

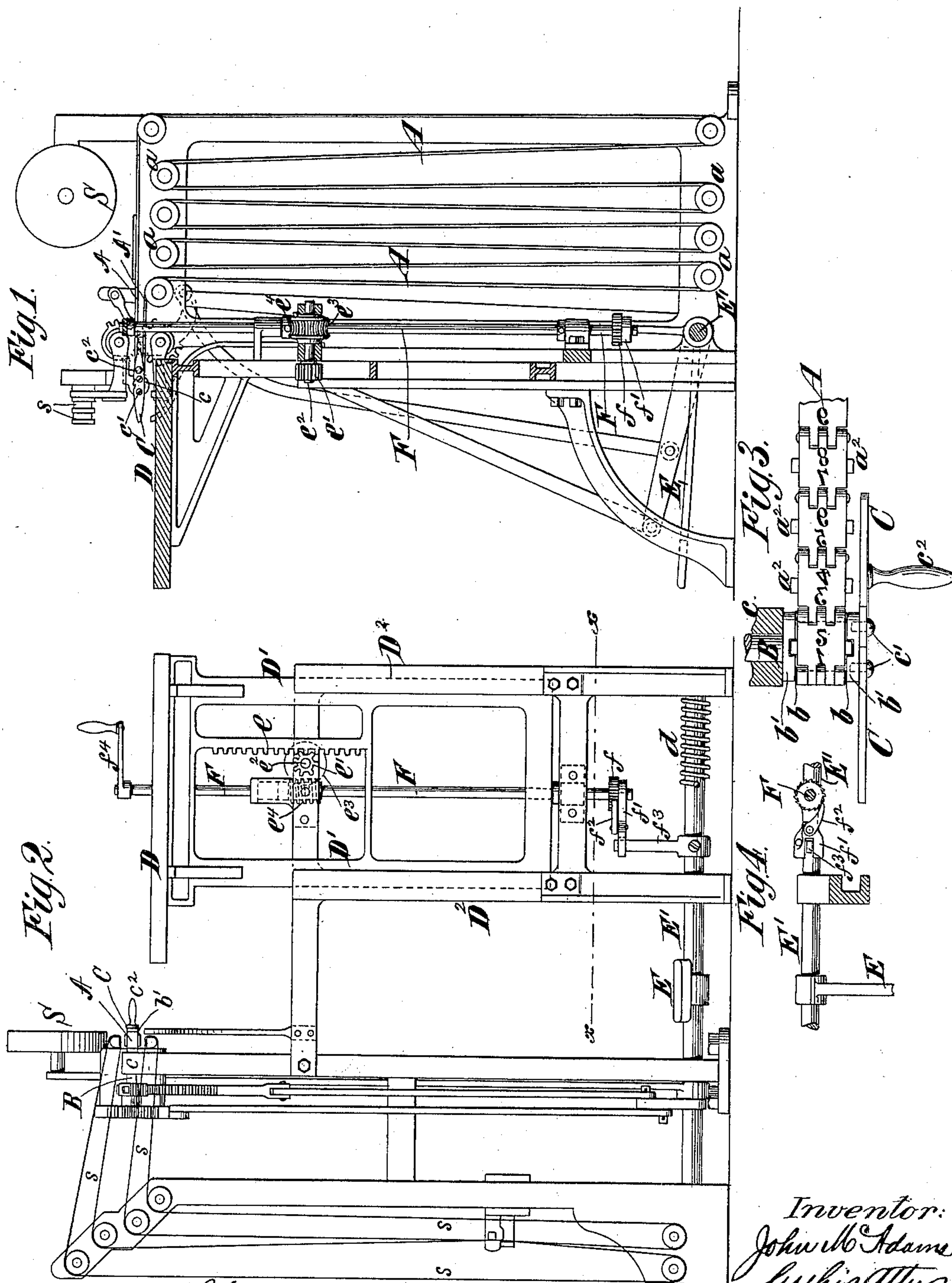
(No Model.)

2 Sheets—Sheet 1.

J. McADAMS.
PAGING MACHINE.

No. 378,607.

Patented Feb. 28, 1888.



Witnesses: C. Sundgren.
Emil Reuter.

Inventor:
John McAdams
by his Attys
Brown & Hall

(No Model.)

2 Sheets—Sheet 2.

J. McADAMS.
PAGING MACHINE.

No. 378,607.

Patented Feb. 28, 1888.

Fig. 5.

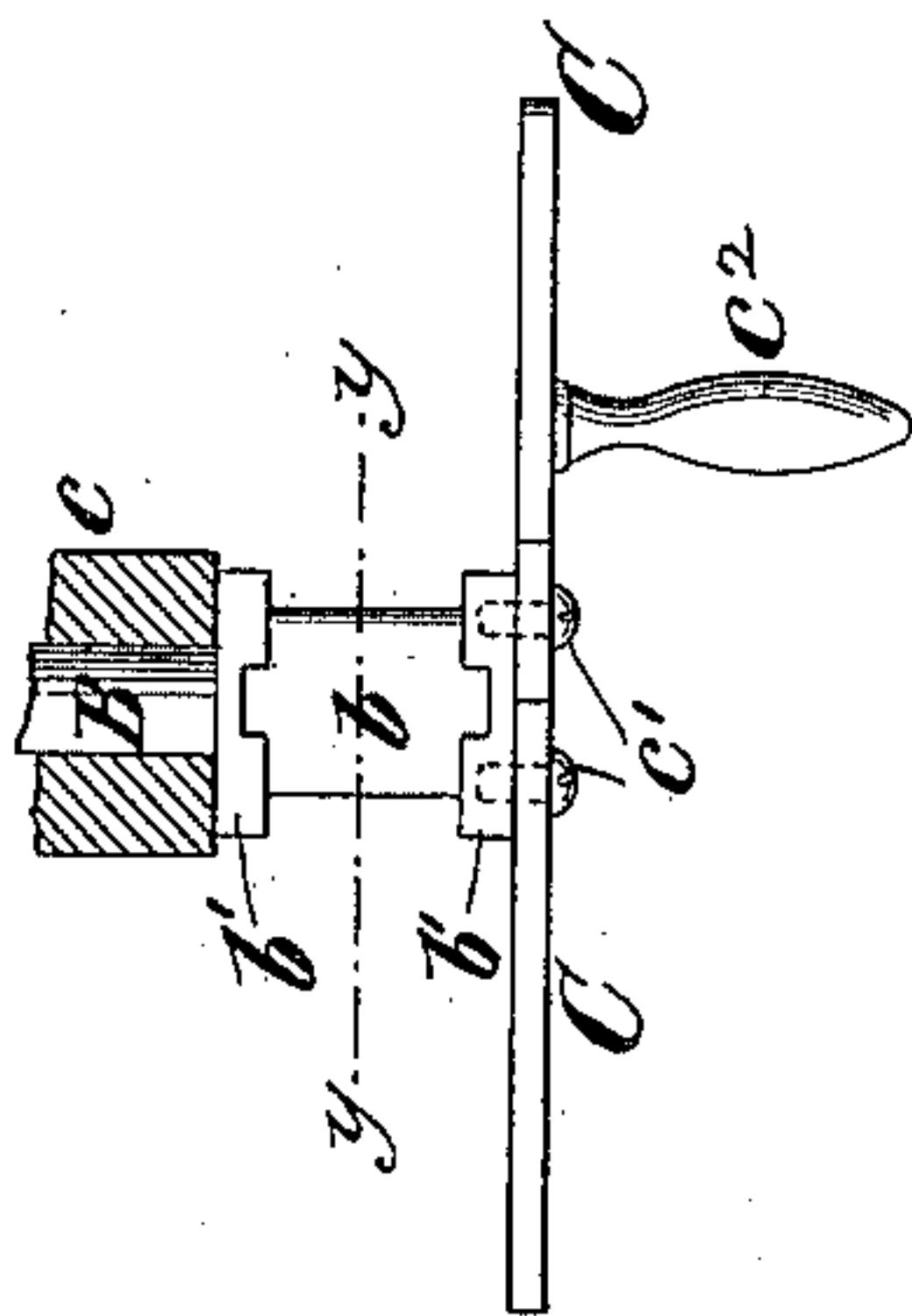


Fig. 7.

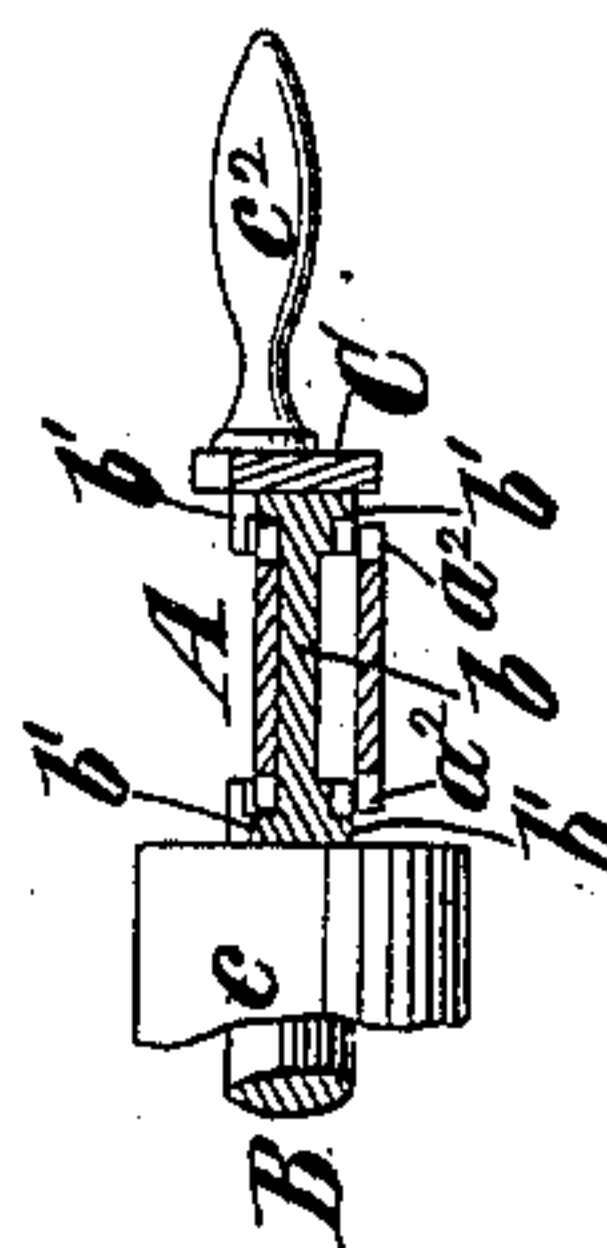
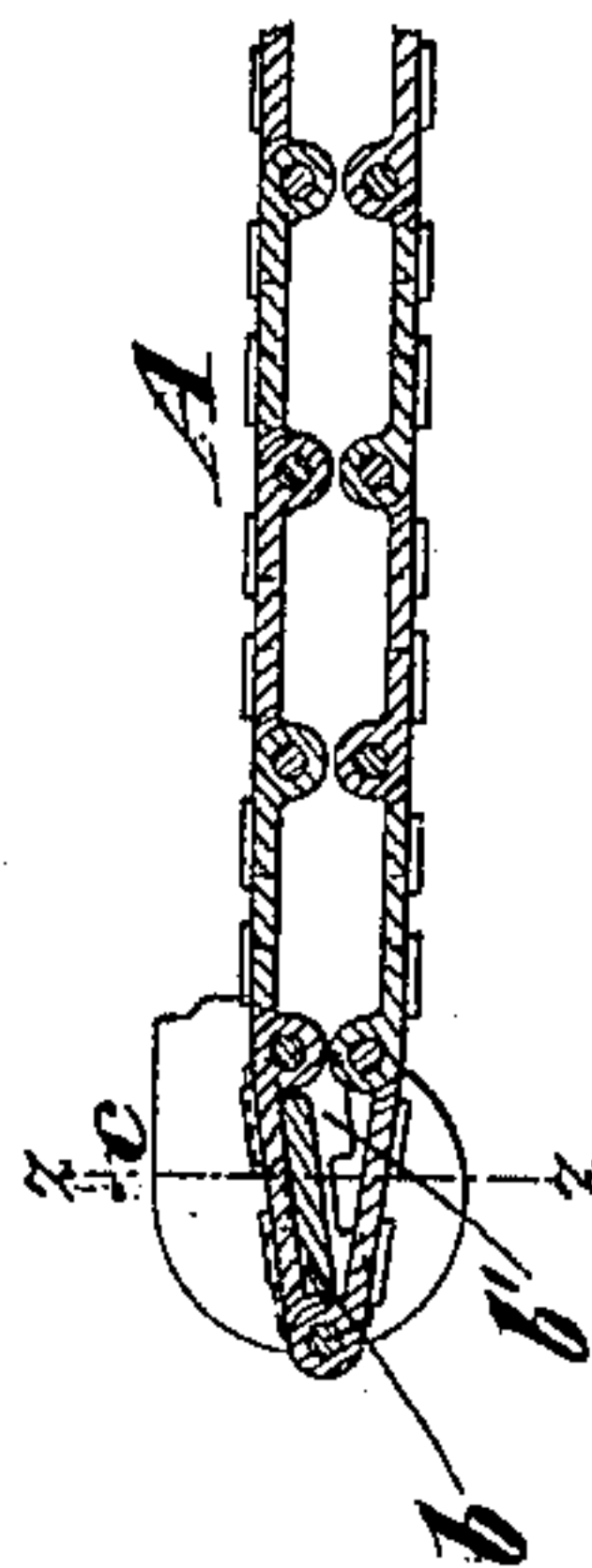


Fig. 6.



Witnesses:

O. Sundgren,

Emil H. Porter.

Inventor:

John M. Adams
by his attys.
Dwight Hall.

UNITED STATES PATENT OFFICE.

JOHN McADAMS, OF BROOKLYN, NEW YORK.

PAGING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 378,607, dated February 28, 1888.

Application filed January 8, 1886. Serial No. 187,940. (No model.)

To all whom it may concern:

Be it known that I, JOHN McADAMS, of the city of Brooklyn, in the county of Kings and State of New York, have invented a new and useful Improvement in Paging-Machines, of which the following is a specification.

My invention relates to book paging or numbering machines of the class shown in my United States Letters Patent No. 87,693, dated March 9, 1869. In such machine the numbers or type are formed on the links of an endless chain which engages with the flattened portion of the shaft, and by the step-by-step turning movement of the shaft is fed forward to bring the numbers successively into position for stamping the pages. In such a machine the book is turned so that the numbering may commence at the bottom, and is supported upon a vertically-movable table or bed, and a leaf-turner is also provided upon the end of the shaft which operates the numbering-chain, and by which the leaves are turned or moved out of the way as they are numbered. By the operation of a treadle the numbering-chain is fed forward, and the table which supports the book is lowered gradually as the numbering progresses. In machines of this class which I have heretofore made the turning shaft for operating the numbering-chain has bearings upon opposite sides of the chain, and beyond the outside bearing the shaft has a projection on which the leaf-turner is placed, and such leaf-turner consists of a plate having an outwardly-extending hub fitting the shaft. This outside bearing for the turning shaft and the hub of the leaf-turner have been considerably in the way and interfere somewhat with the easy manipulation of the book-leaves in numbering them. In order to simplify these parts and to avoid any interference of the leaf-turner with the leaves, I now dispense with any bearing for the turning shaft on the outer side of the numbering-chain, and I secure the leaf-turner, by screws or otherwise, fast against the end of the shaft and close to the outer side of the numbering-chain.

In the accompanying drawings, Figure 1 is a sectional elevation of a machine embodying my invention. Fig. 2 is a front view thereof. Fig. 3 is a plan of a portion of the numbering-chain, the turning shaft, and leaf-turner upon

a larger scale. Fig. 4 is a sectional view, upon the plane of the dotted line $x x$, Fig. 2, of the mechanism whereby the book-supporting table is lowered step by step as the numbering progresses. Fig. 5 is a plan similar to Fig. 3, but with the numbering-chain removed, of a part of the turning shaft and the leaf-turner attached thereto. Fig. 6 is a sectional view on the plane of the dotted line $y y$, Fig. 5, including the numbering-chain; and Fig. 7 is a sectional view of the turning shaft, leaf-turner, and numbering-chain on the plane of the dotted line $z z$, Fig. 6.

Similar letters of reference designate corresponding parts in all the figures.

A designates the numbering-chain, which is carried around suitable pulleys, a , and which is then carried horizontally over and around a flat portion or turning plate, b , on the turning shaft B.

On each side of the flattened portion b of the shaft are oval cheeks b' , (best shown in Figs. 5 and 7,) which have in them notches engaging with lugs or ears a^2 on the numbering-chain A, and by which the turning of the shaft B produces the step-by-step progressive movement of the numbering-chain A in one direction. The flattened portion b of the turning shaft B has its width about equal to the length of one of the chain-links, as shown in Fig. 6, and as such shaft is turned a half-revolution at a time, step by step, the chain is drawn forward and the numbers are successively brought to a proper position for stamping. The relative arrangement and construction of these parts is best shown in Fig. 3, and also in Figs. 6 and 7. In machines of this class the turning shaft B has a bearing, c , upon the inner side of the chain, and as usually constructed a bearing is also provided on the outer side of the chain and the shaft projects sufficiently beyond this latter bearing to receive the leaf-turner. According to my present invention, this latter bearing is dispensed with, and the shaft only projects sufficiently outside the chain to form the cheek-piece b' . The leaf-turner C consists of a flat strip or plate, which is placed against the end of the shaft B, beyond the flat portion b thereof, as shown in Figs. 3 and 5, and is secured thereto by screws c' , or otherwise. This leaf-

turner has no hub or projection on its outer side, which is in line with the shaft B, and it has at some distance from the center of the shaft B a handle, e^2 , whereby it and the shaft 5 may be turned back by hand.

E designates a treadle which is supported on the treadle-shaft E', having applied to it a spring, d , for producing its return movement.

D designates the book-supporting table 10 mounted upon a frame, D', which is fitted to slide in suitable guides, D², in the fixed frame of the machine. This vertically-movable frame is provided with a rack, e , with which engages a pinion, e' , on the shaft e^2 , and on the 15 same shaft is a worm-wheel, e^3 , with which engages the worm e^4 on an upright shaft, F. The worm and worm-wheel $e^4 e^3$ serve to hold the table D in any position to which it is adjusted, and when turned step by step may lower the 20 table gradually.

For imparting a step-by-step motion to the shaft F, I have represented upon the lower end thereof a ratchet-wheel, f , and a swinging arm, f' , which carries a pawl, f^2 , engaging 25 with said ratchet, and which is swung in a horizontal plane by the arm f^3 , projecting upward from the treadle-shaft E'. These parts are best shown in Figs. 2 and 4. At each operation of the treadle the pawl f^2 , engaging with 30 the wheel f , turns the shaft F slightly and thereby lowers the table D, and at each return movement of the treadle-shaft E' and its arm f^3 the pawl f^2 plays idly on the ratchet f and comes to a new engagement therewith. When

it is desired to raise the table in order to place 35 it in proper position for a new book, it may be done by the handle f^4 , applied to the upper end of the shaft F, the pawl f^2 being first disengaged from the wheel f .

This machine has the inking-wheel S and 40 also the impression-tapes s , which offer a tympan-surface to support the leaves when the numbers are impressed on them, all as described in my above-referred-to United States Patent No. 87,693, dated March 9, 1869. 45

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In a paging-machine, the combination, with the numbering-chain and the shaft 50 whereby the chain is moved step by step, of a bearing for the shaft on the inner side of the chain, the shaft being destitute of a bearing on the outer side of the chain, and a leaf-turner secured to the end of the shaft on the outside of the chain, substantially as herein described. 55

2. The combination, with the numbering-chain and the shaft B, of a bearing for the shaft on the inner side of the chain, the shaft being destitute of a bearing on the outer side of the chain, and the leaf-turner C, placed 60 against the outer end of the shaft and screwed or otherwise secured thereon, substantially as herein described.

JOHN McADAMS.

Witnesses:

FREDK. HAYNES,
MINERT LINDEMAN.