

No. 638,237.

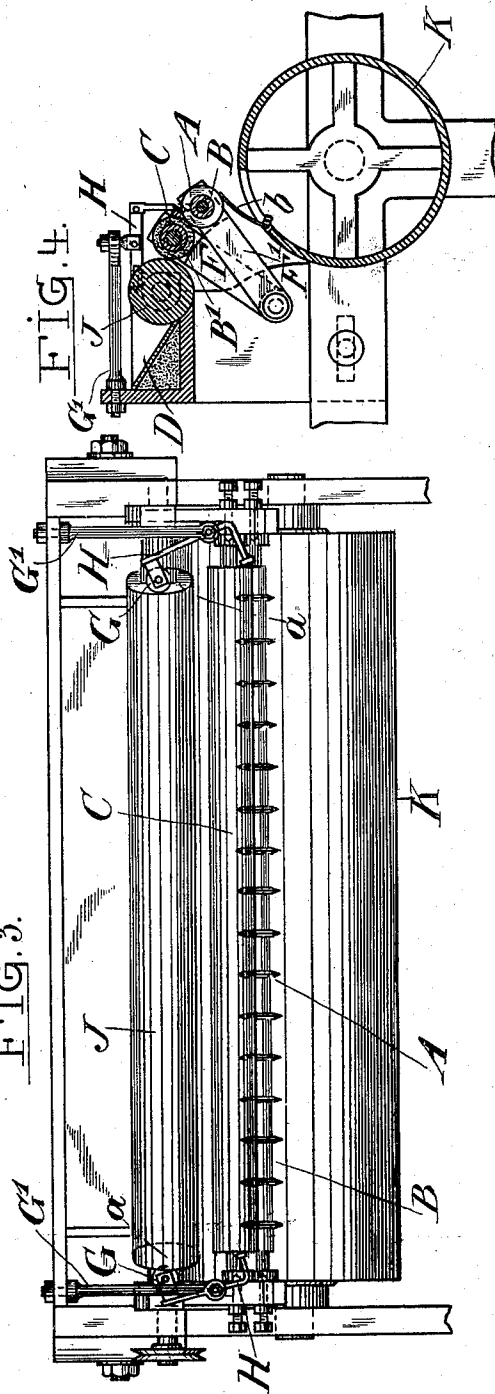
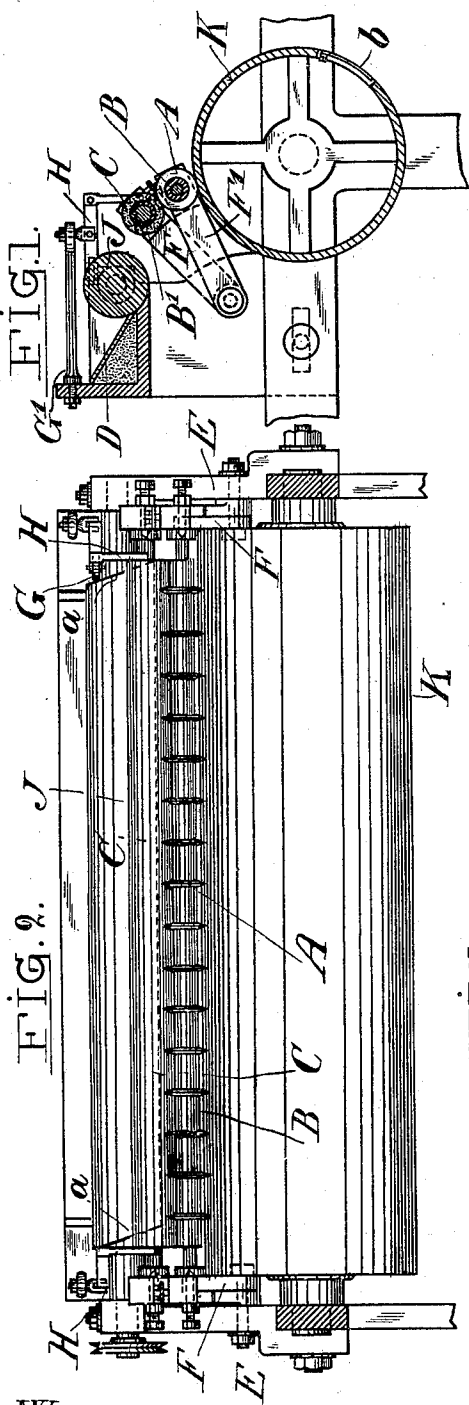
Patented Dec. 5, 1899.

J. B. GROSSE.
PRINTING PRESS.

(Application filed Oct. 24, 1898.)

(No Model.)

2 Sheets—Sheet 1.



Witnesses:
Alfred Meisinger
Hugo Böhme.

Inventor:
Johann Bernhard Grosse
by: Gustav Hoffmann
Att'y.

No. 638,237.

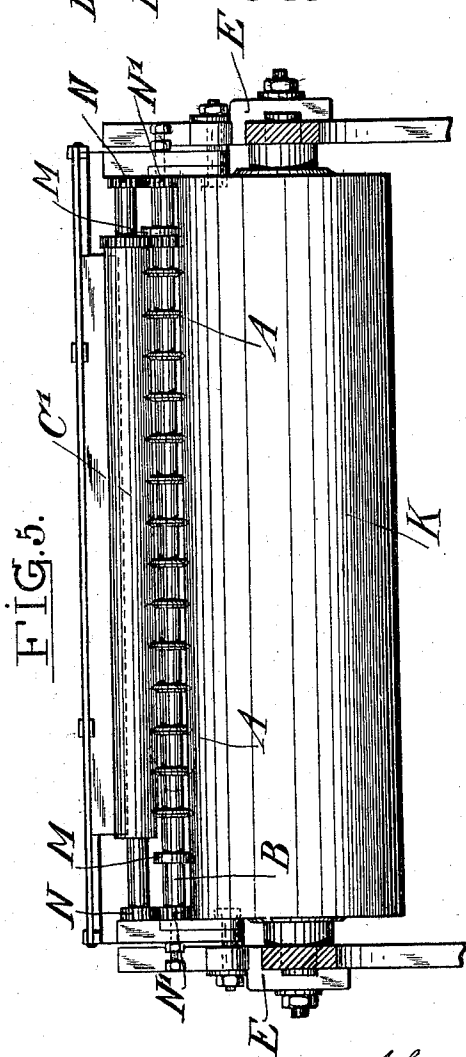
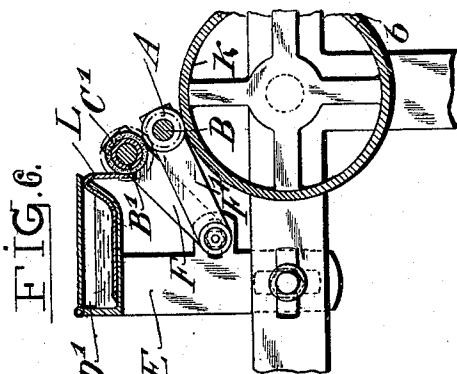
Patented Dec. 5, 1899.

J. B. GROSSE.
PRINTING PRESS.

(Application filed Oct. 24, 1898.)

(No Model.)

2 Sheets—Sheet 2.



Witnesses:
Alfred Meisinger
Hugo Bohme.

Inventor:
Johann Bernhard Grosse
by: *Ernst von Kloppe*
Att'y.

UNITED STATES PATENT OFFICE.

JOHANN BERNHARD GROSSE, OF LEIPSIC-LINDENAU, GERMANY.

PRINTING-PRESS.

SPECIFICATION forming part of Letters Patent No. 638,237, dated December 5, 1899.

Application filed October 24, 1898. Serial No. 694,465. (No model.)

To all whom it may concern:

Be it known that I, JOHANN BERNHARD GROSSE, a subject of the King of Saxony, residing at Leipsic-Lindenau, Kingdom of Saxony, Germany, have invented certain new and useful Improvements in Printing and Lithographing Presses, of which the following is a full, clear, and exact description.

The present invention consists of improvements in printing and lithographing presses by means of which the paper to be printed may be simultaneously ruled; and the invention comprises the details of construction hereinafter set forth, and particularly pointed out in the claims.

In order to render the present specification more easily intelligible, reference is had to the accompanying drawings, in which similar letters of reference denote similar parts throughout the several views.

Figure 1 is an end elevation, partly in section, of the device applied to a printing-press. Fig. 2 is a front elevation of Fig. 1; Fig. 3, a plan, and Fig. 4 a similar sectional end elevation to Fig. 1, with the ruling-disks and inking-roll raised by the grippers of the printing-cylinder. Fig. 5 is a sectional end elevation of a modified form of the invention, and Fig. 6 a front elevation of the same.

K represents the impression-cylinder of an ordinary printing-press, and *b* the grippers thereon for gripping the sheets fed to the press. The line-ruling apparatus forming the object of the present application is mounted on or between two end standards E, and consists of the upper inking-reservoir D, having the distributing ink or color roll J and a shaft B', carrying a rubber or hard-rubber coating C, which rotates with the said roll B', but is longitudinally adjustable thereon, as hereinafter described. The roll and shaft C and B' are mounted in arms F, adapted to swing on pivots of the standards E. A second pair of arms F' may be suspended from one and the same pivot, the said arms forming the bearings for the line-producing disks A A, mounted on the shaft B, which disks run on the surface of the cylinder K. Pivotally supported on suitable arms G' of the standards or frame E and at either end of the roll C are levers H H, while the ends of the distributing-roll J are formed to cams, as at *a a*, against which

one end of each of the levers H, having an antifriction-roll, engages. The forward ends of the said levers H engage the movable covering C of the shaft B', and the cams *a a* of the roll J are advantageously so formed that at one revolution of the said roll the covering C will be moved from right to left by the left-hand cam-surface and lever H, while at the next revolution the movement takes place in the opposite direction by means of the lever and cam at the opposite end of the roll J.

The device operates in the following manner: After the grippers have fastened the sheet and when the cylinder revolves to bring the said sheet into contact with the letter-press or types arranged on the bed of the press, the said sheet will first be passed under the disks A A, by which it will be ruled. As soon as it has been subsequently the grippers will be opened in the usual manner, as is well known, and in opening to receive the next sheet the said grippers will raise the arms F F' of the two shafts B B', thus bringing the inking-roll B' C into contact with the distributing-roll J and inking the same anew. While the covering C of B' is in contact with the edges of the disks A, it will be continually moved, by the cam device described, longitudinally of its shaft, so that the ink of the roll C will be properly used up, and, on the other hand, the disks will be prevented from cutting into the said coating. As soon as the grippers *b* close down on the next sheet of paper they lower the disks again into operative position on the cylinder or drum K.

Figs. 5 and 6 show a modification of the device in which water colors may be employed instead of the ink or color of the usual consistency for printing-presses. In this case the trough D is filled with fluid color, which is transferred to the roll C' by means of a strip of suitable stuff, which distributes the said color along the whole length of C' by means of capillary attraction or suction. In this case the coating of the roll C' need not be movable longitudinally of its shaft. In order to prevent the disk A from cutting into the said roll, the disk-shaft and the shaft of C' are provided with distance-rolls N N', which run one on the other, and thus relieve the coating C' of the weight of pressure on the edges of the disks. If parts of the paper

being printed are to remain without lines, disks M M may be keyed to the shaft of the disks A A and short raised paths provided on the drum K at the desired positions, which
5 will then raise the disks A A off the paper as soon as they come under the rolls M, as will be readily understood.

The roll J may be positively driven by means of a cord or other pulley or gear (indicated at E', Fig. 3) from any suitable part of the machine, while the rolls C and the disks A may either be positively driven by suitable or they will receive their motion from the drum K when they are in contact therewith,
15 and otherwise from the roll J.

I claim as my invention—

1. In a printing-press the combination of a line disk-shaft having disks thereon and a color-distributing roll said parts being
20 mounted in swinging arms as specified, a longitudinally-movable covering to the said inking-roll, an ink-distributing roll J and means for positively rotating the same, said roll being mounted in proximity to the said roll C
25 and having cam-surfaces *a a* at either end, pivoted levers H H to engage said cams with one end and operate the covering C with the

other end and means in connection with the printing-cylinder for periodically raising the disk-shaft and the roll-shaft B' to contact
30 with the inking-roll J substantially as described.

2. In a printing-press the combination of a disk-shaft and an inking-roll mounted in swinging arms as specified, the former resting by gravity on the cylinder and the latter
35 on the former, a color-holding trough and a color-distributing roll mounted in proximity thereto, a longitudinally-movable coating to the inking-roll and means in connection with
40 the said distributing-roll to slide said coating longitudinally back and forth along its shaft and grippers *b b* located on the press-cylinder
45 so as to raise the arms carrying the disks and the inking-roll against the distributing-roll, and means for positively driving the latter substantially as described and for the purpose specified.

In witness whereof I have hereunto set my hand in presence of two witnesses.

JOHANN BERNHARD GROSSE.

Witnesses:

MORITZ SPREER,

RUDOLPH FRICKE.