

Sept. 8, 1942.

E. O. SMITH

2,295,134

ELIMINATING ELECTRICITY IN PRINTING OPERATIONS

Filed May 10, 1940

Fig. 1.

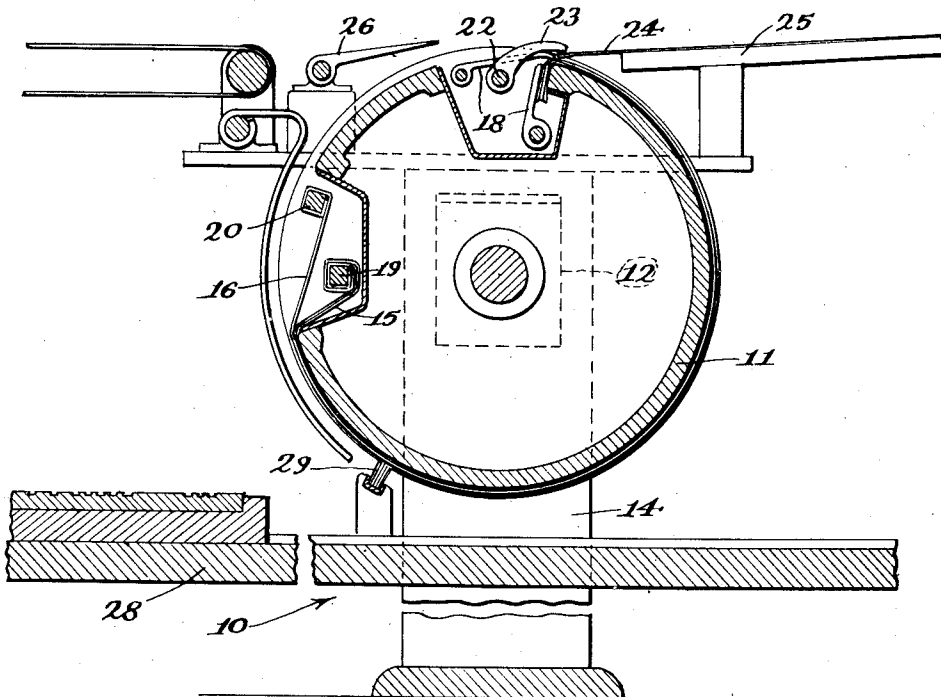


Fig. 3.

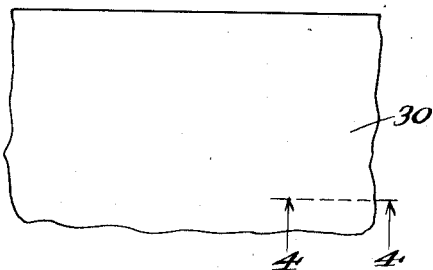


Fig. 4.

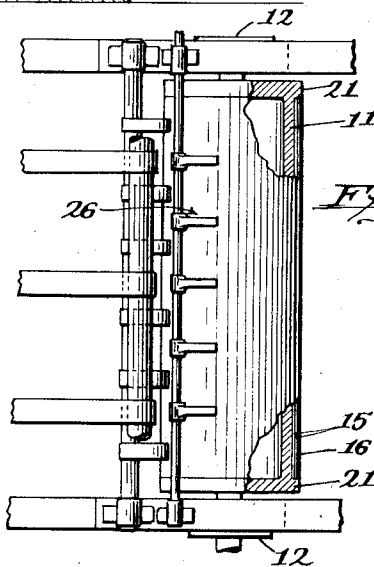


Fig. 2.

INVENTOR.
Ernest O. Smith
BY *Emmett S. Moore*
ATTORNEY.

UNITED STATES PATENT OFFICE

2,295,134

ELIMINATING ELECTRICITY IN PRINTING OPERATIONS

Ernest O. Smith, Los Angeles, Calif.

Application May 10, 1940, Serial No. 334,392

3 Claims. (Cl. 175—264)

This invention relates more specifically to eliminating static electricity in printing operations.

During operations of cylinder printing presses considerable trouble has been encountered due to static electricity which prevents the printed sheets from stacking evenly.

This condition is caused by the moving parts of the press, and is also increased or diminished due to weather conditions i. e., the static being increased when the weather is damp or stormy. Sheets being run through the press become positively charged with static electricity resulting in one sheet repelling another to such an extent that when the sheets are discharged from the cylinder after being printed they will not stack evenly.

It is therefore, an object of the invention to provide a method of and means for eliminating static electricity generated during the operation of a printing press.

Other objects and advantages will be apparent from the following description, reference being had to the accompanying drawing in which:

Fig. 1 is a fragmentary section taken through a cylinder printing press.

Fig. 2 is a top plan view on a reduced scale.

Fig. 3 is a fragmentary face view of the static eliminating sheet.

Fig. 4 is an enlarged section taken on line 4—4 of Fig. 3.

Referring more specifically to the drawing 10 designates a portion of a cylinder printing press, 11 the cylinder that is journaled in bearings 12 carried by standards 14. Mounted on the periphery of the cylinder is a permanent packing consisting of a plurality of paper sheets 15 and engaging the same is a draw sheet 16 of usual form.

One of the ends of the packing and draw sheet is held in place on the cylinder by clamps 18, while their opposite ends are wound around draw bars 19 and 20 respectively, the packing and draw sheets extending between barriers 21 formed on each end of the cylinder.

Mounted on a rock shaft 22 is a plurality of fingers 23 that grip the ends of the sheets 24 as they are delivered from the feed board 25 to the cylinder.

Disposed opposite the feed board is stripper 26 and arranged below the cylinder is a type bed 28 and a brush 29, the latter serving to clean, and at the same time insure proper registering of the sheets during a printing operation.

It will be particularly noted that as the packing and draw sheets are formed of paper the cylinder becomes electrically insulated, hence the static electricity remains with or on the sheets after they have been printed.

The present invention resides in electrical con-

ductive sheets 30 designed to eliminate any static electricity that may be generated during the operation of the press, and are adapted to be applied to the cylinder of the press in the same manner as the packing and draw sheet as above described, or to be used in lieu thereof.

In fabricating the sheets 30 minute particles of metal such as copper and like metallic substances or any other electric conductive substance 32 are thoroughly mixed with a paper pulp solution during the manufacture, the pulp then being drawn into sheets of any desired thickness and calendered in the usual manner.

By forming packing and draw sheets of the composition above described any static electricity on the sheets being printed will be conducted through the press cylinder and press frame to ground.

I claim:

1. A device for eliminating static electricity from sheets of paper being printed on the cylinder of a cylinder printing press, a ferrous printing press cylinder, a packing sheet, and a draw sheet of relatively soft non-conductive electrical material impregnated with small particles of relatively hard electrical conductive material operatively positioned on the periphery of said ferrous cylinder to receive the sheet of paper to be printed directly there against, whereby substantially the entire surface of said sheet being printed will be in direct electrical contact with said small particles of electrical conductive material at numerous points.

2. In a device for eliminating static electricity from sheets of paper while in position on the cylinder of a cylinder printing press, sheets of paper impregnated with small particles of relatively high electrical conductivity mounted on a ferrous cylinder to present numerous electrical conductors extending from the outer surfaces of said impregnated paper sheets to the surfaces of said press cylinder, whereby static electricity produced in a sheet of paper to be printed directly on the outer padded surface of said cylinder by the brushing operation will be conducted by said small particles through said impregnated sheet to the cylinder of the press.

3. In a device for eliminating static electricity from sheets of paper being printed on the cylinder of a cylinder printing press, a ferrous printing press cylinder, a packing sheet, and a draw sheet of relatively soft electrical conductive material operatively positioned on the periphery of said ferrous cylinder to receive the sheet of paper to be printed directly thereagainst, whereby substantially the entire surface of said sheet being printed will be in direct electrical contact with said draw sheet.

ERNEST O. SMITH.