

(Model.)

2 Sheets—Sheet 1.

J. La DOW.
Printer's Chase.

No. 234,877.

Patented Nov. 30, 1880.

Fig. 1.

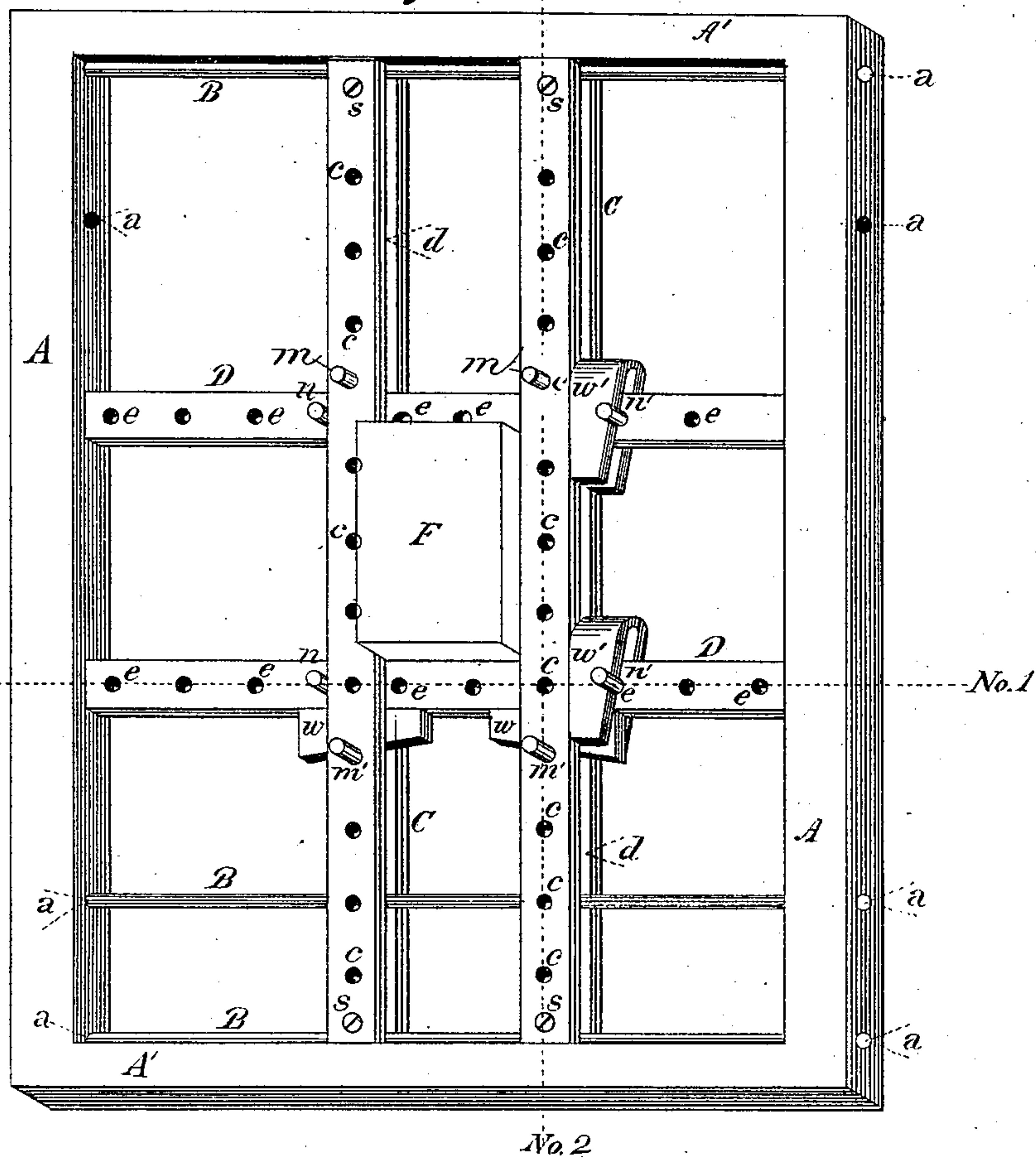


Fig. 2.

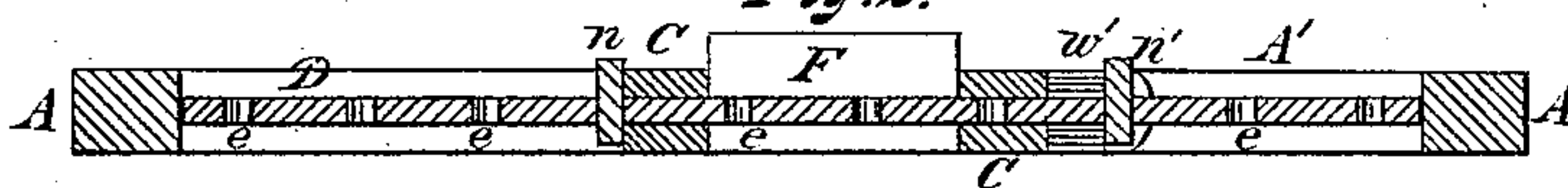
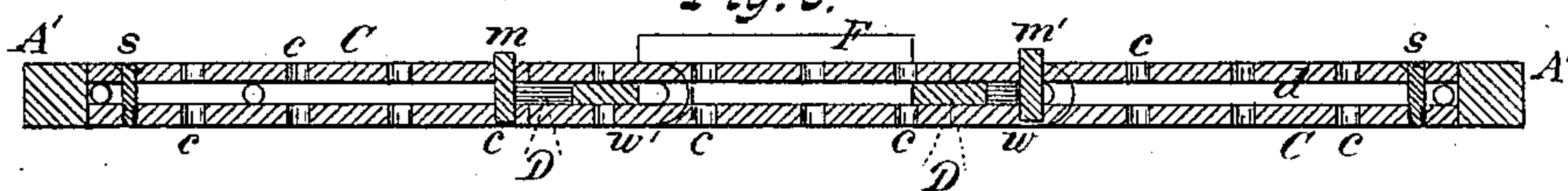


Fig. 3.



Witnesses: Robert Hillson John La Dow
Charles Burke.

Inventor.
by his attorney Alex. Selkirk

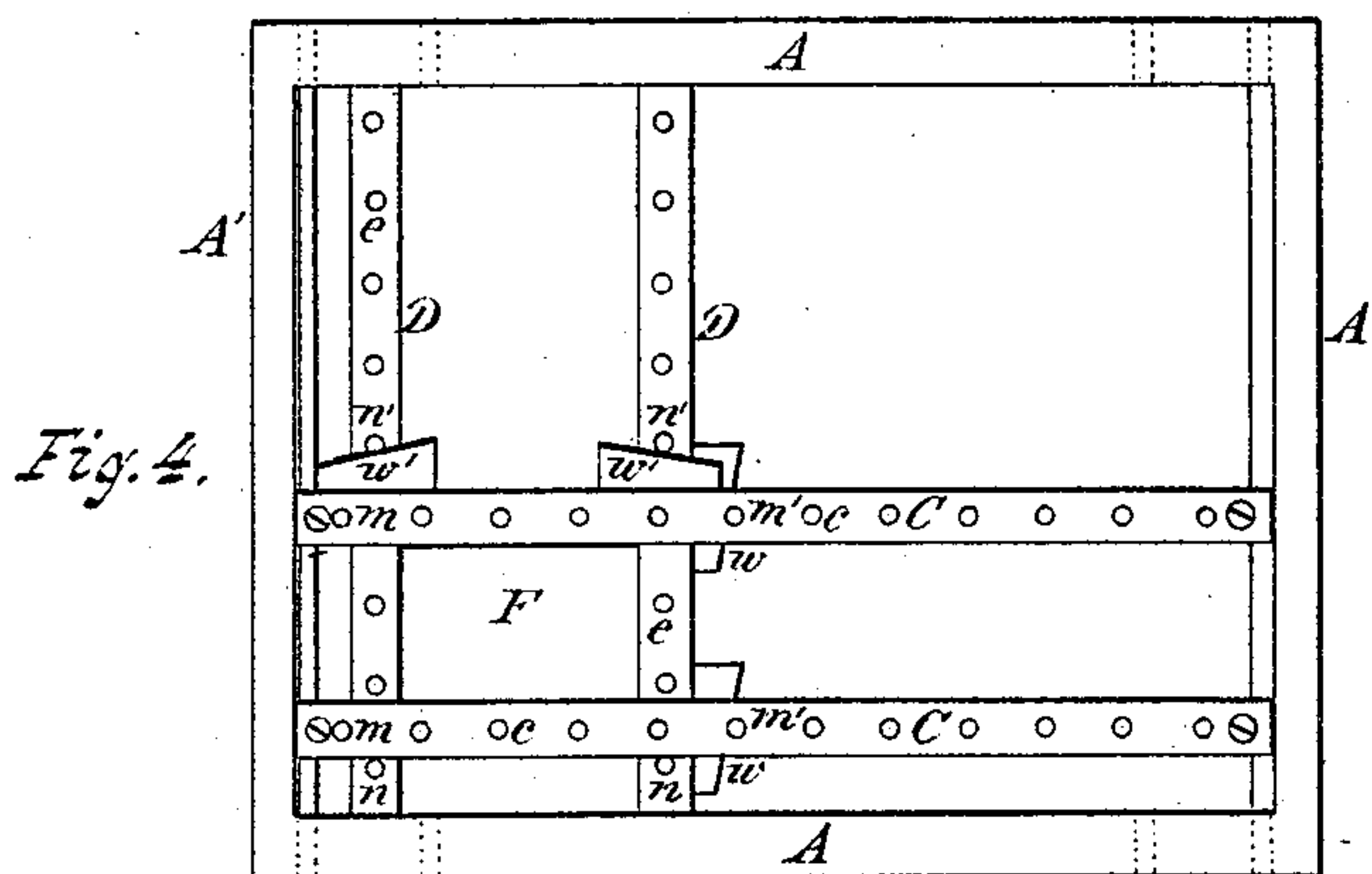
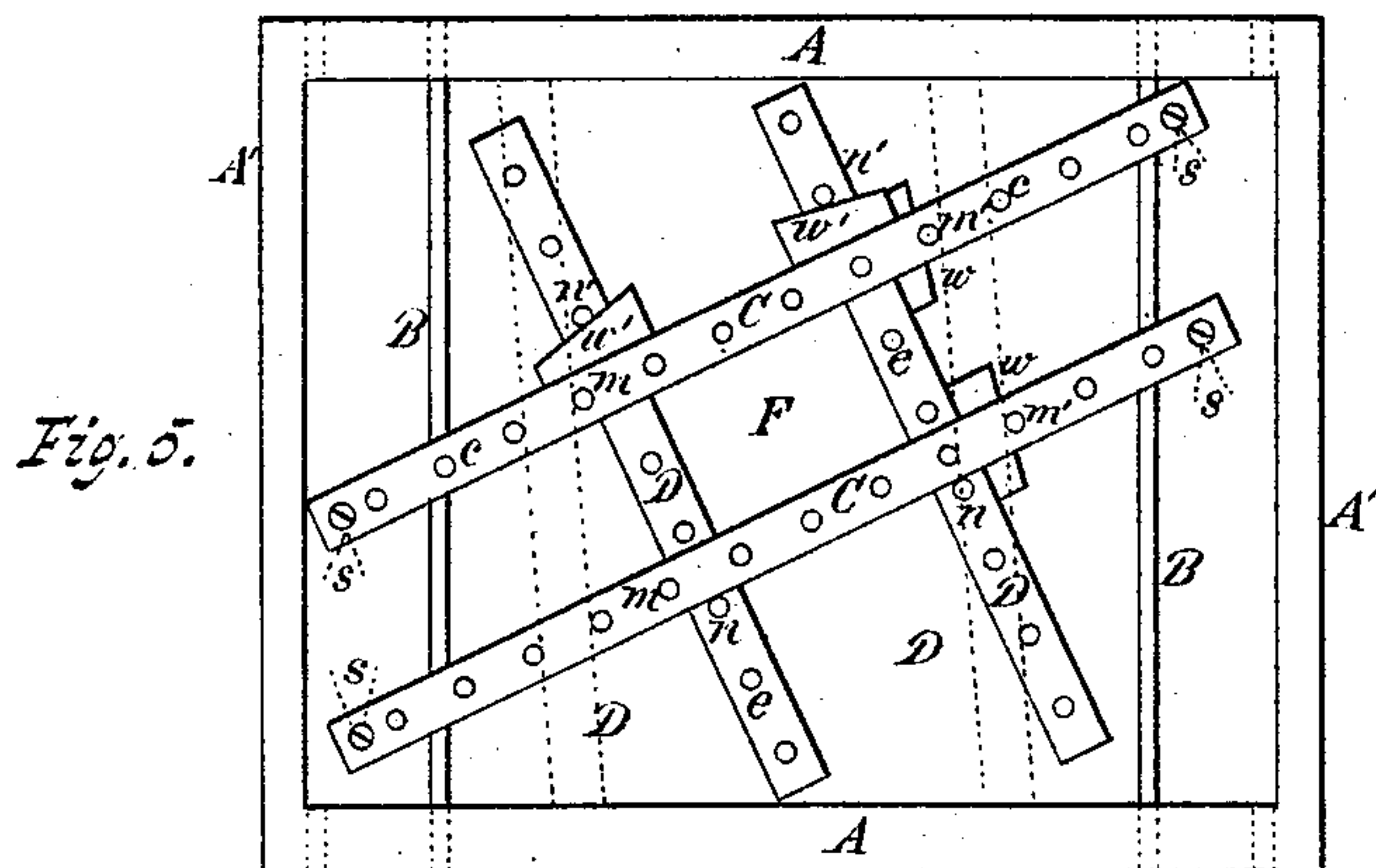
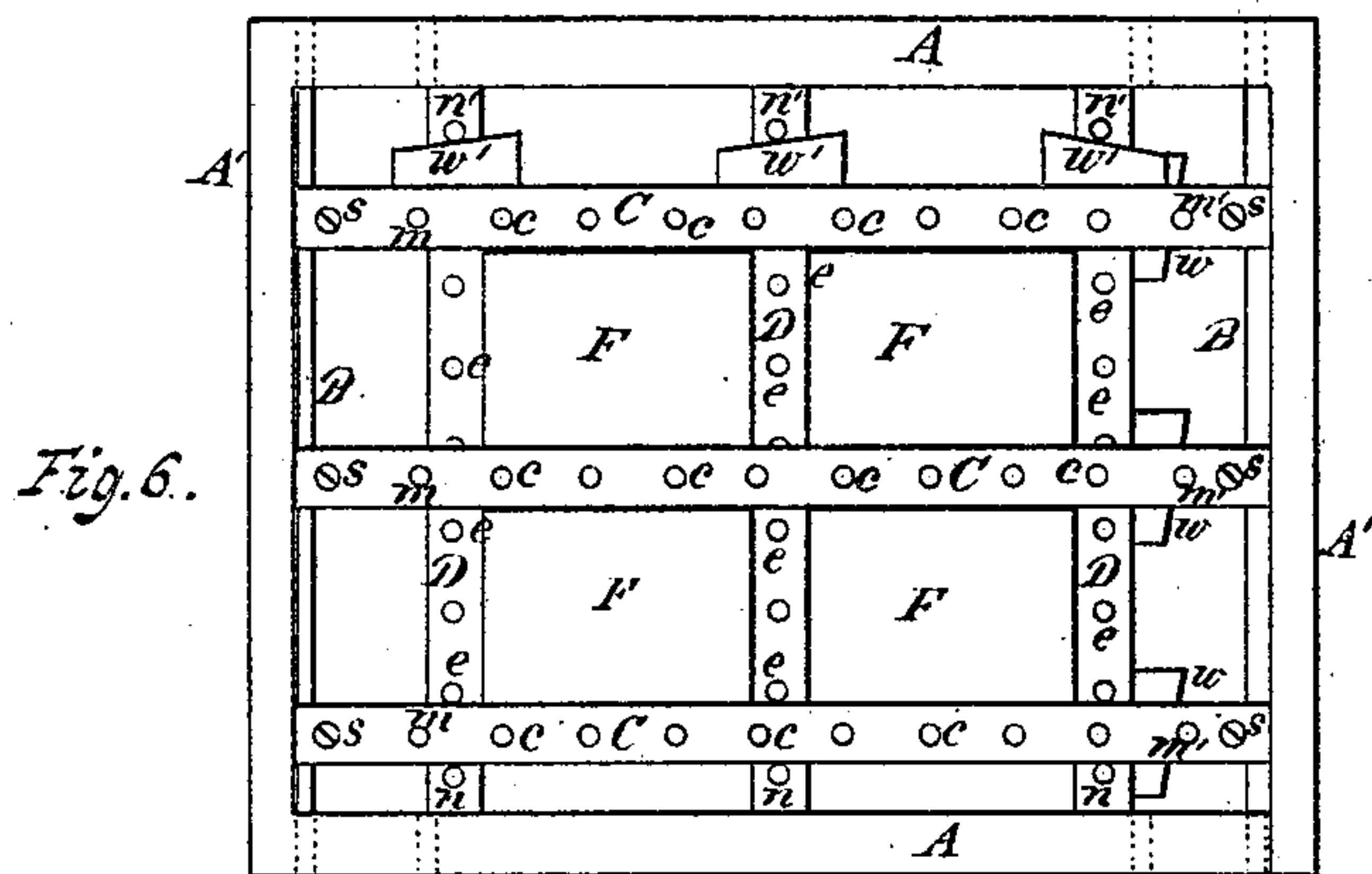
(Model.)

2 Sheets—Sheet 2.

J. La DOW.
Printer's Chase.

No. 234,877.

Patented Nov. 30, 1880.



Witnesses: Robert Hillson
Charles Lusk

John La Dow
Inventor.
by his Attorney
Alex. Selkirk

UNITED STATES PATENT OFFICE.

JOHN LA DOW, OF ALBANY, NEW YORK, ASSIGNOR OF ONE-HALF TO
OLIVER H. P. CORNELL, OF SAME PLACE.

PRINTER'S CHASE.

SPECIFICATION forming part of Letters Patent No. 234,877, dated November 30, 1880.

Application filed April 6, 1880. (Model.)

To all whom it may concern:

Be it known that I, JOHN LA DOW, of the city and county of Albany, and State of New York, have invented a new and useful Chase for Printers, of which the following is a specification.

My invention relates to improvements in printers' chases, as will hereinafter be more fully set forth, and illustrated in the accompanying drawings.

Figure 1 is a perspective view of the chase and locking-up device with type or matter locked centrally in the chase. Fig. 2 is a cross-sectional view taken at line No. 1 in Fig. 1. Fig. 3 is a sectional view taken at line No. 2 in Fig. 1. Fig. 4 is a face view of the chase and locking-up device with type or matter locked up at one corner of the chase. Fig. 5 is a face view of the chase and locking-up device with type or matter diagonally locked in place, and Fig. 6 is a face view of the chase and locking devices with several pages of matter locked in place.

In the drawings similar letters refer to similar parts throughout the several views.

The chase proper consists of a cast or wrought iron frame of rectangular form, with sides A A A' A', as shown, and substantially as heretofore employed. The sides A A of the chase are perforated in their end portions with one or more holes, *a a*, running horizontally through said sides, which perforations receive removable rods or bars B B, that nicely fit therein. The said bars are preferably made of steel, and are intended to hold the locking device within the chase and readily permit pages to be removed or inserted, as may be required, as I will hereinafter fully describe.

Supported within the chase A A' by the bars B B are two or more pairs of bars, C, forming what I denominate "duplex locking-bars." These duplex locking-bars consist each of a pair of flat steel bars made of a length equal to the length of the chase, inside measure, and are perforated at short intervals to form pin-holes *c c*, as shown in Fig. 3. At the ends of each pair of duplex bars are employed clamping-screws *s s*, which screws loosely pass through the upper or face bar of the pair and work into screw-threaded holes made in the

lower side bar, and when tightened cause the ends of the duplex bars to clamp the bars B B, as shown in Figs. 1 and 3.

Arranged transversely with the duplex locking-bars C C, and within the space *d*, formed between the upper and lower bars of said duplex locking-bars, are two or more cross locking-bars, D D, each formed by a single piece of steel and provided with pin-holes *e e*, arranged at intervals apart, as shown in the several figures. These cross locking-bars are made uniformly with a length equal to the width of the chase, inside measure, so that their ends will touch the inner side surface of the side portions, A A, of the frame, as shown in Fig. 2.

Pins *m m*, made preferably of steel and adapted to be inserted in any of the pin-holes *c c* of the duplex locking-bars, are employed to hold one of the cross locking-bars up to the head or foot end of the page or pages to be locked up. Similar pins, *m' m'*, also inserted in said duplex locking-bars, are employed to hold a similar cross locking-bar against the opposite end of the form.

Pins *n n* and *n' n'*, inserted in the pin-holes *e e* of the cross locking-bars, hold the duplex locking-bars against the sides of the page or pages. Single wedges *w w* are inserted in the spaces *d d*, between the duplex locking-bars and between one of the cross locking-bars and pins *m' m'*, as shown in Fig. 1, for forcing the cross locking-bars against the ends of the page to hold it securely clamped endwise. Duplex wedges *w' w'*, straddling the cross locking-bars D D and working between the duplex locking-bars C and pins *n' n'*, force said duplex locking-bars against the sides of the type to be locked up, as shown, and firmly clamp the page sidewise.

The manner in which the several devices employed in my invention operate is as follows: When it is desired to lock up a form in the chase the operator will place the chase on the imposing-stone, and then proceed to place within the same the locking-bars. This is done by first inserting the cross locking-bars D in the spaces *d d*, formed between the bars composing the duplex locking-bars C C, when said bars thus connected are set within

the chase. The supporting-bars B B are then inserted in place by passing them through the perforations *a a* in one of the sides A A of the chase and through the spaces *d d* between the duplex locking-bars, and thence through the perforations *a a* of the opposite side piece A of the chase, when the said locking-bars C C will be held within the chase, with their ends bearing against the inner side surfaces of the sides A A and ends A' A', to prevent shifting endwise in either direction. The operator will then proceed to form a square corner, against which the page is to be set before locking up. This is done by inserting pins *n n* into some one of the several pin-holes *e e* in each cross locking-bar, so that the pins will be in range with each other, and also by inserting pins *m m* in pin-holes *c c* of the locking-bars C C, also in range with each other, so that lines drawn through pins *n n* and *m m* will be at right angles with each other. The operator will then move one of the bars C against pins *n n* and the other bar C off at a distance therefrom. He will then move one of the bars D against the pins *m m* and the other bar D off at a distance therefrom, when the bar D, bearing against pins *m m*, will be at right angles with the bar C, bearing against pins *n n*, and the square corner will be formed. The operator will then place the page in the square corner formed as above described, when the other bar C (right-hand side) will be moved up against the right-hand side of the page, and the other bar D (top bar) will be moved down to bear against the top of the page. Pins *m' m'* and *n' n'* are then to be inserted in pin-holes near the outer edges of bars C and D, and wedges *w w* and *w' w'* are crowded between the respective bars and pins they operate with, when the form will be securely locked up. The operator will then tighten the clamping-screws *s s* in bars C C, so as to cause them to tightly clamp said supporting-bars, when the locking-up device will be securely held in place within the chase. When it is desired to remove the locked-up page from the chase the operator will be required only to withdraw the supporting-bars B B after the clamping-screws *s s* have been loosened.

The page or matter may be locked up at one corner of the chase, as shown at F in Fig. 4, or may be locked up diagonally, as shown by full lines in Fig. 5, while pages or matter set diamond-shaped, or with oblique ends or sides, as shown by dotted lines in Fig. 5, may also be readily locked up.

In locking up forms of several pages for book-work three or more duplex locking-bars, together with three or more cross locking-bars, are to be employed, and with a corresponding number of pins and wedges. In such a case all reglets are dispensed with and the divisions between the forms will be made by the locking-bars themselves, as shown in Fig. 6.

Among the advantageous results obtained by the employment of my invention are these:

No strain or pressure is brought against the end and side portions of the outer frame, A A, as it will be readily observed that the locking-bars and their pins receive all the pressure incidental to the locking-up of type; that all necessity for employing furniture, such as head, foot, and side sticks, reglets, and large quoins, is fully obviated.

The pages or matter will be clamped at points or on horizontal lines between their base or foot edges and their face edges, and, being steel, the locking-bars will not yield before pressure, as does the wood furniture heretofore employed. For locking up pages other than rectangular, and when type or matter is set in the forms of rhombuses or rhomboids, all use of special furniture will be dispensed with.

Forms may be locked up in galleys for proving by using two or more duplex locking-bars (according to the number of galleys to be proved) and moving the cross locking-bars toward the ends of the chase and fixing the locking-bars by pins and wedges. A number of jobs may be locked together in one locking device and set aside, while the outer frame may be employed to hold other matter. Absolute squareness of corner can be readily obtained and preserved for properly inserting a rectangular page, while the proper angle of corner for diagonal pages may be readily made. The mitered rules bounding the sides and ends of a form will be securely held from shifting endwise. The employment of gutters is dispensed with in book-forms, whether composed of two, four, or more pages. In large jobs, such as show bills or cards, the cross locking-bars are made to operate to support the center of the large forms, and all necessity of employing reglets is obviated. The locking-bars may be employed as a substitute for tying-cords, and be used to hold pages together when removed from the outer frame and laid away.

Having described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a device for locking up type, the combination, with two or more locking-bars, C, each composed of two parallel bars arranged with spaces between them, and supported by bars B B, held at their ends within the frames A A', of locking-bars D, supported in the spaces between the said locking-bars C and adapted to be adjusted from right-angular positions in relation to said bars C to diagonal positions with relation to the same, and mechanism for holding said locking-bars securely against the type, pages, or matter, substantially as and for the purpose set forth.

2. In a device for locking up type, the combination, with two or more bars, C, each composed of parallel bars arranged with spaces between them and held at their ends by supporting-bars B, fitting in the outer frame, A A', and adapted to be adjusted to variously divide

the area inclosed by the said outer frame, of the locking-bars D, two or more, subdividing the previously-divided area of said frame for the reception of type or matter arranged in the forms of either squares, rectangles, rhombuses or rhomboids, or any of these forms arranged relatively diagonally with reference to the outer frame, and mechanism for holding said locking devices securely against the type or matter in their selected form of arrangement, substantially as and for the purpose set forth.

3. In a device for locking up type, the combination, with two or more sets of locking-bars, D and C, each provided with uniformly-arranged series of pin-holes, of pins *m n* and *m' n'* and wedges *w* and *w'*, substantially as described.

4. The combination, with the frame A A', having perforations *a a* made horizontally through the sides thereof, of the removable and changeable supporting-bars B B, adapted to be passed through said perforations and

support the locking-bars C C when clamped to said supporting-bars, substantially as and for the purpose set forth.

5. The combination, with the frame A A', locking-bars C C, formed by parallel bars, and the supporting-bars B B, held at their ends by said frame, of the clamping-screws *s s*, substantially as and for the purpose set forth.

6. The combination, with the frame A A', of a locking device composed of two or more adjustable locking-bars, supported by bars or rods having connection with the sides of said frame, two or more adjustable locking-bars adapted to be arranged transversely or diagonally to the first-mentioned locking-bars and supported from the same, and pins and wedges, as described, whereby pages of type may be locked within said frame and be securely held within, in the manner set forth.

JOHN LA DOW.

Witnesses:

ALEX. SELKIRK,
CHARLES SELKIRK.