

F. R. CRAIG.
 MEANS AND METHOD OF DEMAGNETIZING PAPER.
 APPLICATION FILED JAN. 9, 1908. RENEWED OCT. 10, 1910.

993,034.

Patented May 23, 1911

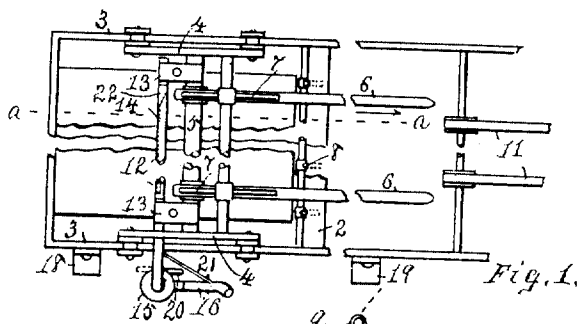


Fig. 1.

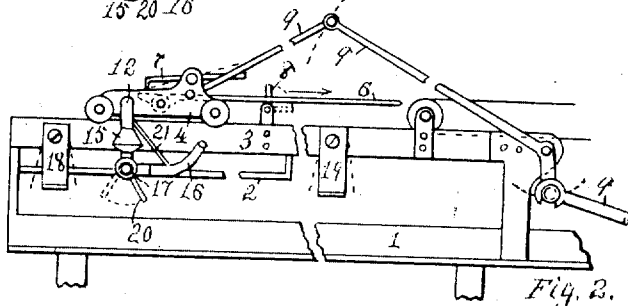


Fig. 2.

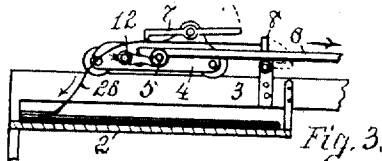


Fig. 3.

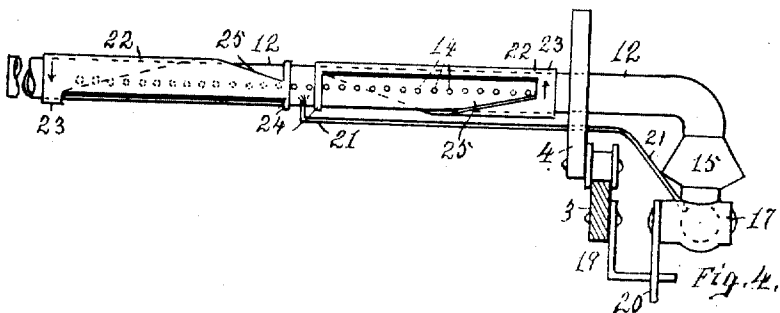


Fig. 4.

Witnesses

James G. Carr.
 Samuel S. Carr.

Frank R. Craig, Inventor.

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UNITED STATES PATENT OFFICE.

FRANK R. CRAIG, OF HAMILTON, OHIO, ASSIGNOR OF ONE-HALF TO W. L. TOBEY, OF HAMILTON, OHIO.

MEANS AND METHOD OF DEMAGNETIZING PAPER.

993,034.

Specification of Letters Patent.

Patented May 23, 1911.

Application filed January 9, 1908, Serial No. 409,916. Renewed October 10, 1910. Serial No. 586,397.

To all whom it may concern:

Be it known that I, FRANK R. CRAIG, a citizen of the United States, residing at Hamilton, Butler county, Ohio, have invented a new and useful Improvement in Means and Methods of Demagnetizing Paper, of which the following is a specification.

My invention relates to means for discharging static charges. Sheets of paper become charged with static electricity by friction in their passage through a printing press or folder which causes them to adhere together and cause offset or smut when placed in contact with each other, this necessitates the interleaving of smut sheets or the drying of the sheets separately before placing them in a pile. The objects of my improvement are to subject each sheet of paper to the action of a predetermined quantity of heat during its discharge from the press or folder whereby the static electricity therein may be dissipated and the ink may be sufficiently dried for the sheets to be placed in superposed positions without becoming soiled by offset or smut; further objects are to provide automatic means for regulating the amount of heat; to provide means for adjusting the burner to the width or to the lateral position of the paper; to provide a pilot light for igniting the burner, and a mixer for economizing the gas, and to provide a simple and durable device adapted to use on printing presses or elsewhere and which combines facility of operation with efficiency of action.

These objects are attained in the following described manner as illustrated in the accompanying drawings, in which:—

Figure 1 is a plan with parts broken away of a printing press provided with my improved device; Fig. 2 a side elevation; Fig. 3 a vertical section on the line *a—*a** of Fig. 1, and Fig. 4 a rear elevation of the burner and its connections.

In the drawings, 1 represents the supporting frame of a printing press, 2 the receiving table, 3 the tracks, 4 the delivery carriage thereon, 5 and 6 the finger shaft and delivering fingers attached to the carriage, 7 the automatic sheet stops, 8 the automatic stripper stops, 9 the carriage reciprocating mechanism, and 11 the delivery tapes, all being constructed and arranged in the ordinary manner.

The tubular burner 12 removably secured

to the finger shaft 5 by means of clamps 13 is provided with a line of small perforations 14 in its rear face. It is closed at one end and provided at the other end with an ordinary gas and air mixer 15. A flexible tube 16 communicates with the mixer through a straight way cock 17 from a supply of gas (not shown).

Stops 18 and 19 adjustably secured on the track near the respective ends of the stroke of the carriage thereon are arranged to contact with the handle 20 of the cock 17 and respectively open and close said cock either partially or completely as desired. A pilot 21 preferably located near an intermediate point in the length of the burner communicates with the gas supply pipe at a point beyond the cock 17. Sleeves 22 rotatively mounted on the burner and preferably on its respective end portions are each formed with a collar 23 and 24 on its respective ends and with an intermediate longitudinal slot 25. Said slots are formed on one side in a line parallel with the axis of the burner and on the opposite side in the line of a helix as shown in Fig. 4.

In operation, the carriage may be reciprocated on the track in a forward and rearward direction by means of the actuating lever mechanism 9. When the carriage is in its most forward position in the direction of the arrows, the contact of the handle 20 with the stop 19 closes the cock 17 and the sheet 26 is delivered from the press and upon the fingers 6 with its rear edge in contact with the sheet stops 7 by means of the tapes 11. The rearward movement of the carriage carries the sheet 26 with its front edge beyond the stripper stops 8 and by contact of the handle 20 with stop 18 opens cock 17 and the burner is ignited by means of the pilot light.

In the forward movement of the carriage, the sheet stops 7 automatically release the rear edge of the sheet 26 and the stripper stops 8 automatically engage with its front edge whereby the forward movement of the sheet is prevented during the forward movement of the carriage with the ignited burner thereunder. In this manner the sheets may be heated during their delivery from the carriage for dissipating the static electricity therein. The heated or rarefied air under the sheets prevents them from immediate contact with each other, demagnetizes them instantly and dries the ink thereon suffi-

ciently to prevent any offset or smut when superposed in a pile together.

Stop 19 may be adjusted to only partially close the cock for reducing the flame of the burner without entirely extinguishing it. When operated in this manner the pilot light may be dispensed with if desired. The sleeves 22 may be rotatively adjusted on the burner for either completely or partially closing the perforations in either one or both end portions of the burner for the purpose of limiting the line of flame to the width of the sheet of paper and for exposing the flame more or less toward either end of the burner to register with the lateral position of the sheet during its discharge from the carriage.

Having fully described my improvement, what I claim as my invention and desire to secure by Letters Patent of the United States is:—

1. The combination of a reciprocating carriage, a burner carried thereby and provided with a cock and means for automatically actuating the cock during the movement of the carriage.

2. The combination of a carriage, a burner carried thereby and provided with a mixer, and with a cock for controlling the admission of gas to the mixer and means adjustably secured at a fixed point for intercepting and automatically actuating the cock.

3. The combination of a tubular burner provided with a mixer, a valve controlled inlet thereto, means for reciprocating the burner laterally, and means for automati-

cally actuating the valve at a predetermined point in the movement of the burner.

4. The combination of a tubular burner, provided with a gas supply cock, means for reciprocating the burner laterally, and with a stop mounted at a fixed point for actuating the cock at a predetermined point in the movement of the burner, edges in the line of a helix on a sleeve being rotatively adjustable on the burner for the purpose specified.

5. The combination of a carriage, a longitudinal burner mounted thereon, a cock for controlling the admission of gas to the burner, adjustable stops mounted at fixed points for automatically actuating the cock and a pilot for lighting the burner.

6. The combination of a carriage, a longitudinal burner mounted thereon and provided with a pilot light and with a gas cock, and adjustable stops arranged to automatically open and close the cock in respective predetermined positions of the carriage.

7. The combination of a reciprocating carriage a longitudinal burner movable laterally therewith, and automatic means actuated by the movement of the carriage for controlling the admission of gas to the burner.

In testimony whereof witness my signature at Hamilton, Ohio, this 7th day of January, 1908.

FRANK R. CRAIG.

In presence of—
E. V. HILL,
R. S. CARR.