

(No Model.)

3 Sheets—Sheet 1.

F. L. & E. C. JONES.
PERFECTING PLATEN PRESS.

No. 604,760.

Patented May 31, 1898.

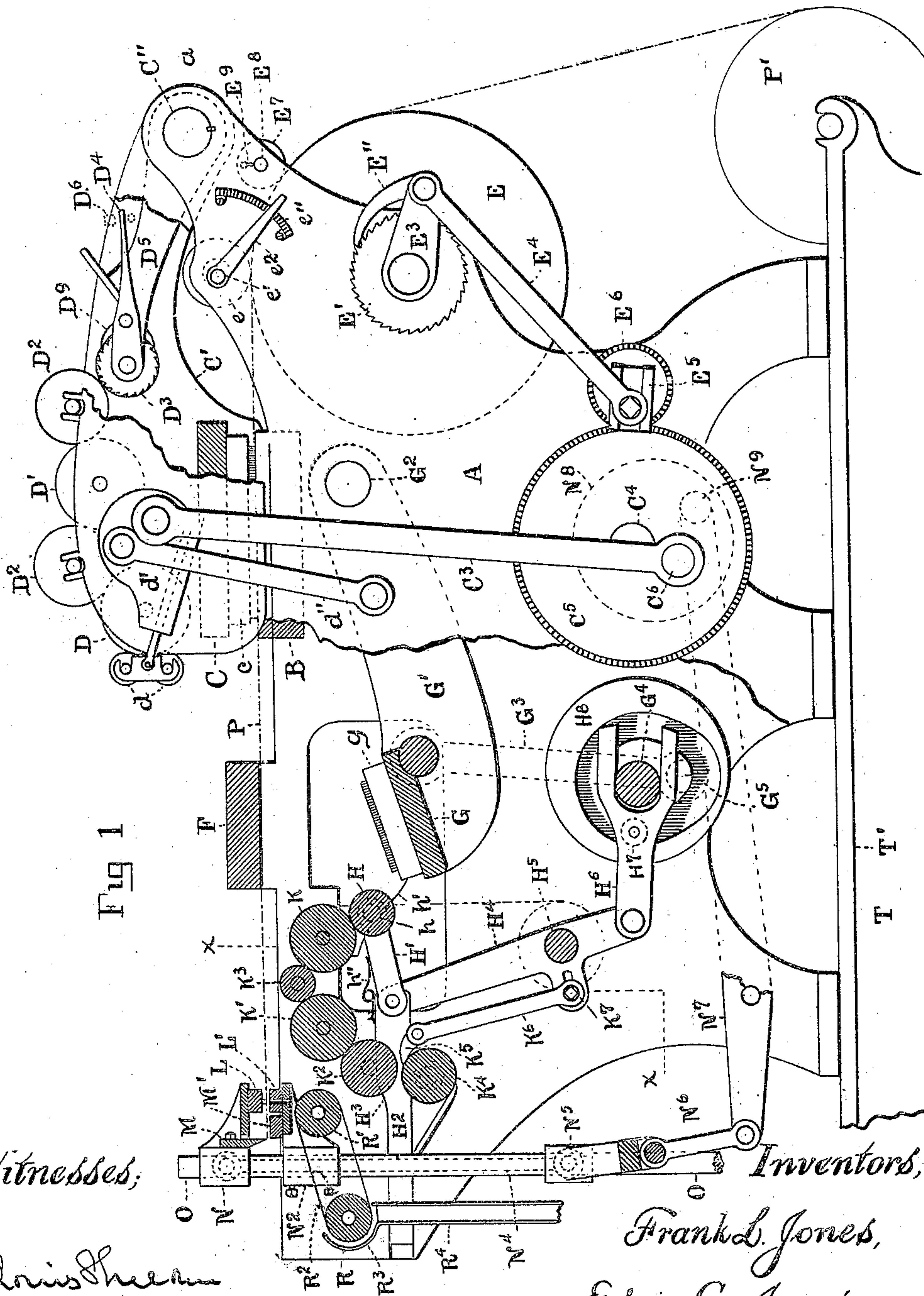


Fig 1

Witnesses:

Wm. S. Thorne

Carroll Turner.

Inventors,

Frank L. Jones,

Edwin C. Jones,

By A. B. Upham,
Their Attorney.

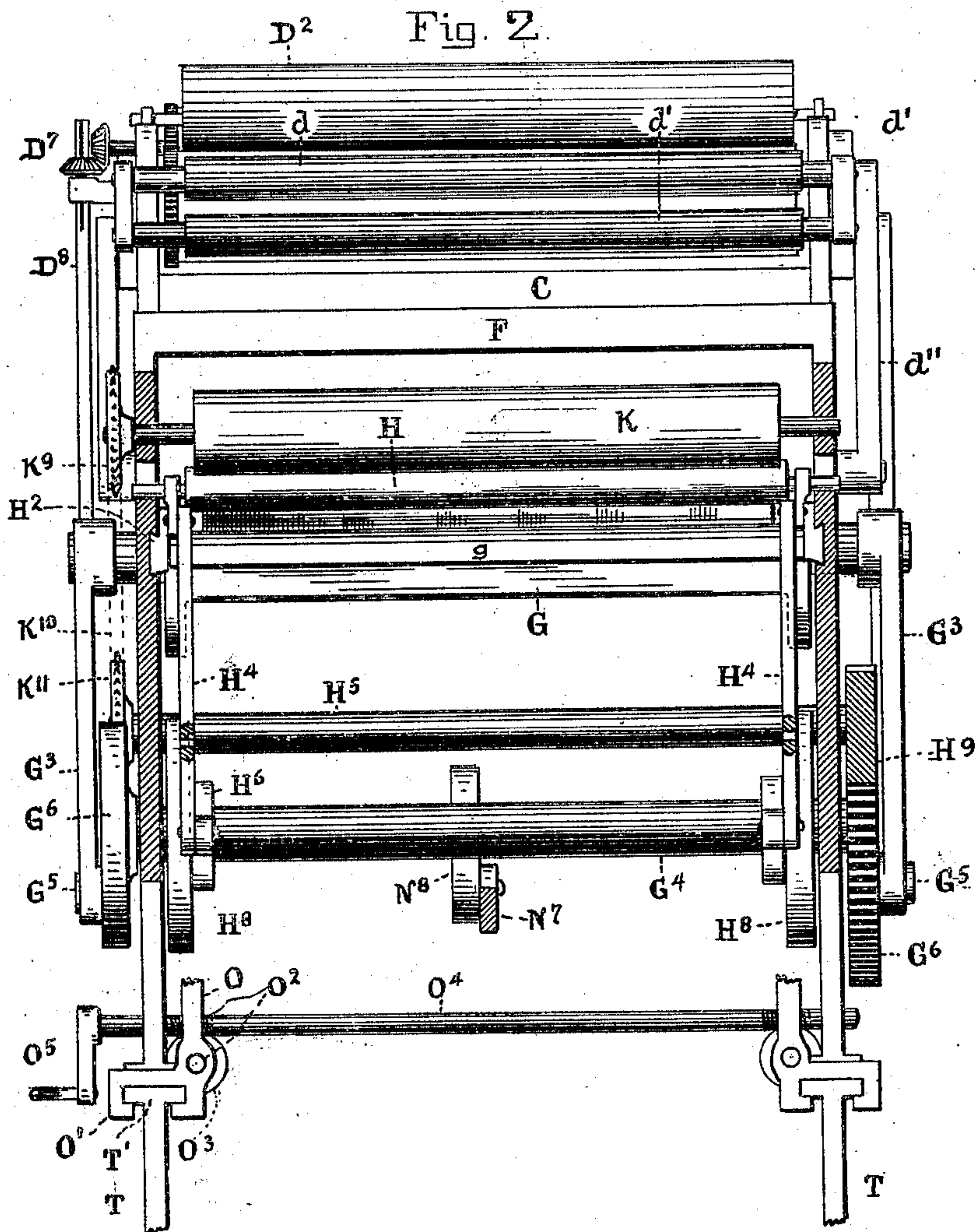
(No Model.)

3 Sheets—Sheet 2.

F. L. & E. C. JONES.
PERFECTING PLATEN PRESS.

No. 604,760.

Patented May 31, 1898.



Witnessed;

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Carroll Turner.

Inventors,

Frank L. Jones,

Edwin C. Jones;

By A. B. Upham,
Their Attorney.

(No Model.)

3 Sheets—Sheet 3.

F. L. & E. C. JONES.
PERFECTING PLATEN PRESS.

No. 604,760.

Patented May 31, 1898.

Fig. 3.

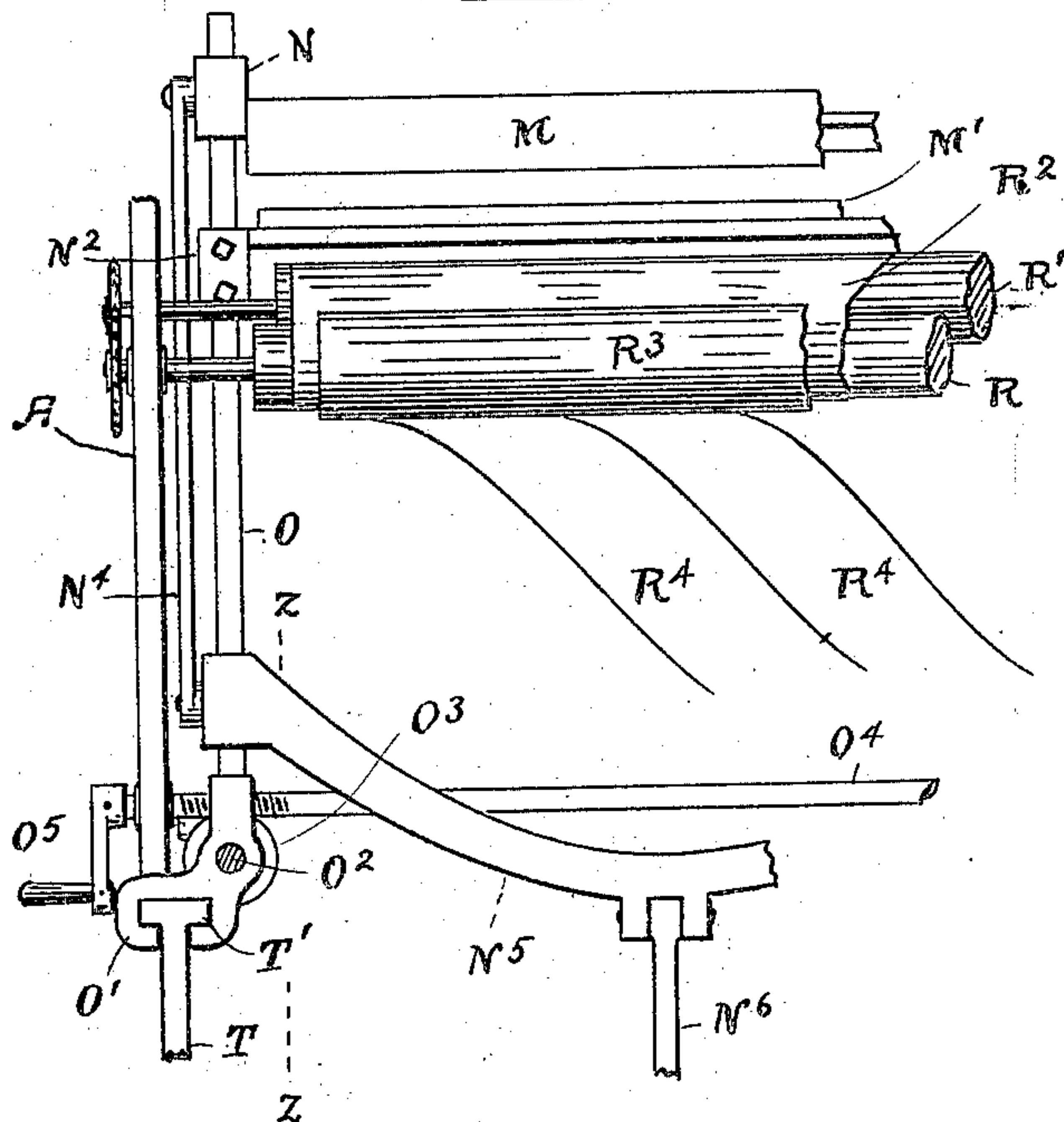
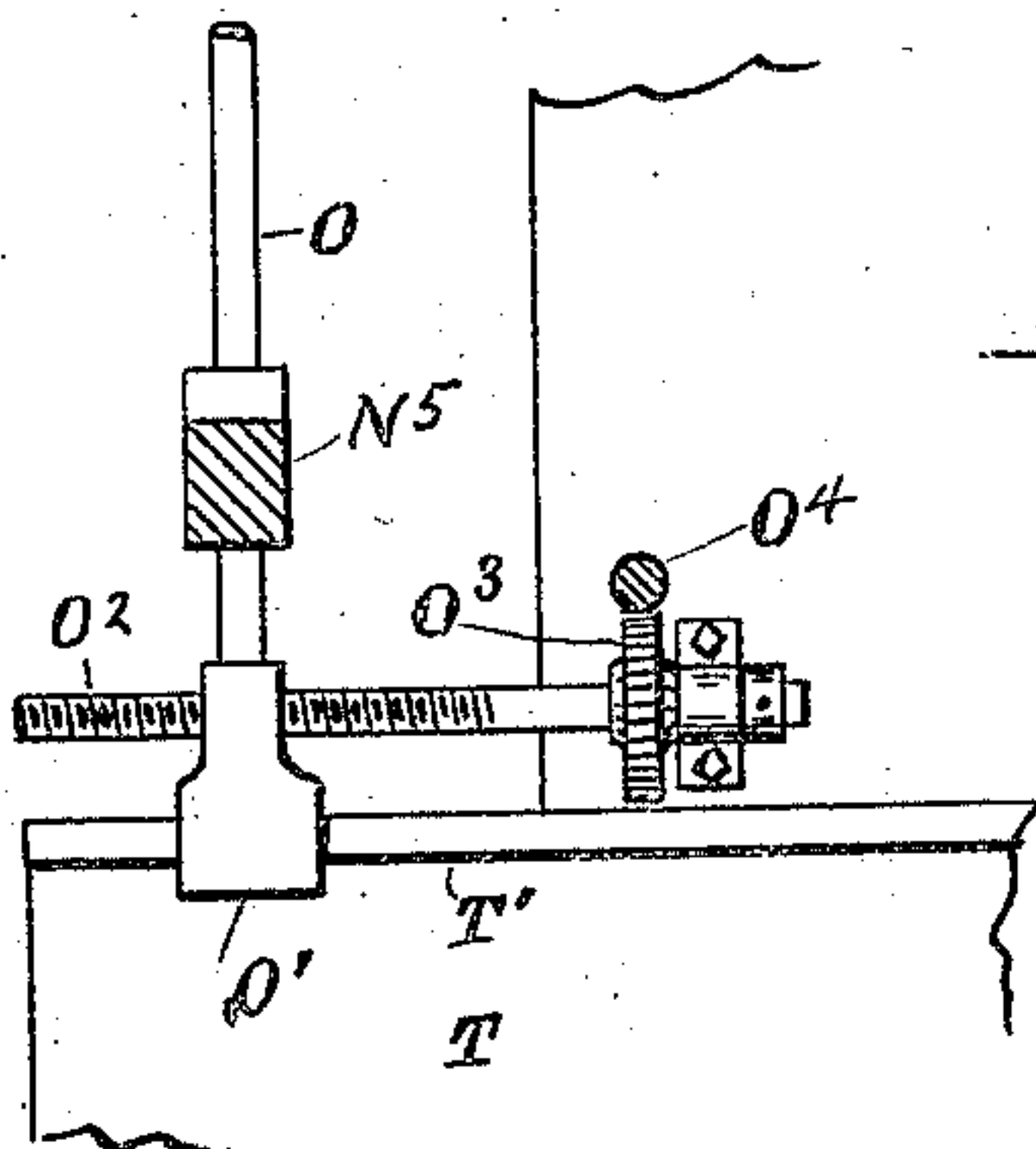


Fig. 4.



Witnesses;

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J. E. Ellis

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Frank L. Jones,
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Attorney.

UNITED STATES PATENT OFFICE.

FRANK L. JONES AND EDWIN C. JONES, OF BOSTON, MASSACHUSETTS,
ASSIGNORS TO THE BOSTON CHECK AND TICKET COMPANY, OF SAME
PLACE.

PERFECTING PLATEN-PRESS.

SPECIFICATION forming part of Letters Patent No. 604,760, dated May 31, 1898.

Application filed November 11, 1896. Serial No. 611,778. (No model.)

To all whom it may concern:

Be it known that we, FRANK L. JONES and EDWIN C. JONES, citizens of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented a new and useful Perfecting Platen-Press, of which the following is a full, clear, and exact description.

The object of this invention is the construction of a press for printing both sides of cards, checks, tickets, and such like matter and delivering the same suitably cut and assorted.

In the drawings forming part of this specification, Figure 1 is a side elevation of the upper part of our machine. Fig. 2 is a sectional elevation through xx in Fig. 1. Fig. 3 is a detail end view of the card shearing and reversing mechanism, and Fig. 4 is a cross-section at zz in Fig. 3 of the adjusting mechanism of the shearing device.

The side frames A of our machine have rigidly connected to their upper edges the two platens B and F, the former of which is designed and adapted for the top print and the latter for the under print. The form c is held by the bed C, held in the oscillating frame C', pivoted upon the shaft C''. This bed-frame is oscillated by means of the pitman-rods C³ and crank-pins C⁶, carried by the disks C⁵ on each side of the frame A. The ink-rolls d are actuated in much the usual manner through the spring-boxes d' and pivoted bars d'' .

D D' are the distributing-rolls, rotated by suitable gearing D⁷. (Indicated in Fig. 2.) Of the two riders D² the right-hand one receives ink from the roll D³, forming part of the ink-reservoir. This reservoir is supported upon the arms D⁵, rigidly mounted upon the shaft C'', the latter being keyed in the frame A. Hence as the type-bed C is oscillated the rider D² alternately rests upon and recedes from the ink-roll D³, intermittently taking ink therefrom and transferring it to the distributors D D'. The ink-roll D³ is slowly rotated by means of the arm D⁴, carrying the dog D⁹, engaging a ratchet-wheel on said roll. Said arm is actuated by coming in contact with projections D⁶, carried by the frame C'.

The under printing mechanism comprises the bed G, having its arms G' pivoted at G²

to the frame A and oscillated through the medium of the pitman-rods G³ and crank-pins G⁵, carried by the disks G⁶ and shaft G⁴. One of said disks is peripherally toothed and meshes with one of the disks C⁵, correspondingly toothed, so that they rotate synchronously. The roll H for inking the type carried by the bed G is carried by the links H¹, pivoted on the slides H². Said slides are movable in the dovetail grooves shown in Fig. 2 and are reciprocated by the levers H⁴, pivoted on the shaft H⁵ and oscillated by the side cams H⁸, acting on the friction-rolls H⁷ and the straddle-arm H⁶. Said roll H is brought to the position shown in Fig. 1 by having its axes ride upon the inclined blocks h' , and thereby made to contact with the distributing-roll K. The distributing-rolls K, K' are rotated by means of sprocket-wheels and chain K⁹ K¹⁰ and sprocket K¹¹, mounted on the shaft H⁵.

K³ represents the rider or vibrator, while K² is the vibrator made to intermittently contact with the fountain-roll K⁵ and the distributor K' by means of the slides H². This is done by having the axes of said vibrator rest upon the said slides and by providing the latter with the inclines H³. The fountain-roll K⁴ is slowly rotated through the agency of the dog K⁵, engaging the ratchet-wheel of the former, the rod K⁶, and adjusting-slot K⁷ of the oscillating arm H⁴. The pressure of the ink-roll H upon the type is increased by the springs h'' . The shaft H⁵ is rotated by the gear H⁹, meshing with the gear G⁶ on the shaft G⁴.

The card-paper P, taken from the reel P', is fed to the press by means of the cylinder E and the presser-roll e . The feed-cylinder E is moved by means of the ratchet E', pawl E'', pitman E⁴, and adjustable crank-pin E⁵ on the gear E⁶, which meshes with the gear C⁵ and drives the same. The gear E⁶ is made precisely one-fourth the diameter of the gear C⁵ in order that the feeding of the paper shall occur between the impression strokes of the two type-beds.

The disks E⁷, two in number and mounted on the rod E⁸, are for the purpose of guiding the paper on its way to the printing mechanism.

ism. Suitable set-screws E^9 permit of their adjustment on said rod E^8 . The presser-cylinder e , by means of which the motion of the feed-cylinder is insured to the paper P , is enabled to have its pressure upon said cylinder varied by means of the eccentric shaft e' , the quadrant e'' , and the resilient arm e^2 , engaging the notches in said quadrant.

Our means for cutting, punching, and assorting the printed cards are as follows: The blade M is bolted to the blocks N , reciprocated on the vertical rods O through the agency of the connecting-rods N^4 , cross-head N^5 , link N^6 , lever N^7 , and side cam N^8 , mounted on the shaft C^4 . The fixed blade M' of the shears is secured to the brackets N^2 , rigidly held by the said rods O , and the severed cards are received upon the endless apron R^2 , carried by the rollers R R' . The roller R is preferably lower than its companion and is partially surrounded by the reversing-shield R^3 , whose lower edge terminates in the inclined chutes R^4 . By this arrangement a severed card falls upon the apron R^2 , passes about the lower roller, and is delivered to the chute R^4 with its faces reversed. Sliding down the inclined chute the cards pile one upon the other in a suitable receptacle and with the proper faces uppermost.

Inasmuch as the matter which we design to print upon our press is mainly in the line of restaurant-checks having perforated tabs, the head N and bracket N^2 are provided with the punches L L' , operated simultaneously with the shears.

The object in providing a plurality of chutes R^4 is to enable several cards to be printed and severed simultaneously, a plurality of webs of paper being wound side by side upon the reel P' instead of one wide roll. The paper being comparatively heavy card, there is no difficulty in feeding the strips in parallel lines. The "reversing-shield" R is so termed for the reason that its function is to reverse or turn upside down each printed card. This reversal is required in order to bring the consecutive numbering of the cards in the proper order. In printing restaurant-checks upon their upper faces a numbering attachment (not shown) applies to the said faces the required consecutive numbering. If the cards thus printed and severed one after the other are permitted to fall directly one upon the other, the resulting pile will read, for instance, "25, 24, 23," &c., down to "1," instead of in the proper order. By reversing each card the pile will read in the proper consecutive order and not require to be subsequently turned by hand one by one. The reversing-shield R performs its work by receiving the cards with their faces uppermost and delivering them to the chutes R^4 with

their backs uppermost. Said chutes are inclined instead of being placed vertical, in order that the cards may pass down the same without danger of again becoming reversed and also in order to deliver the cards in a vertical pile in the receptacle below.

To adjust the shears and punches with respect to the printing mechanism, we have the feet of the rods O clasp the rim T' of the base T , as shown in Fig. 2, and provide the worms O^2 , gears O^3 , and shaft O^4 , having handle O^5 and worms meshing with said gears.

What we claim as our invention, and desire to secure by Letters Patent, is as follows, to wit:

1. The combination of the top print and the under print arranged to oscillate alternately, the intermeshing gears, cranks and pitmen by which such oscillation is performed, the gear E^6 , one-fourth of the diameter of said gears, the adjustable crank-pin, E^5 , pitman, E^4 , pawl and ratchet, E'' , E' , the feed-cylinder, E , and the presser-roll, e , whereby the paper is fed to the said upper and under print between the oscillations of the latter.

2. The oscillating top print having its frame pivoted upon the fixed shaft, C'' , in combination with the fountain and its ink-roll, the frame, D^5 , rigidly mounted on said shaft, the arm, D^4 , dog D^9 , engaging ratchet on said ink-roll, and the projections, D^6 , extending from said oscillating frame into contact with said arm, D^4 , for the purpose set forth.

3. The combination of the shaft, G^4 , cams, H^8 , straddle-arms, H^6 , friction-rolls engaging said cams, the levers, H^4 , the inking-roll and vibrator actuated by said levers, the distributors, the ink-fountain and fount-roll K^4 , the dog, K^5 , rod, K^6 , and the adjusting-slot, K^7 , of the lever, H^4 , substantially as and for the purpose set forth.

4. The combination of the vertical rods, O , brackets, N^2 , fixed thereon, the blocks, N , movable on said rods, the cross-head, N^5 , connecting-rods, N^4 , joining said cross-head and blocks, link, N^6 , lever, N^7 , and cam, N^8 , substantially as and for the purpose specified.

5. The combination of the vertical rods and the punching and shearing mechanism carried thereby, the printing mechanism, the base for the same having rims, T' , feet for said rods claspings said rims, and the means for adjusting said feet toward and from the printing mechanism, for the purpose set forth.

In testimony that we claim the foregoing invention we have hereunto set our hands this 9th day of November, in the year 1896.

FRANK L. JONES.
EDWIN C. JONES.

Witnesses:

A. B. UPHAM,
N. LOUIS SHELDON.