May 7, 1929.

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UNITED STATES PATENT OFFICE.

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PRINTING.

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Perfecting presses print on one side of a traveling web as it passes between a packing cylinder and one or more plate cylinders and then print on the other side of the web as it passes between another packing cylinder and its plate cylinder or cylinders with the freshly printed surface next to the packing cylinder. The freshly printed surface at the second printing is exposed to the defect known as offset. Hitherto a tympan or offset roll or sheet was fed through the second printing mechanism between the freshly printed side of the web and the top sheet on the packing cylinder to keep the ink from the freshly printed side of the web from offsetting to the top sheet on the packing cylinder which would in turn transfer the ink back to the paper web, marring or disfiguring the printing. The tympan or offset roll, which might be called a sheet, feeds continuously with the paper web being printed presenting a new surface with each impression until the end of the offset or tympan roll is reached. In time, dependent upon the amount of ink used, the tympan or offset roll becomes covered with ink and must be removed from the press. Among the difficulties presented by the offset or tympan roll the following may be mentioned: It is difficult to feed the tympan or offset roll or sheet at the same speed as the web, and if this is not done a part of the ink is wiped or lifted, causing distortion or blurring of the printed matter and reducing the useful life of the tympan or offset sheet. The offset sheet is likely to wrinkle and cause printing distortion and it frequently breaks, delaying the printing operation. Again offset or tympan rolls or sheets vary in thickness throughout their lengths causing variation in impressions which deleteriously affect the quality of the printing. Again when the end of the tympan roll is reached the press has to be stopped causing delay. It is difficult to obtain clean printing when two colors are printed on one side and four colors are printed on the second printing unit. The two colors first printed contact with the tympan or offset sheet when the four color impressions are applied to the reverse side of the web causing what is known as four beats against the wet two color impression on the offset sheet, therefore four color printing backing four color printing is not attempted.

Objects of the present invention are to

eliminate the tympan or offset sheet with its objections, among which some have been mentioned, and to provide for preventing offset in a satisfactory, simple and better manner.

To these and other ends the invention may be said to comprise satisfactorily keeping the surface of the packing cylinder dampened, wet or moist with water which acts as an ink resist while at the same time keeping the make-ready dry.

The invention also comprises the improvements to be presently described and finally claimed.

In the accompanying drawing there is illustrated one but not the only means for practicing the invention and in the drawing

Figure 1 is a diagrammatic view illustrative of perfecting presses, and

Fig. 2 is an enlarged diagrammatic view of a portion of the packing cylinder shown at the second printing mechanism in Fig. 1.

The method of the invention will be described in connection with the accompanying drawing although its practice is not limited to the mechanism there shown.

In the drawing the packing cylinder 1 of the second printing unit is shown as provided with a smooth absorbent surface coat 2, and with an underlying coat 3 of material adapted to prevent water or other ink resisting liquid absorbed by the coat 2 from reaching the make-ready. Of course where the make-ready is not affected by water or moisture the impervious sheet 3 may be omitted. An example of material well fitted for use as the smooth, absorbent surface coat 2, but of course not the only example, is cellophane which appears to be a cellulose compound product that is smooth and readily absorbs water. 4 diagrammatically illustrates a means for supplying the surface of the packing cylinder 1 with water. It is not the intention to limit the invention in all cases to the use of water but it is readily obtainable and therefore is mentioned as a fluid that is incompatible or does not mix with oils or varnishes or inks or colors used in printing and usually containing either or both of those or like substances.

The paper web 5 in passing between the packing cylinder 6 and the plate cylinders 7 and 8 is printed on one side, the righthand side in the drawing, and in passing between the packing cylinder 1 and the plate cylin-

ders 9 and 10 is printed on the other, left-hand side in the drawing, and the freshly printed righthand side of the web is presented to the packing cylinder 1. The
5 water, moisture or dampness on the surface of the packing cylinder 1, however supplied, operating as an ink resist, opposes and prevents offset.

It will be obvious to those skilled in the
10 art to which the invention relates that modifications may be made in details of procedure and in matters of mere form without departing from the spirit of the invention
15 otherwise than the prior art and the appended claims may require.

I claim:

1. The means of preventing offset at the
20 freshly printed side of a paper web traveling between a plate cylinder and the make-ready of a packing cylinder with its freshly printed side toward the make-ready which
comprise a smooth absorbent non-metallic surface provided on the make-ready, and

means for supplying said surface with water 25
to keep it moist and resistant to fresh ink.

2. The means of preventing offset at the
freshly printed side of a paper web traveling between a plate cylinder and the make-ready of a packing cylinder with its freshly
30 printed side toward the make-ready which comprise a smooth absorbent non-metallic surface coat and an underlying coat impervious to water provided on the make-ready,
35 and means for keeping said absorbent surface coat wet with water.

3. The means of preventing offset at the
freshly printed side of a paper web traveling between a plate cylinder and the make-ready of a packing cylinder with its freshly
40 printed side toward the make-ready which comprise a coat of a cellulose compound product and an underlying coat impervious to water provided on the make-ready, and
45 means for keeping said absorbent surface coat wet with water.

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