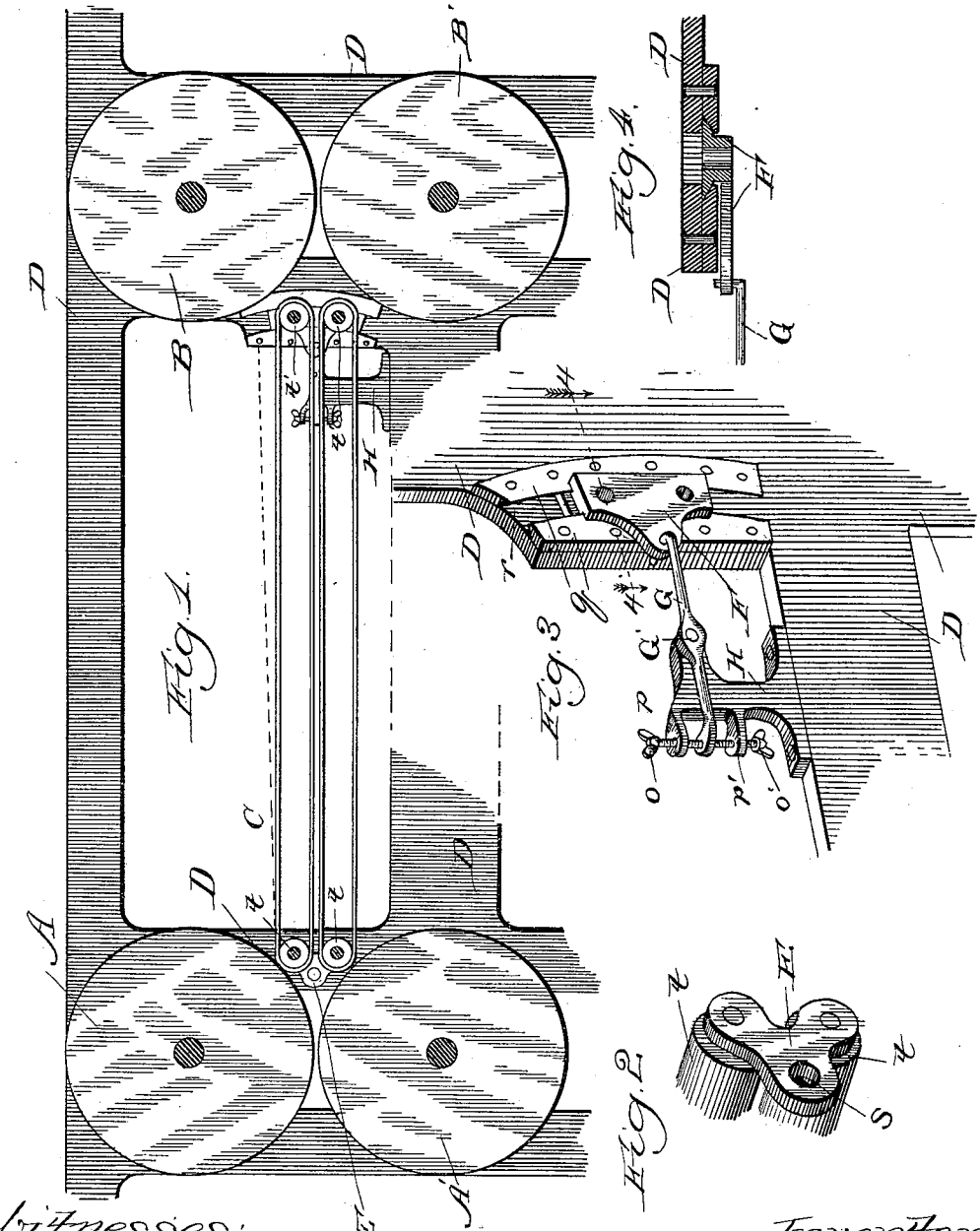
(No Model.)

F. L. & S. G. GOSS.

REGISTERING MECHANISM FOR PRINTING MACHINES.

No. 353,556. Patented Nov. 30, 1886.



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UNITED STATES PATENT OFFICE.

FREDERICK L. GOSS AND SAMUEL G. GOSS, OF CHICAGO, ILLINOIS.

REGISTERING MECHANISM FOR PRINTING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 353,556, dated November 30, 1886.

Application filed December 14, 1885. Serial No. 185,624. (No model.)

To all whom it may concern:

Be it known that we, FREDERICK L. GOSS and SAMUEL G. GOSS, citizens of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Registering Mechanisms for Printing-Machines; and we hereby declare the following to be a full, clear, and exact description of the same.

Our invention relates to a registering mechanism particularly for color-printing presses of the nature of the press shown and described in Letters Patent of the United States No. 333,214, granted to us December 29, 1885, although it is applicable to any printing-press in which continuous printing is performed between separate sets or pairs of cylinders, each set comprising an impression and a type cylinder.

In printing-presses of the foregoing class the proper registering of a sheet passed between one set of cylinders upon the form of the next succeeding pair is of course absolutely necessary, in order to cause the work done to be satisfactory or prevent its being worthless.

It is our object to provide very simple and effective means for causing accurate and ready registering to be accomplished by adjusting the tapes with relation to the cylinders.

Referring to the drawings, Figure 1 is a sectional side elevation of part of a color-printing press, showing all the parts necessary to permit the display of our invention in operative combination; Fig. 2, a perspective view of a detail; Fig. 3, a similar view of our adjusting mechanism, and Fig. 4 a sectional view on the line 4 4 of Fig. 3.

The original adjustment of the forms upon the cylinders is of course as accurate as possible, to cause at least approximate registering of the matter printed between the first set of cylinders, A and A′, with the form of the set of cylinders B and B′, to which the sheet is carried by the tapes C; but circumstances, particularly stretching of the paper, frequently interfere with the accuracy of the registering operation and render readjustment of the form necessary. We accomplish the desired end by adjusting the tapes. The shortest distance between the operative parts of two sets of cylinders, A A′ and B B′, is in a straight line between the points where they impinge in their rotation, and any deviation from this straight line increases the distance. The normal position of the tapes C with reference to the cylinders between which they extend is that shown by the full lines in Fig. 1, while the dotted line indicates a position to which the tapes may be adjusted by raising to increase the distance to be traversed by a sheet in passing to the cylinders B and B′, and thus, the speed of the tapes being uniform, delay, in proportion to the distance of rise of the type mechanism from its normal position, the advent of the sheet to the form of the cylinders. This adjustment involves ordinarily only fractional parts of an inch, and is accomplished by means of which the following is a description: The rollers *t*, which carry the endless tapes C or conveyers, instead of being journaled directly in the frame D of the press, are each journaled at its opposite ends in a plate, E, pivoted centrally behind the journal bearings or openings in the plate provided to receive the journals of the rollers *t*, as shown, through an opening, *s*, to the frame D, and the rollers *t′* at the opposite end of the tapes are journaled, each at its opposite ends, in a block, F, dovetailed on its rear side to slide in a curved dovetailed recess, *r*, in a block, *q*, or between a pair of blocks, *q*, as shown, bolted in position on the frame D.

G is a lever, hooked at one end into the block F, and fulcrumed toward its center upon a rod or shaft, G′, projecting through a standard, H, transversely across the press, where it affords in a similar manner a fulcrum for another lever G. The standard H is secured upon the frame D, and provided with bearings *p* and *p′* for thumb-screws *o* and *o′* on opposite sides of the free end of the lever G. By turning the thumb-screw *o* in one direction and the thumb-screw *o′* in the opposite direction the free end of the lever will be lowered and the block F raised, carrying with it the adjacent end of the conveyer C, movable upon the pivotal point *s*, and by turning the thumb-screws in the opposite directions the swinging end of the conveyer C may be lowered to or below its normal position.

Of course the various parts above described for permitting the operation of the conveyer C—meaning the plate E, block F and details

thereof, and lever G—are provided on each side of the press, of which only one side is shown on the drawings, owing to the nature of the view selected to display the improvement.

What we claim as new, and desire to secure by Letters Patent, is—

1. In a printing-press, the combination, with the sets of cylinders A A′ and B B′, of an endless conveyer, C, having at one end rollers supported on pivotal bearings, and at the opposite end rollers supported on shifting bearings, substantially as and for the purpose set forth.

2. In a printing-press, the combination, with the sets of cylinders A A′ and B B′, of an endless conveyer, C, having at one end rollers supported on pivotal bearings and at the opposite end rollers supported on shifting bearings, and means, substantially as described, for moving the shifting bearings carrying rollers, substantially as and for the purpose set forth.

3. In a printing-press, the combination, with the sets of cylinders A A′ and B B′, of an endless conveyer, C, having at one end rollers *t*, with their bearings in plates E, pivoted to the frame of the press, and at the opposite end rollers *t′*, having their bearings in shifting blocks F, dovetailed on their rear sides and movable within dovetailed recesses on the frame of the press, a lever, G, connected with the block F, a standard, H, upon which the lever is fulcrumed and provided with bearings *p* and *p′*, and thumb-screws in the bearings *p* and *p′*, for operating the lever G at its free end, the whole being constructed and arranged to operate substantially as described.

FREDERICK L. GOSS.
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In presence of—
MASON BROSS,
WM. SADLER.