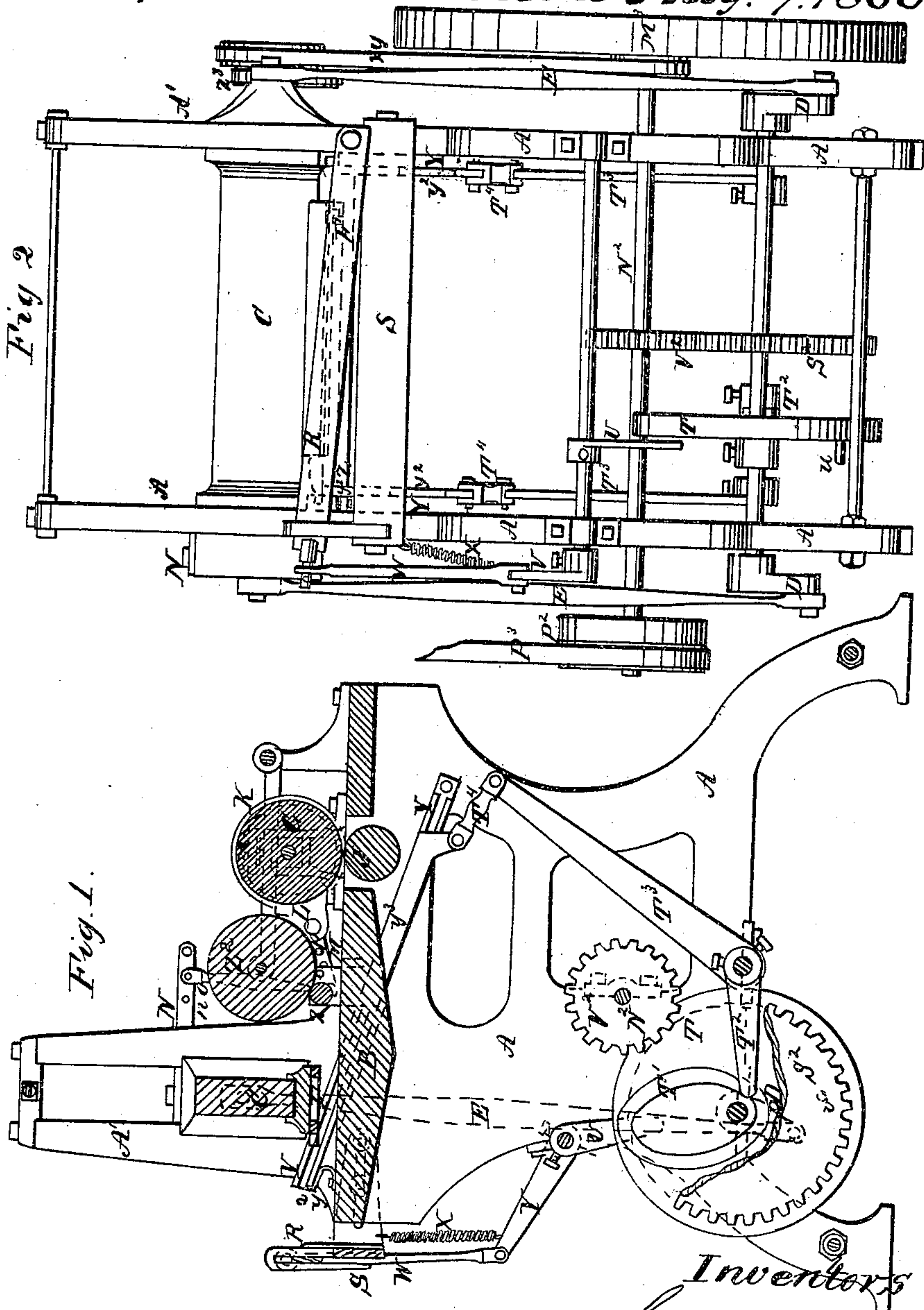


Sheet 1. 2 Sheets.

Hill, Hebard & Rockwell.
Card & Ticket Printing Press.
No 29547. Patented Aug. 7. 1860.



Witnesses
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UNITED STATES PATENT OFFICE.

GEO. I. HILL, GEO. F. HEBARD, AND S. D. ROCKWELL, OF BUFFALO, NEW YORK, ASSIGNORS
TO SANFORD, WARREN & HARROUN AND GEO. I. HILL, OF SAME PLACE.

PRINTING-PRESS.

Specification forming part of Letters Patent No. 29,547, dated August 7, 1860; Reissued February 25, 1862, No. 1,279.

To all whom it may concern:

Be it known that we, GEORGE I. HILL, GEORGE F. HEBARD, and SIMON D. ROCKWELL, of the city of Buffalo, county of Erie, and State of New York, (assignors to the firm of SANFORD, WARREN & HARROUN, printers, of the city of Buffalo aforesaid, and the said GEORGE I. HILL,) have invented certain new and useful Improvements in Printing-Presses; and we do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure I, is a vertical section of our improved machine. Fig. II, is an end elevation of the same. Fig. III, is a top plan. Fig. IV, is an elevation of the intermittent feed.

The nature of our invention consists, first, in the construction, application, and use of an intermittent feed, so that cards, circulars, rail road tickets and the like, can be printed upon long sheets or continuous rolls of paper; second, in so arranging and combining the mechanism, that each card or ticket may be printed, and separated or cut from the continuous roll of paper, by a simultaneous operation of the machine.

Letters of like name and kind refer to like parts in each of the figures.

A, represents the main frame work of the machine; B, bed plate; C, crosshead. This has a vertical movement in the secondary frame A', which movement is communicated from the cranks, D, through the connecting rods E.

The type form, F, is made fast to the crosshead and has an up and down movement therewith.

G, represents the feed roller,—about one fourth of the length of this roller (more or less) at the central portion thereof (G') is made a trifle larger than the other portions, which enlarged portion will come in contact with the paper. Upon one end of this roller is the toothed wheel, H, which meshes in with the small spur wheel I, (upon the lower feed roller, J.) Upon the other end of this roller is a feed wheel K, and cam clutch L, the cam being formed on the end of the lever, M.

N, represents a stationary arm, projecting from, and made fast to the cross head, C.

O, is a rod forming the connection be-

tween M and N. The arm N and lever M, each has holes, (p,) for adjustability, whereby the feed may be regulated. As the cross head rises,—the cam clutch holds fast to the wheel, K, and thereby causes the feed rollers to revolve a given distance. As the crosshead descends, the cam clutch loosens its hold, and slips down on the rim of the wheel (the feed rollers remaining stationary,) and takes a new hold, so that as the cross head again rises, the feed rollers are again caused to move the required distance. By this arrangement of parts, we obtain an intermittent feed, and are enabled to print upon a continuous roll of paper.

R, represents a knife, which forms a shear cut with the bar S. It is operated by means of the cam wheel, T, arms U and V, connecting rod W, and spring X. A pin (U') on the side of the wheel, T, strikes the arm U and through the arrangements of the said parts produce the required movement. The knife is made adjustable.

Y, represents inclined grooved rails, which support the inking roller Z, and direct its movement, so that the said roller will carry ink to the type at the proper time.

Y², represents springs which support the upper ends of said rails. The movement of this inking roller is produced by means of a cam T', (formed in the cam wheel T,) cam arm T², lever T³, connecting rod T⁴, and sliding head Y³.

Z² represents inking roller from which the inking roller Z takes its supply; Z³, belt which drives the inking roller (Z²); X Y, belt from main driving shaft; N², main driving shaft. P² pulley on same; P³, main driving belt; S² spur wheel on crank shaft. V² spur pinion on main driving shaft, which meshes in with spur wheel S², M³ fly wheel.

Operation: This machine is particularly designed for printing, "railroad tickets," business cards, circulars, and the like, from a long sheet or continuous roll of common printing paper, but is also applicable for other kinds of printing. A large roll of paper is duly placed in range with the feed rollers, G and J, so as to be drawn between these rollers. By means of the wheel, K, cam clutch, L, lever M, connecting rod, O, and arm N, connected to the vertically moving cross head, C, as already described, (and which constitute the feeding appa-

ratus) an intermittent feed is produced, which may be so adjusted as at each movement to carry the paper a distance equal to the size or length of the ticket to be printed.

5 By the movement of the machine as already described, the type descend with the downward movement of the cross head, and the impression is thereby made upon the paper. As the cross head and type rise, the feed

10 operates as described, and feeds the paper in, the exact distance required for the ticket. The next movement of the feed carries the paper forward for the succeeding ticket and also carries the printed ticket to the cut-

15 ters—the cutters severing it from the continuous sheet at the moment the feed is stationary, and while the cross head and type are descending. We are thus enabled to

print tickets upon a continuous sheet or roll of paper, and cut the same therefrom by a simultaneous operation of the machine.

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

1. An intermittent feed, constructed arranged and operating for the purposes and substantially as described.

2. In combination therewith the cutters, R, S, for the purposes and substantially as set forth.

GEO. I. HILL.
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