

No. 654,781.

Patented July 31, 1900.

F. A. BURNHAM.
PRINTING PRESS.

(Application filed Mar. 21, 1900.)

(No Model.)

2 Sheets—Sheet 1.

Fig. 1.

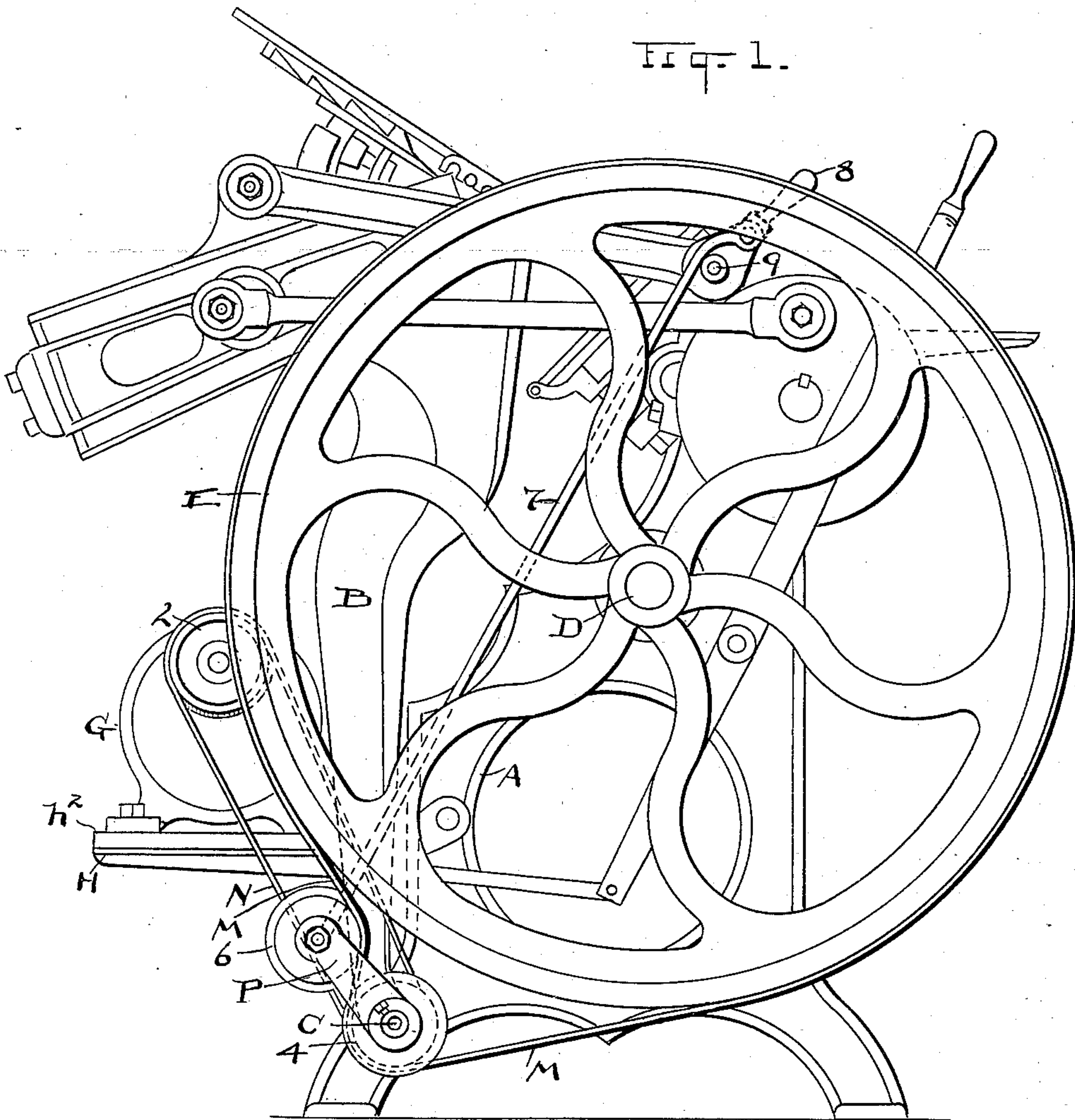


Fig. 5.

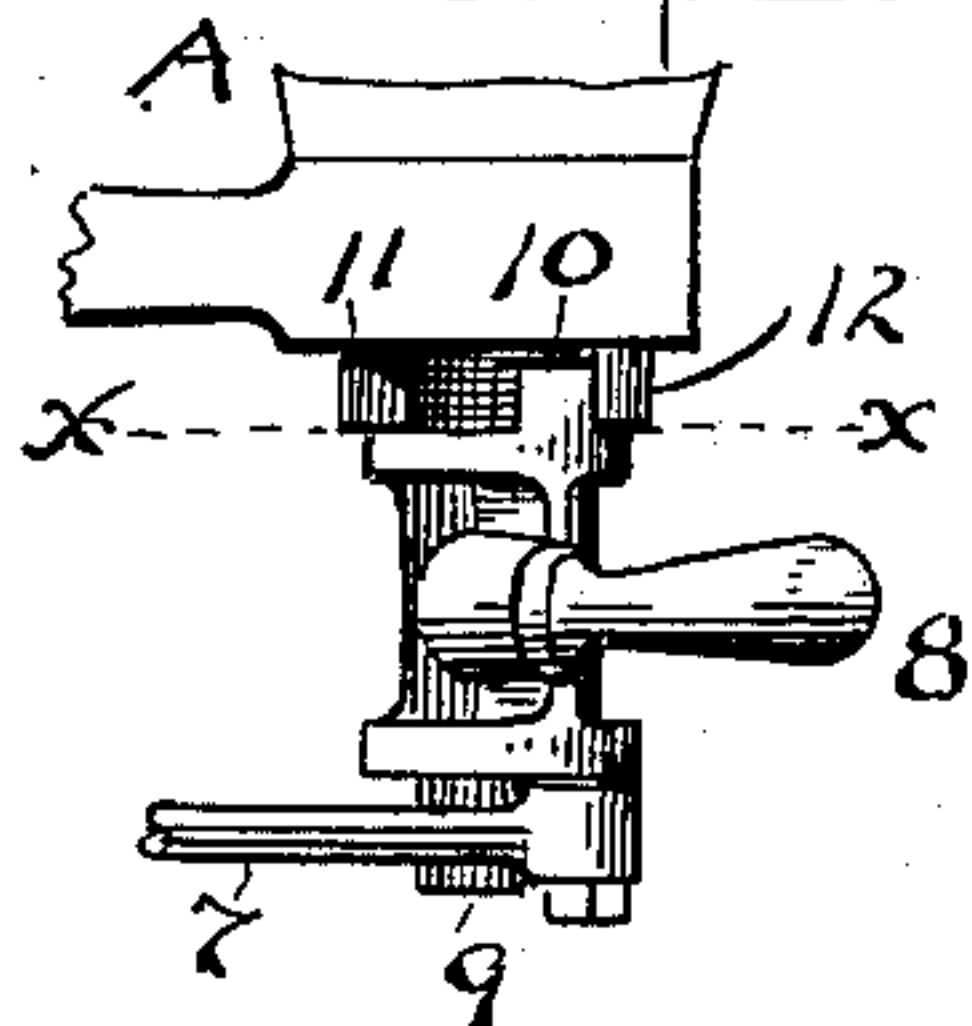
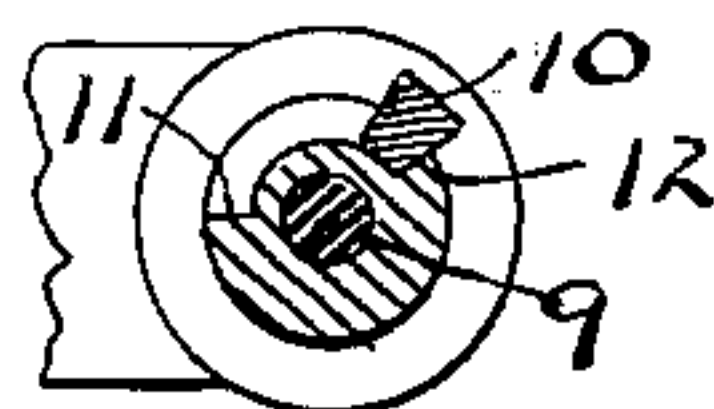


Fig. 6.



ATTEST

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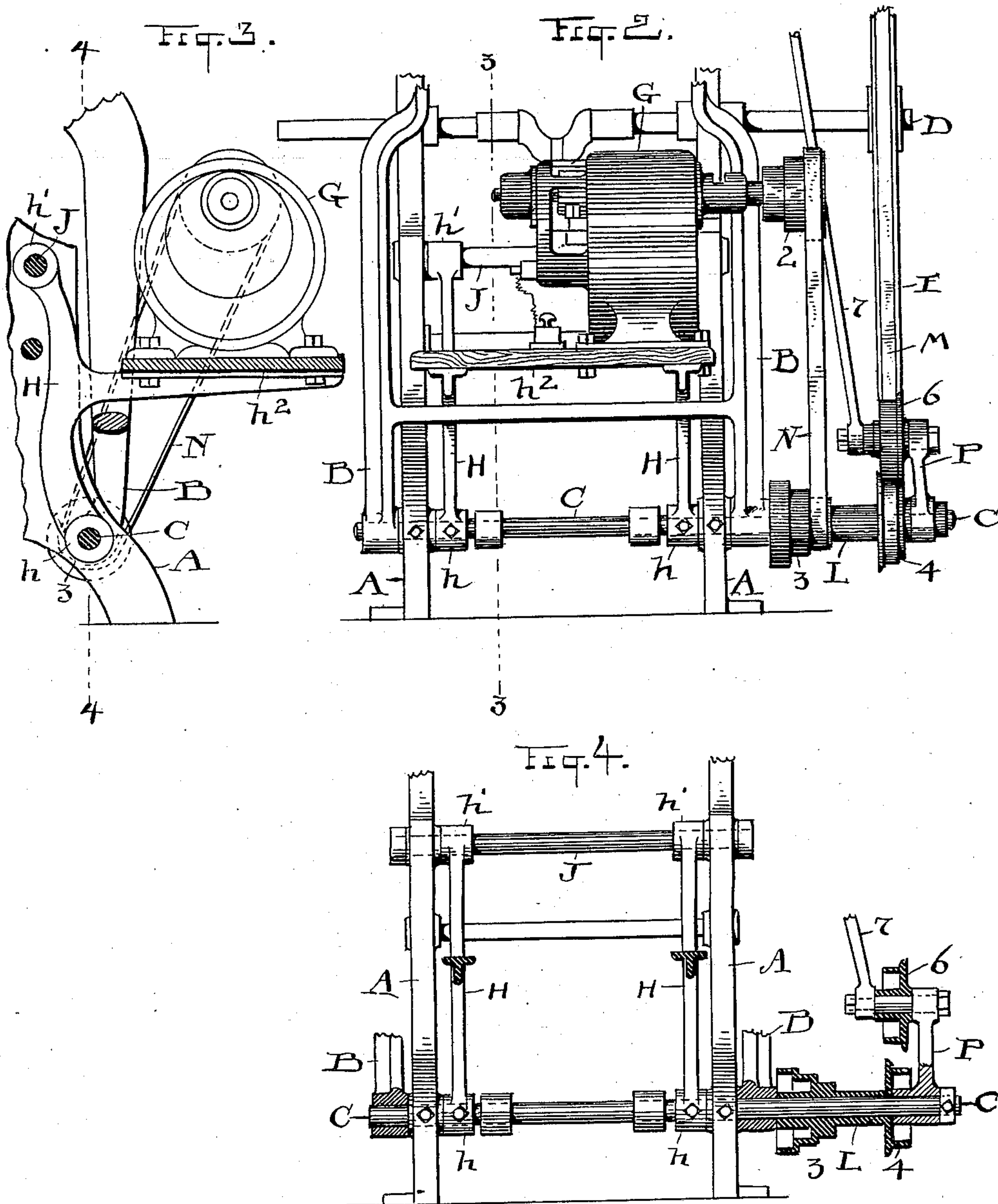
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(No Model.)

2 Sheets—Sheet 2.



ATTEST.

H. E. Moser
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ATTY

UNITED STATES PATENT OFFICE.

FRANK A. BURNHAM, OF CLEVELAND, OHIO, ASSIGNOR TO THE CHANDLER & PRICE COMPANY, OF SAME PLACE.

PRINTING-PRESS.

SPECIFICATION forming part of Letters Patent No. 654,781, dated July 31, 1900.

Application filed March 21, 1900. Serial No. 9,490. (No model.)

To all whom it may concern:

Be it known that I, FRANK A. BURNHAM, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Printing-Presses; and I do 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 ap-
10 pertains to make and use the same.

My invention relates to improvements in printing-presses; and the invention consists in what is shown in the drawings as an attachment to a well-known style of Gordon
15 press, the said attachment comprising an electric motor and a support therefor and power connections, all substantially as hereinafter set forth, and particularly pointed out in the claims.

20 In the accompanying drawings, Figure 1 is a side elevation of a press equipped with my new attachments. Fig. 2, Sheet 2, is a rear elevation of the press and new equipments thereon, as in Fig. 1. Fig. 3 is a sectional
25 elevation on line 3 3, Fig. 2, of a portion of the press and a plain elevation of the motor and the motor-bracket fixed to the press. Fig. 4 is a sectional elevation on a line corresponding substantially to 4 4, Fig. 3, look-
30 ing to the left and showing sections of the several pulleys connected with the bed-shaft and forming a part of my new attachments. Figs. 5 and 6 are small details, as hereinafter fully described.

35 In the invention as thus shown it will be seen that the press itself is complete and operative substantially as hitherto and is not really changed in these particulars, although it has necessarily undergone modification to
40 adapt it to the new and added features, as shall be seen.

A represents the main and stationary frame of the press, and B the bed, which is pivoted to rock back and forth on the bed-shaft C.

45 D is the usual crank-shaft, on which is the combined band and fly wheel E. Hitherto this has been a fly or balance wheel only, having no other mechanical function or purpose; but in my improved organization I do
50 not divest the said part of its character as a balance-wheel, while I convert it into an ac-

tive member in the chain of power-communi-
cating mechanism between electric motor G
and the crank or power shaft C. From the
said shaft C, hence to the other operative parts 55
of the press, there is no change whatever introduced by my present invention, and therefore certain of the details of such unchanged mechanism have been omitted from the drawings
60 as unessential to this application.

The motor G is designed, of course, to be the medium for actuating or driving the press and is supported in a position at the back of the press, where it is practically out of the way and yet is in the most advantageous
65 place for connecting up with the parts to be driven.

The immediate support for the motor consists of two substantially T-shaped brackets H, having one arm each provided with a boss
70 h, sleeved on the bed-shaft C, and the other arm with a boss h', supported or sleeved on cross shaft or rod J, while the stems of the brackets H stand out horizontally and support the platform h², on which rests the motor. No auxiliary means are therefore re-
75 quired to carry the said brackets, as they are adapted to parts already in the machine.

Ordinarily the bed-shaft C is limited to the immediate outside of the machine, where it
80 affords a pivot for the bed-standards. This it does here; but for the purposes of my invention a new shaft C is required to adapt it to the additional or added mechanisms supported on its extremity, as seen in Figs. 2 and
85 4. Thus the motor-shaft carries a set of cone-belt pulleys 2, which are matched by an exactly-similar but reversely-arranged set 3 on shaft C, and a belt N runs over these pulleys or sets of pulleys and is governed for speed
90 according to its position thereon. The pulleys 3 are shown here as integral with a sleeve L on shaft C and adapted to rotate thereon, the said sleeve having on its outer end the pulley 4, through which and belt or band M
95 power is conveyed to the large drive-wheel E. An idler 6, carried on arm P and controlled by rod 7 and lever 8, serves to fix or relieve the operative tension of band M, as seen in Fig. 1. The lever 8 has a hub pivoted on a
100 stud or projection 9, Figs. 5 and 6, and the rod 7 is pivoted on its hub relatively above

its own pivot-point about as shown in Fig. 1, and the neck of the said rod is so bent as to accommodate the throwing of the lever 8 past its dead-center, and thus causes it to hold
 5 that relation and tighten the belt or band and set the press in motion; but a throw of lever 8 back to the other side of its center causes the idler to relax the belt and the press stops. The hub of lever 8 has a stop 10, which plays
 10 between two lugs 11 and 12, which are also the limits of its movements.

It will be seen from the foregoing that the motor is the power medium attached to the press itself, so that each and every press has
 15 an independent source of power as a self-contained element, and when the press is stopped the motor may be stopped also or only the belt M slackened while the motor continues to run. The speed of shaft D is of course
 20 very greatly reduced through the introduction of the large band-wheel E, but yet it has sufficient speed by reason of the usually high speed of the motor. Obviously if gear connections were used the belt M and the idler
 25 mechanism would be dispensed with, and in that case the motor would necessarily have to be stopped every time the press was stopped.

In assembling the various parts either upon a new or old press the bed-shaft provides a perfectly-alined center from which to support brackets H, thus assuring a perfect
 30 alinement for the brackets, the motor thereon, and the pulleys without extra tapping, drilling, or other labor. The brackets H are adjustable on shafts C and J to accommodate
 35 narrower or wider platforms h^2 , and set-screws in the bosses h are used to fasten them in fixed position and to prevent side sliding thereon.

40 What I claim is—

1. The press-frame and a power-shaft and an extended bed-shaft thereon, a platform supported on said frame and bed-shaft, a motor on said platform, and power-transmitting
 45 mechanism on the bed-shaft extension having power-connecting means with both said power-shaft and motor, substantially as described.

2. The press-frame and an electric motor
 50 thereon having a shaft with pulleys, the bed-shaft of the press and pulleys thereon, and a belt connecting said pulleys, the crank power-

shaft and power-transmitting mechanism thereto from the said bed-shaft, substantially as described.

3. The press and the electric motor, the bed-shaft of the press and power-conveying pulleys on one end thereof outside the press-frame and means to convey power from the motor to said pulleys, the main crank-shaft
 60 of the press and a combined band and balance wheel thereon, and a belt to drive the same engaged over a pulley on the bed-shaft, substantially as described.

4. In a press substantially as described, the
 65 bed-shaft and a plurality of power-conveying pulleys sleeved thereon and adapted to different belt connections, the crank-power and a combined fly and band wheel on said shaft arranged to be driven from the power-conveying pulleys on the bed-shaft, substantially as described.

5. In a printing-press the crank power-shaft and a band-wheel fixed thereon, the bed-shaft and a sleeve on said shaft provided with
 75 a plurality of pulleys for different belt connections and one of said pulleys in line with said band-wheel, in combination with an electric motor supported on the press-frame, and a set of bands to carry the power from said
 80 motor to said band-wheel, substantially as described.

6. The press having a bed-shaft and a crank-shaft, a band-wheel on the crank-shaft and a pulley sleeved on the bed-shaft, a band over
 85 said band wheel and pulley, an idler to tighten said band, and a lever-and-link connection extending to the top of the press for controlling the idler, substantially as described.

7. The main frame of the press, a power-shaft thereon, a bed-shaft having an extension at the side of said frame, a set of brackets supported on said bed shaft and frame, a motor supported by said brackets, and power-transmitting and speed-controlling mechanism for said power-shaft supported in said bed-shaft extension, substantially as described.

Witness my hand to the foregoing specification this 5th day of March, 1900.

FRANK A. BURNHAM.

Witnesses:

R. B. MOSER,

H. E. MUDRA.