

(Model.)

J. M. JONES.
PRINTING PRESS.

No. 252,950.

Patented Jan. 31, 1882.

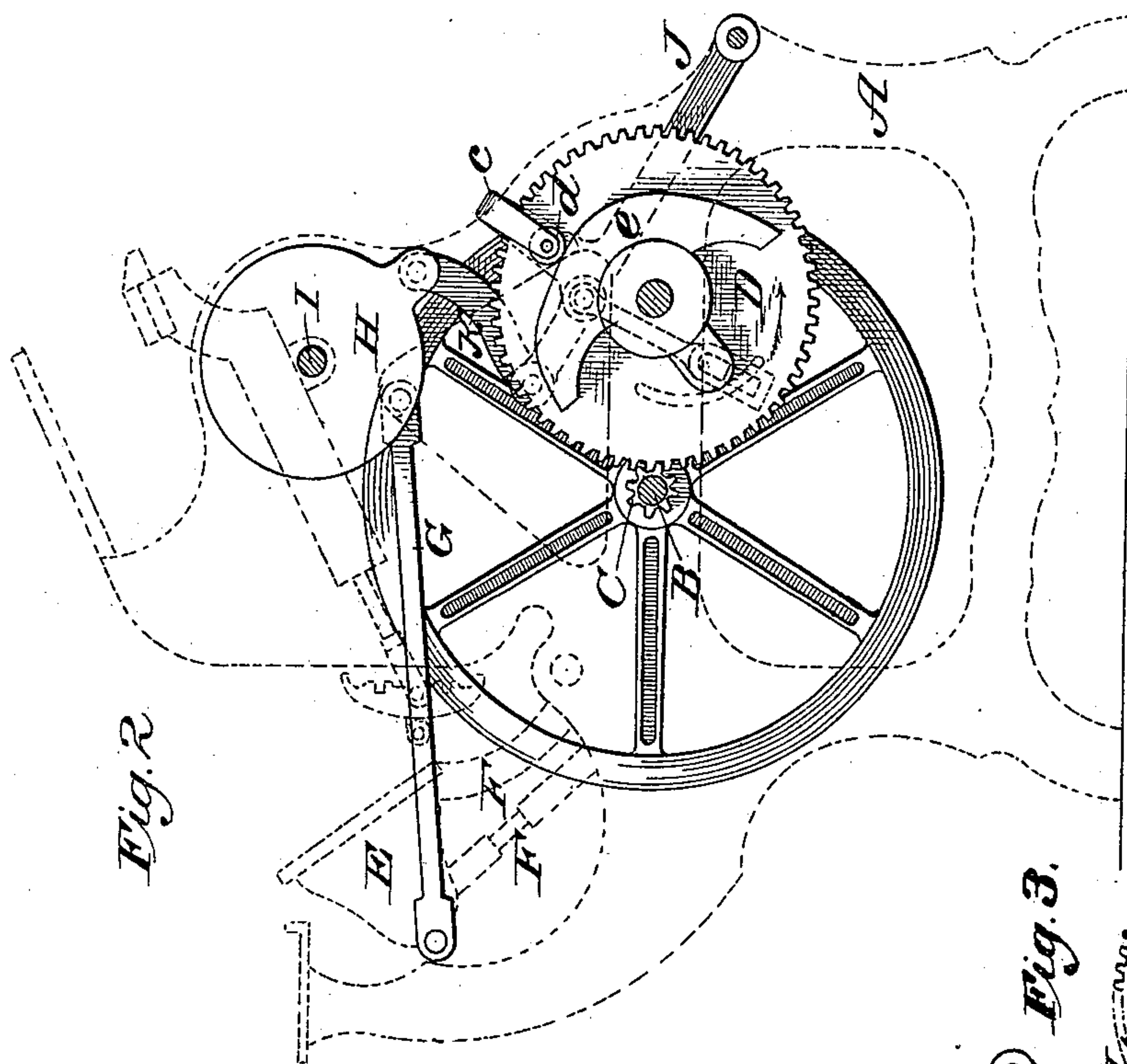


Fig. 2

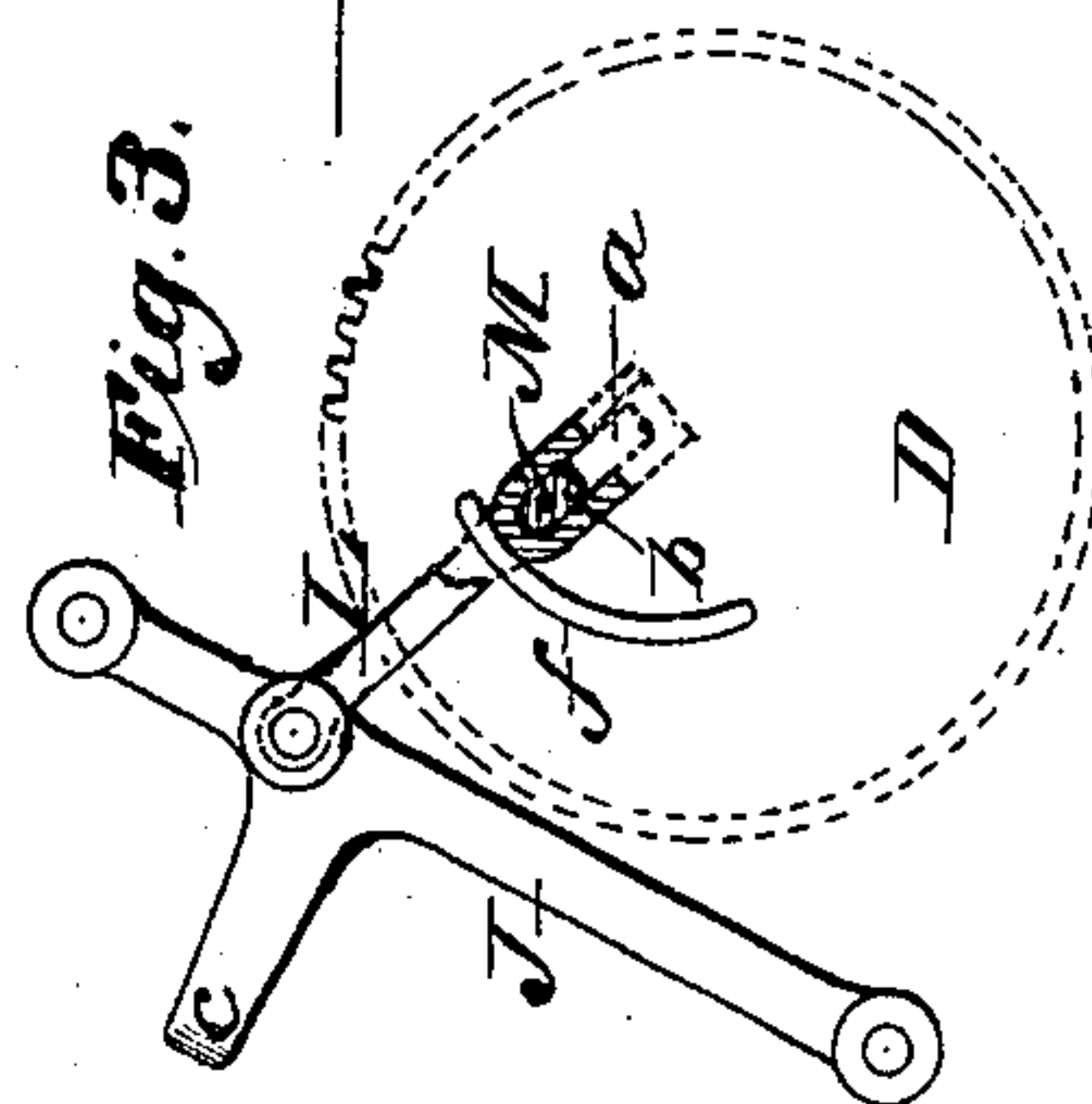


Fig. 3

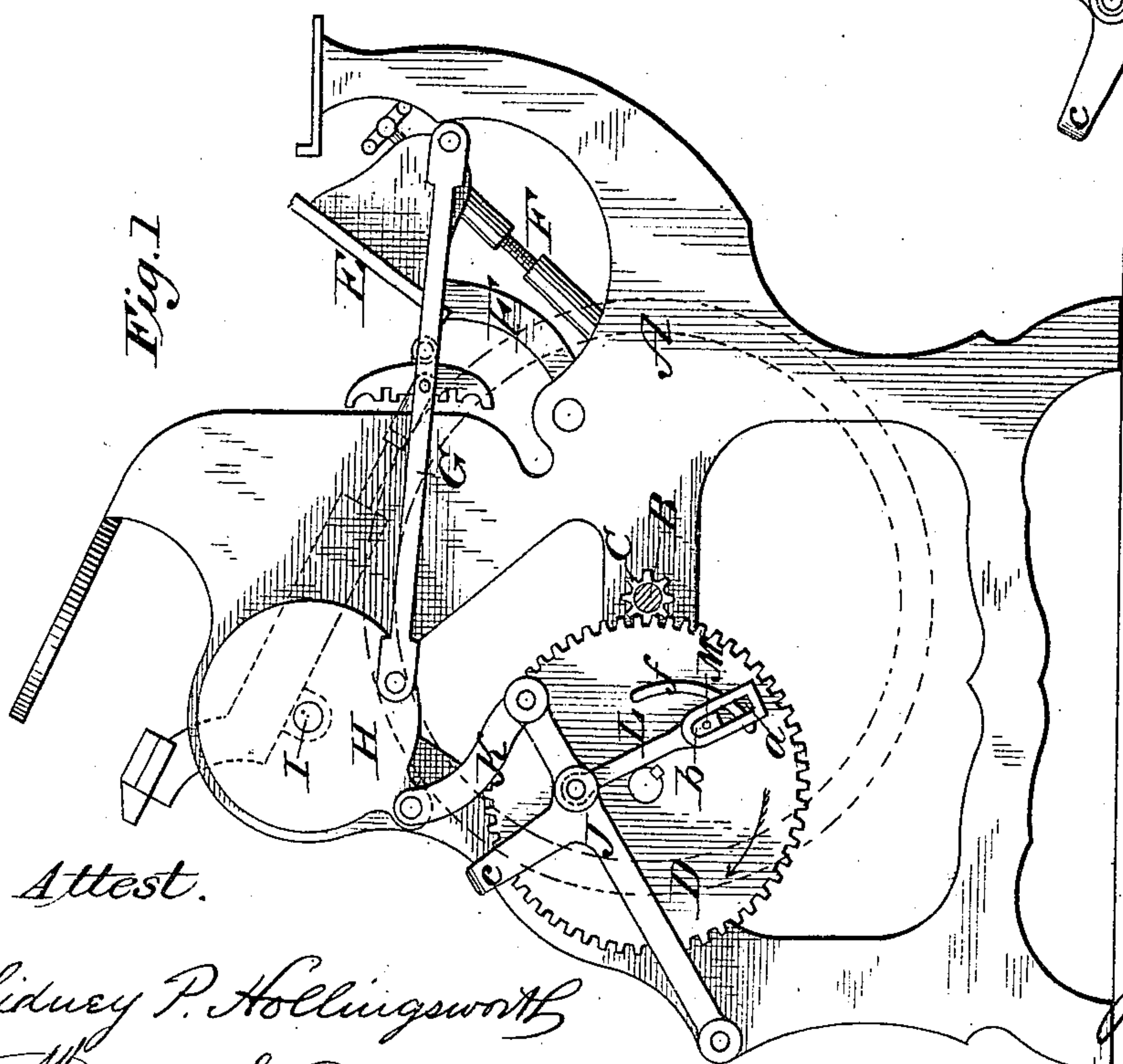


Fig. 1

Attest.

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UNITED STATES PATENT OFFICE.

JOHN M. JONES, OF PALMYRA, NEW YORK.

PRINTING-PRESS.

SPECIFICATION forming part of Letters Patent No. 252,950, dated January 31, 1882.

Application filed July 11, 1881. (Model.)

To all whom it may concern:

Be it known that I, JOHN M. JONES, of Palmyra, in the county of Wayne and State of New York, have invented certain Improve-
5 ments in Printing-Presses, of which the following is a specification.

My invention relates to that class of presses in which a vibrating platen receives motion from a continuously-rotating shaft; and it consists in a novel construction and arrangement
10 of parts for transmitting motion from the shaft to the platen, whereby a proper "dwell" is secured for feeding, &c, as hereinafter more fully explained.

15 The invention is designed as an improvement upon the press for which Letters Patent were granted to me bearing date May 20, 1879, and numbered 215,459, to which patent reference is made for description of details not contained
20 herein.

In the accompanying drawings, Figure 1 represents a side elevation of my improved press; Fig. 2, an inner face view of the parts by which the platen is operated, the frame being represented in dotted lines; Fig. 3, a detail view,
25 showing the operation of the cam by which the outward movement of the platen is started.

The object of my invention is to produce a proper dwell or period of rest of the platen when
30 in its outermost position, in order to facilitate the feeding and removal of the paper, and also to render the action of the press smooth and easy and free from jar.

In its general appearance the present machine is similar to that described in my former
35 patent, and consists of a frame, A, composed of two sides firmly connected and braced by suitable cross-bars and rods, a horizontal driving-shaft, B, carried in boxes or bearings in said frame, and provided with a fly-wheel and
40 with a pinion, C, through which motion is imparted to a gear-wheel, D, which, in turn, gives motion to the other parts connected with the platen E. The platen is carried by arms F, journaled in or pivoted to the main frame, and is connected by links or impression-bars G with
45 disks or heads H, secured upon opposite ends of a rock-shaft, I, extending across the frame A from side to side and mounted in suitable
50 boxes or bearings, as before.

J represents an arm pivoted at one end to the side of the frame, and connected at its free end with the disk or head H by a link, K. The arm J is vibrated by a pitman, L, the lower end of which is provided with a slot, a, to receive a crank-pin or stud, M, projecting from the outer face of the gear-wheel D, and preferably furnished with a swivel-block, b, as shown in Figs. 1 and 3. As also indicated in said figures, the slot a is somewhat longer
55 than the block b, which plays therein, in order to permit a certain amount of lost motion of the crank-pin or stud M and its block. This lost motion begins when the pin or stud reaches the position indicated in Fig. 1, and by dotted
60 lines in Fig. 2. The arm J is formed with an overhanging extension or bracket, c, carrying a roller, d, which, as the arm descends and the platen swings outward, comes in contact with and travels upon the face or edge of a cam, e,
65 formed upon or secured to the inner face of the wheel D, and thereby prevents the arm and platen from falling suddenly. The form of the cam e is clearly illustrated in Fig. 2, and said cam is so arranged with relation to the roller
70 d that the latter comes in contact therewith just after the platen begins its outward movement, the roller being lowered gradually by the curved or inclined face of the cam until it reaches the middle portion of said cam, which
75 is concentric with the wheel D. As this concentric portion passes beneath the roller d the latter will be supported thereby, and neither raised nor lowered, the arm J and platen E in consequence remaining at rest. While the
80 concentric portion of cam e is thus passing beneath the roller d the block b or pin M is traversing the slot a, thus affording the necessary lost motion to permit the arm J and the platen to thus remain at rest instead of being moved
85 by the pitman L. As the wheel D continues its rotation the latter end or portion of the cam e, which curves gradually outward from the middle portion toward the periphery of the wheel, passes beneath the roller d and starts
90 the arm J upward with an easy and gradual action, and continues to raise the same until the block b or pin M reaches the upper end of slot a, when the further elevation of the arm is effected by the pitman L. In this way the fall
100

and rise of the arm J and platen E are rendered very gradual and free from jar or shock, and a proper dwell or period of rest is secured between the fall and rise.

5 It not unfrequently happens that the platen sticks or becomes fast, by reason of the adherence of the paper or material which it carries, to the form, or from other cause, and with the construction above described such failure to
10 start would cause a jar or shock by reason of the pin or stud M carrying its block suddenly against the lower end of the slot *a*. To prevent this difficulty I provide the outer face of wheel D with a cam, *f*, which engages over a shoulder on the pitman L, as shown in Fig. 3, as the
15 pitman rises to its uppermost position and forces the pitman forward. The forward or downward movement of the pitman, and, in consequence, the outward movement of the
20 platen, being thus started, the movement will be completed by the weight of the platen, the arm J, and intermediate parts.

While I prefer to employ the rock-shaft and impression bars or links for transmitting motion from the arm J to the platen, it is obvious
25 that other intermediate mechanism or different connecting devices may be employed, or that the arm might be connected directly to the platen. The construction and arrangement shown is, however, preferred.

30 The inking mechanism and other parts not herein described may be of any usual or desired construction.

The roller *d* is not absolutely essential, but
35 renders the operation of the machine smoother and easier, and its use is therefore deemed advisable.

Having thus described my invention, what I claim is—

40 1. In a printing-press, the combination of a bed, a vibrating platen, a pivoted arm connected with said platen, a rotating wheel provided with a crank-pin, and a pitman connected with the pivoted arm and slotted to receive
45 the crank-pin and to permit a limited movement of the pin longitudinally of said slot, substantially as and for the purpose set forth.

2. In combination with a continuously-rotating wheel provided with a crank-pin, and with a cam having a part of its bearing-face
50 concentric with the wheel, a pivoted arm provided with a roller to rest upon said cam, and having attached to it a pitman, the lower end of which is slotted to receive and to permit a limited play of the pin. 55

3. In combination with the vibrating arm J, connected with the platen, the cam *e*, constructed as described, whereby it is caused to effect a gradual fall and rise of the arm, and to hold the same at rest for a period between
60 the fall and rise.

4. In a printing-press, the combination of a continuously-rotating wheel provided with a crank-pin, and with a cam the middle portion of which is concentric with the wheel, while
65 the end portions curve outward therefrom, a pivoted arm connected with the platen and provided with a roller to travel upon the cam, and a pitman connected with the pivoted arm and slotted to receive and to permit a limited
70 play of the crank-pin.

5. In a printing-press, the combination of a pivoted arm connected with the platen, a continuously-rotating wheel provided with a crank-pin, a pitman connected with the vibrating arm
75 and slotted to receive the crank-pin and to permit a limited play thereof, and a cam, *f*, formed upon or secured to the wheel and adapted to start the pitman forward, substantially as described. 80

6. The herein-described press, consisting of a bed, a vibrating platen, links or bars connecting the platen with disks secured upon a rock-shaft, a vibrating arm connected with one
85 of said disks and provided with a roller, a continuously-rotating wheel provided with a cam, *e*, and pin M, and a pitman connected with the vibrating arm and slotted to receive and to permit a limited play of the pin, substantially as set forth.

JOHN M. JONES.

Witnesses:

LYMAN LYON,
O. DURFEE.