

(No Model.)

J. MEINSCHOCK.

BRAKE AND LOCKING DEVICE FOR CYLINDER PRINTING PRESSES.

No. 441,504.

Patented Nov. 25, 1890.

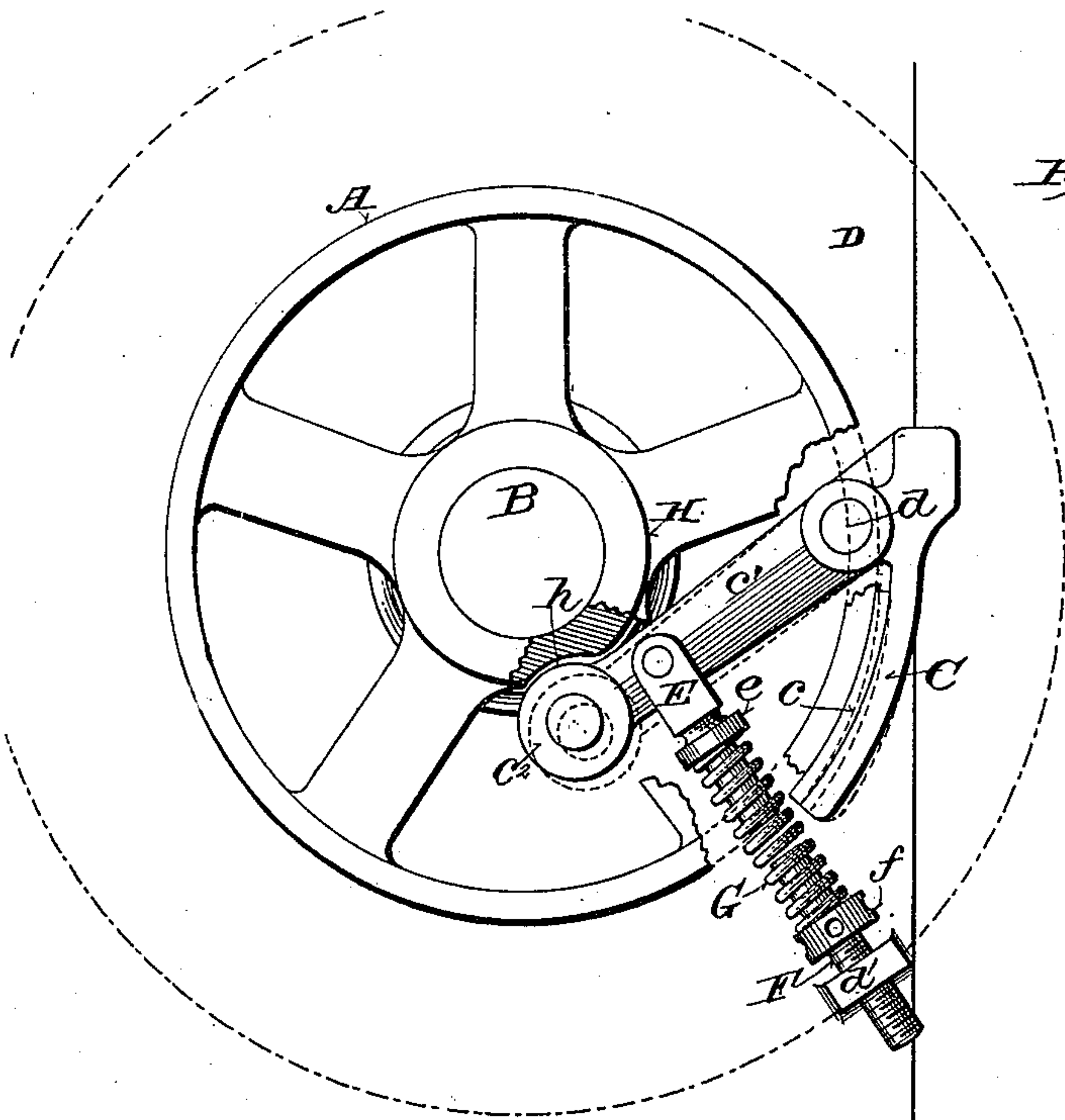


Fig. 1.

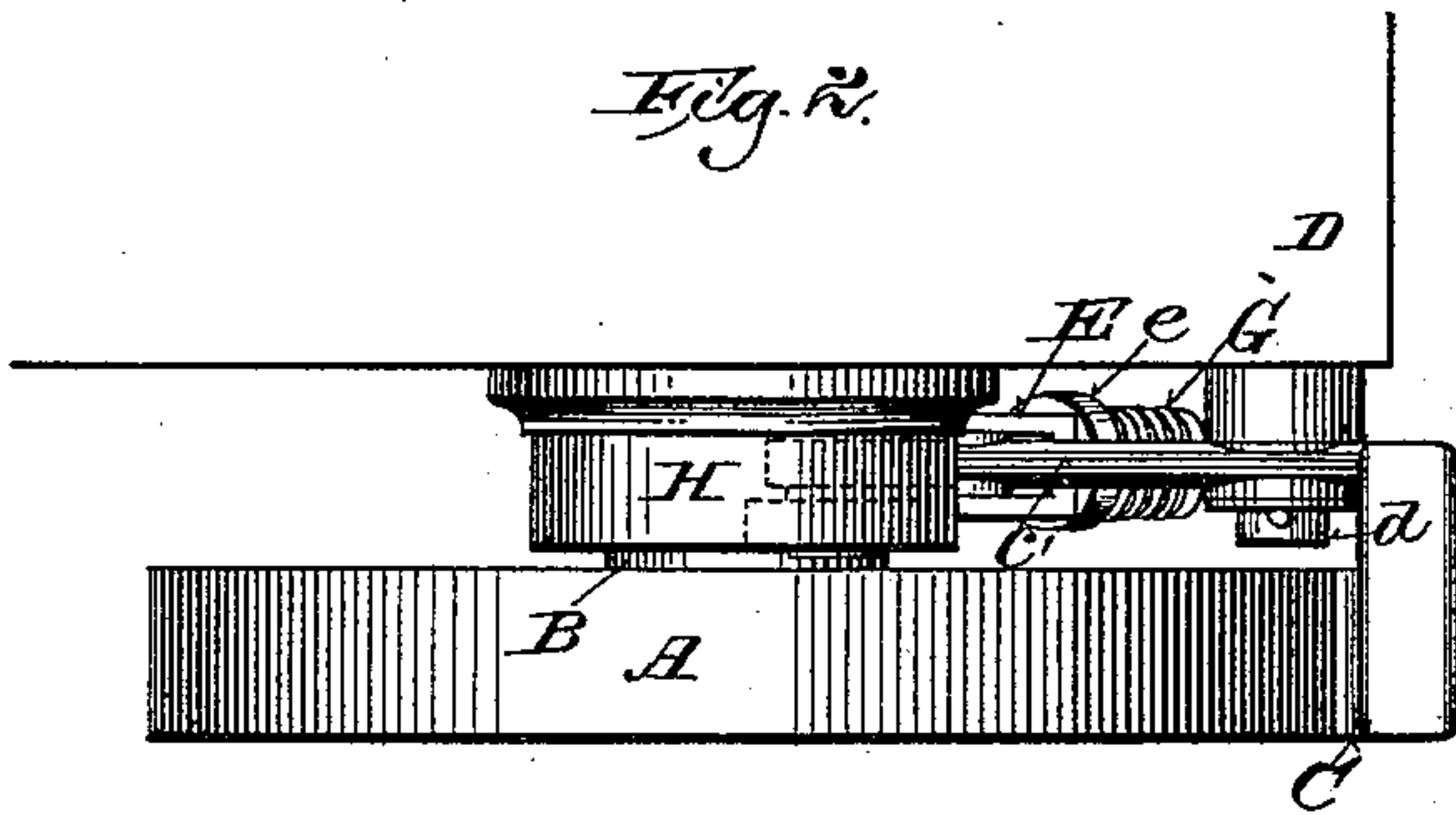


Fig. 2.

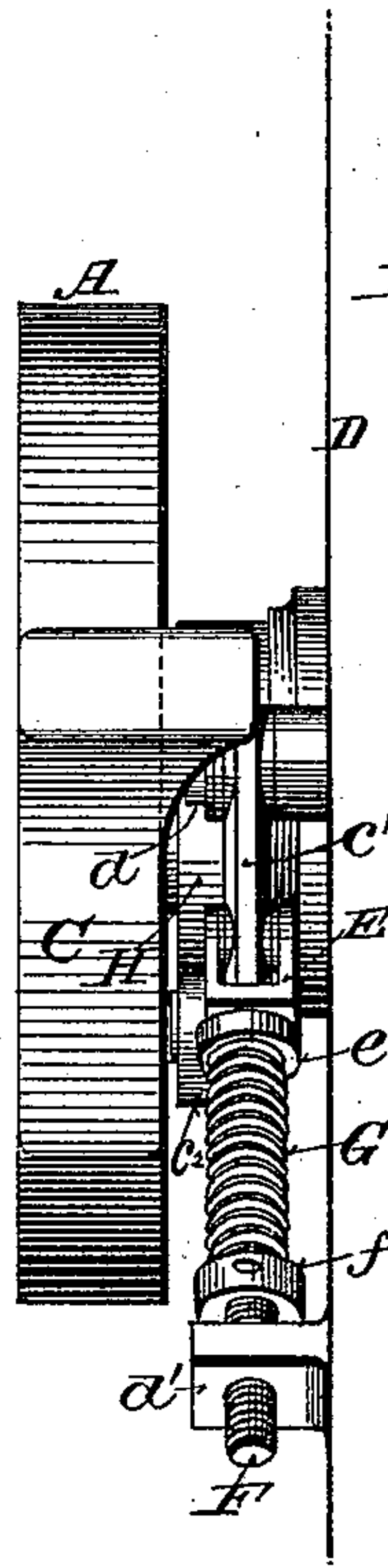


Fig. 3.

Witnesses:

E. C. Amner
Chas. L. Goss.

Inventor:

By Julius Meinschock,
Widder, Henderson, Smith, Pottum & Silas

Attorneys.

UNITED STATES PATENT OFFICE.

JULIUS MEINSCHOCK, OF MILWAUKEE, WISCONSIN.

BRAKE AND LOCKING DEVICE FOR CYLINDER PRINTING-PRESSES.

SPECIFICATION forming part of Letters Patent No. 441,504, dated November 25, 1890.

Application filed June 2, 1890. Serial No. 353,920. (No model.)

To all whom it may concern:

Be it known that I, JULIUS MEINSCHOCK, of Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented certain new and useful Improvements in Brakes and Locking Devices for Cylinder Printing-Presses; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

The main object of my invention is to insure perfect register in color-printing.

It consists, essentially, of a stop or locking device by which the cylinder of the press is firmly held in place when it comes to a stop until it is again set in motion, and by which any vibration, shake, or tremble of the cylinder which would interfere with exact registration of successive impressions is prevented.

In the accompanying drawings like letters designate the same parts in the several figures.

Figure 1 is an end elevation of my improved locking device or stop, looking toward the end of the press-cylinder, which is indicated by a dotted circle. Fig. 2 is a plan view of the same; and Fig. 3 is a side elevation, looking in the direction of the arrow at the right of Fig. 1, with reference to that figure.

Heretofore the brakes applied to the cylinders of cylinder-presses have been actuated by mechanism independent of the cylinder and its immediate connections, so that their action has been intermitting even when the cylinder is at rest, particularly when running "double"—that is, when the impression-cylinder is caused to dwell while the form traverses the inking-rollers twice or a number of times to each impression. In this way the cylinder is not firmly and constantly held in place when it comes to rest until it is again set in motion, but is released and allowed to vibrate or be jarred by the operation of the other mechanism of the press out of place, thereby rendering it difficult for the operator to feed the press properly and to place the sheets exactly in the right place in feeding to the cylinder, and preventing or interfering

with that exact correspondence of the successive impressions called the "register," which is essential to perfect work in color-printing where the several colors are applied by separate impressions.

I attain the object first mentioned and avoid the difficulties above alluded to by my improved stop, which will be readily understood by reference to the accompanying drawings in connection with the following description.

A represents a brake-wheel or friction-pulley fixed upon the cylinder-shaft B.

C is a brake-shoe hinged at or near its upper end upon a stud *d*, provided for the purpose on any suitable part D of the frame of the press. It is formed on the side next to the wheel A to the arc of a circle corresponding with the periphery of said wheel, and is provided with a facing *c* of leather or other suitable material, being so placed that it may be swung on the stud *d* into and out of engagement with the periphery of the wheel A. The shoe C is formed or provided with an arm *c'*, projecting therefrom toward the cylinder-shaft B and joining said shoe near its pivot or hinge connection *d* with the press-frame. At its inner end the arm *c'* is provided with a friction-roller *c²*, journaled on a crank-pin, with which said arm is furnished.

H is a cam fixed on the cylinder-shaft in position to be traversed upon its periphery by the friction-roller *c²*. It has on one side a recess or depression *h* in its periphery, into which the friction-roller *c²* drops when the cylinder comes to a stop at that point in its revolution where it is in position to receive a sheet.

E is a rod pivoted to the arm *c'* near its free end, being preferably bifurcated to embrace said arm and provided with a collar or shoulder *e*.

F is a screw-rod held in an ear *d'* on the frame D, approximately at right angles to the arm *c'* and in line with the rod E. It is provided with a nut *f*, and between said nut and the shoulder *e* on rod E is interposed a helical spring G, which tends to force the arm *c'* toward the cam H and the brake-shoe C toward the brake-wheel A, the nut *f* serving to adjust the tension of the spring G.

The operation of my improved stop is as follows: When the cylinder is home and the roller c^2 rests in the depression h of cam H, the spring G holds the brake-shoe C in engagement with the periphery of wheel A, as shown in Fig. 1, thereby firmly retaining the cylinder in its receiving position and preventing any deviation from that position or any vibration or shake in consequence of the jar of the press until it is again set in motion. When the cylinder is started, the roller c^2 rides upon the periphery of cam H out of the depression h therein, thereby compressing spring G, forcing the arm c' away from the cylinder-shaft, and the shoe C out of engagement with the wheel A. When the cylinder completes its revolution, arriving at its starting-point, the roller c^2 drops into the depression h in cam H, and the shoe C is forced into engagement with (thereby securely locking) the cylinder, as previously explained. It will be seen that by this construction and arrangement of the brake and its operating-connections the cylinder is locked immediately upon reaching its home or receiving position, and is securely held without being permitted to shake or vibrate in that position until it is again started forward and thereby released. The brake-shoe C and its connections are so arranged that the shoe will engage with the wheel A just before the cylinder comes to a stop, and thereby arrest its movement as soon as it is released by its driving mechanism without jar or shock.

My improved device may be variously modified in its details without departing from the spirit of my invention.

I claim—

1. In a cylinder-press, the combination, with the cylinder, of a brake-wheel mounted on the cylinder-shaft, a brake-shoe hinged to the frame of the machine and having an arm rigid therewith, and a cam on the cylinder-shaft, with which said arm engages, holding the shoe out of contact with the brake-wheel when the cylinder is in motion, and having a depression which causes the shoe to engage and hold the brake-wheel when the cylinder comes to rest, substantially as and for the purposes set forth.

2. In a cylinder-press, the combination, with the cylinder, of a brake-wheel mounted on the cylinder-shaft, a brake-shoe hinged to the frame of the machine, so as to be swung into and out of engagement with said wheel, and provided with an arm, a cam on the cylinder-shaft engaging with said arm, and a spring tending to hold said arm in engagement with said cam, substantially as and for the purposes set forth.

3. In a cylinder printing-press, the combination, with the cylinder, of a brake-wheel mounted on the cylinder-shaft, a shoe hinged to the frame of the press, so as to be moved into engagement with said wheel, and provided with an arm extending at an angle thereto toward the cylinder-shaft, a cam on the cylinder-shaft, having a recess to receive the engaging part of the arm when the cylinder is home, and a spring interposed between said arm and a fixed bearing on the frame, substantially as and for the purposes set forth.

4. In a cylinder printing-press, the combination, with the cylinder, of a brake-wheel fixed on the cylinder-shaft, a brake-shoe hinged to the frame of the press and provided with an arm extending at an angle thereto toward the cylinder-shaft, said arm having a friction-roller at or near its free end, a cam on the cylinder-shaft, having a depression in its periphery to receive said roller when the cylinder is home, a rod pivoted to said arm near its free end, a screw-rod held in the frame of the machine approximately at right angles to said arm and in line with the rod pivoted thereto, an adjusting-nut on said screw-rod, and a helical spring encircling said rods and bearing at one end against said nut and at the other end against a shoulder on said pivoted rod, substantially as and for the purposes set forth.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

JUL. MEINSCHOCK.

Witnesses:

CHAS. L. GOSS,
E. G. ASMUS.