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M. SCHMIDT & E. J. GEBLER.

GRIPPING MECHANISM FOR PRINTING PRESSES.

(Application filed May 21, 1901.)

(No Model.)

Fig. 1.

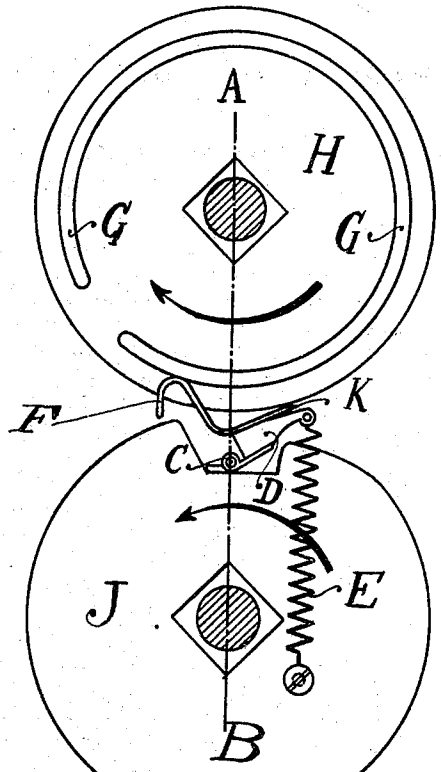


Fig. 2.

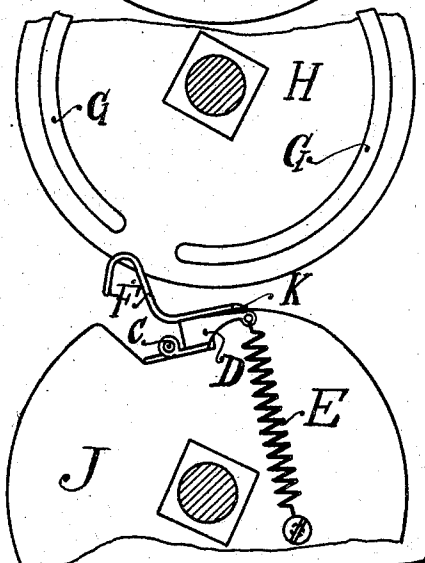
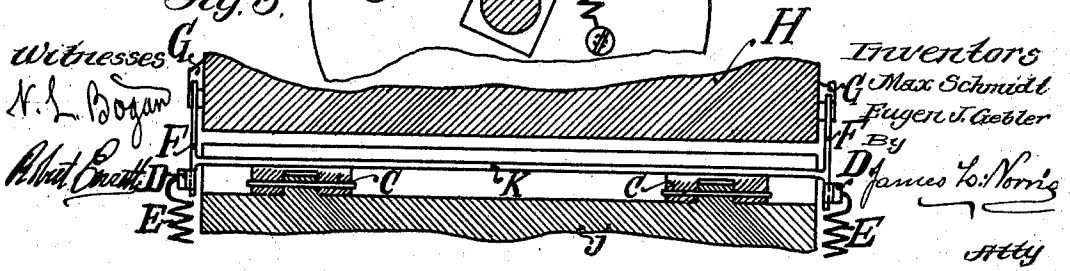


Fig. 3.



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MAX SCHMIDT AND EUGEN JOHANNES GEBLER, OF DRESDEN, GERMANY.

GRIPPING MECHANISM FOR PRINTING-PRESSES.

SPECIFICATION forming part of Letters Patent No. 708,409, dated September 2, 1902.

Application filed May 21, 1901. Serial No. 61,281. (No model.)

To all whom it may concern:

Be it known that we, MAX SCHMIDT, residing at 29 King Albert street, and EUGEN JOHANNES GEBLER, residing at 46 Fursten street, Dresden, Germany, subjects of the Emperor of Germany, have invented certain new and useful Improvements in Gripping Mechanism for Printing-Presses, (for which we have made application for Letters Patent in Germany, dated December 10, 1900; in Austria, dated March 3, 1901; in Sweden, dated April 1, 1901; in Denmark, dated April 9, 1901; in England, dated May 10, 1901; in Russia, dated May 12, 1901; in Switzerland, dated April 29, 1901; in France, dated May 15, 1901, No. 310,869; in Belgium, dated May 1, 1901, No. 156,291; in Hungary, dated April 30, 1901, No. 22,682, and in Italy, dated June 30, 1901, No. 59,636,) of which the following is a specification, taken in connection with the accompanying drawings, forming a part thereof.

The invention relates to a novel construction and arrangement of parts, as hereinafter more specifically described, and illustrated in the accompanying drawings, forming a gripping mechanism for printing-presses, more especially autographical automatic presses, and is particularly adapted for use in gripping the material to be printed.

The gripping mechanism is particularly adapted for use in printing-presses in which the printing-cylinder revolves twice during a single rotation of the impression-cylinder.

In the accompanying drawings, Figure 1 is a side elevation of the gripping mechanism when in an open position or the position the mechanism assumes during the inking of the printing-cylinder. Fig. 2 is a side elevation of the gripping mechanism when closed or the position it assumes during the printing of the material. Fig. 3 is a sectional elevation on the line *a b* of Fig. 1.

Referring to the drawings, wherein like reference-letters denote corresponding parts throughout the several views, the gripping mechanism is arranged within a slot of the impression-cylinder J and consists of a gripping-bar K and which is connected to the cylinder J by means of the hinges C, arranged in the slot of the impression-cylinder. The gripping-bar K is so arranged within the slot of the impression-cylinder J that the said bar does not project above the plane of the impression-cylinder J.

At each end of the gripping-bar K there is secured a connecting-piece D, each of which has connected thereto the upper end of a coiled compression-spring E, while the lower end of each of the said springs E is secured to the impression-cylinder J. Where the periphery of the impression-cylinder merges into the slot in which is arranged the hinge and bar it is flattened, and the action of the springs E is to retain the bar K against this flattened portion of the cylinder J, so as to preserve the concentricity of the cylinder J.

To each of the connecting-pieces D is secured an upwardly-extending substantially bow-shaped releasing-arm F, which is engaged and operated by means of the ridge G or other concentric offset carried by the ends of the printing-cylinder H. The operation of the impression-cylinder J and printing-cylinder H is such that the latter will rotate twice while the former is rotated once.

The operation of the device is as follows: During the inking of the cylinder H, Fig. 1, the arms F are pressed downwardly by their engagement with the ridge or offset G of the printing-cylinder, and owing to such movement thereof the gripping-bar K is lifted off from the impression-cylinder J, as will be seen in Fig. 1. In this position the gripping mechanism is opened. If the printing-cylinder has finished one revolution, the end of the releasing-arm projects upwardly between the ends of the ridge or offset G, which is caused by the action of the springs E lowering the bar K, consequently elevating the free end of the arms F. Fig. 2 shows how the bow-shaped releasing-arm F as a result of the rotation of both cylinders withdraws from the opening between the ends of the ridge or offset G without being engaged by the latter, and, further, the same figure shows the movement when the impression begins and the sheet of material is carried along with the cylinder. After both cylinders have made a complete revolution they again resume such position that the bow-shaped releasing-arms F will extend between the end of the offset G, except that no influence has been exerted by the ridge or offset G upon the arms F. The second revolution of the

printing-cylinder begins, during which the impression-cylinder J is stationary. The bar K will thereby be elevated, as illustrated in Fig. 1. As the ridge or offset G presses down the arms F it will hold the bar K elevated long enough to allow the complete revolution of the printing-cylinder H and the arms F to spring again in the opening between the ridge or offset G. During this latter operation a new sheet of material can be fed to the impression-cylinder, while the sheet that has been printed will be removed therefrom.

Having thus fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. A gripping mechanism for printing-presses consisting in combination with a printing-cylinder and an impression-cylinder, of a gripping-bar hinged within the impression-cylinder, means connected with the bar and with the impression-cylinder for normally retaining the said bar in a lowered position, releasing-arms carried by the bar, and means carried by the printing-cylinder and engaging the arms for elevating the bar.

2. In a gripping mechanism for printing-presses consisting in combination with an impression and a printing cylinder, of a gripping-bar mounted in a slot formed in the impression-cylinder, means arranged in the said slot for hinging the bar to the impression-cylinder, springs connected to the impression-cylinder and with the bar for retaining the latter normally in a lowered position, releasing-arms connected with the bar, and an offset carried by the printing-cylinder and engaging with the arms for elevating the same.

3. In a gripping mechanism for printing-presses consisting in combination with a printing-cylinder and an impression-cylinder, the latter provided with a suitable slot and a flattened portion, of a clamping-bar suitably connected to the impression-cylinder within the slot thereof, means carried by the impression-cylinder and connected with the bar for normally retaining the same in engagement with the said flattened portion thereof, means for elevating the said bar from its engagement with the flattened portion of the impression-cylinder, and means carried by the printing-cylinder and adapted to engage with the elevating means for operating the same.

4. In a gripping mechanism for printing-presses, the combination with a printing and an impression-cylinder, of a gripping-bar extending transversely of the impression-cylinder and suitably mounted therein, means for hinging the said bar within the impression-cylinder, means connected to the ends of the impression-cylinder and engaging with the bar for normally retaining the same in a lowered position, bow-shaped releasing-arms carried by said bar, and means carried by the end of the printing-cylinder and during the travel of the latter engaging with the said arms to elevate the said bar, the latter adapted to resume its normal position through the action of the said retaining means when the means carried by the printing-cylinder is out of engagement with the arms.

5. In combination, an impression-cylinder and a printing-cylinder provided with a spring-controlled gripping mechanism and an offset, respectively, said offset adapted to engage said gripping mechanism for releasing it.

In testimony whereof we have hereunto set our hands in presence of two subscribing witnesses.

MAX SCHMIDT.
EUGEN JOHANNES GEBLER.

Witnesses:
HERNANDO DE SOTO,
PAUL AERAS.