

No. 640,033.

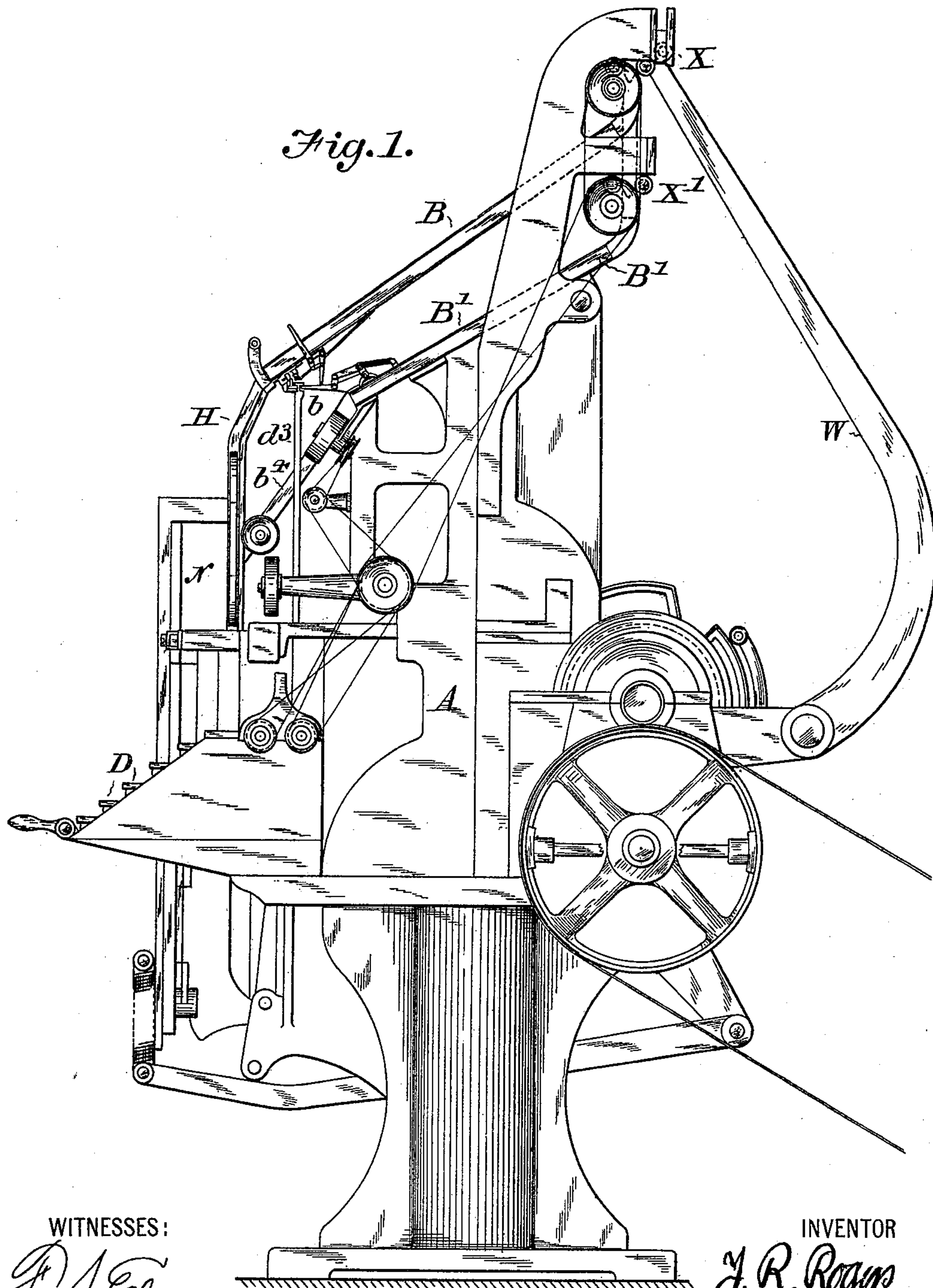
Patented Dec. 26, 1899.

J. R. ROGERS.
LINOTYPE MACHINE.

(Application filed June 14, 1899.)

(No Model.)

6 Sheets—Sheet 1.



WITNESSES:

P. J. Elmore
A. R. Kennedy

INVENTOR

J. R. Rogers
BY *P. S. Dodge*
ATTORNEY

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6 Sheets—Sheet 2.

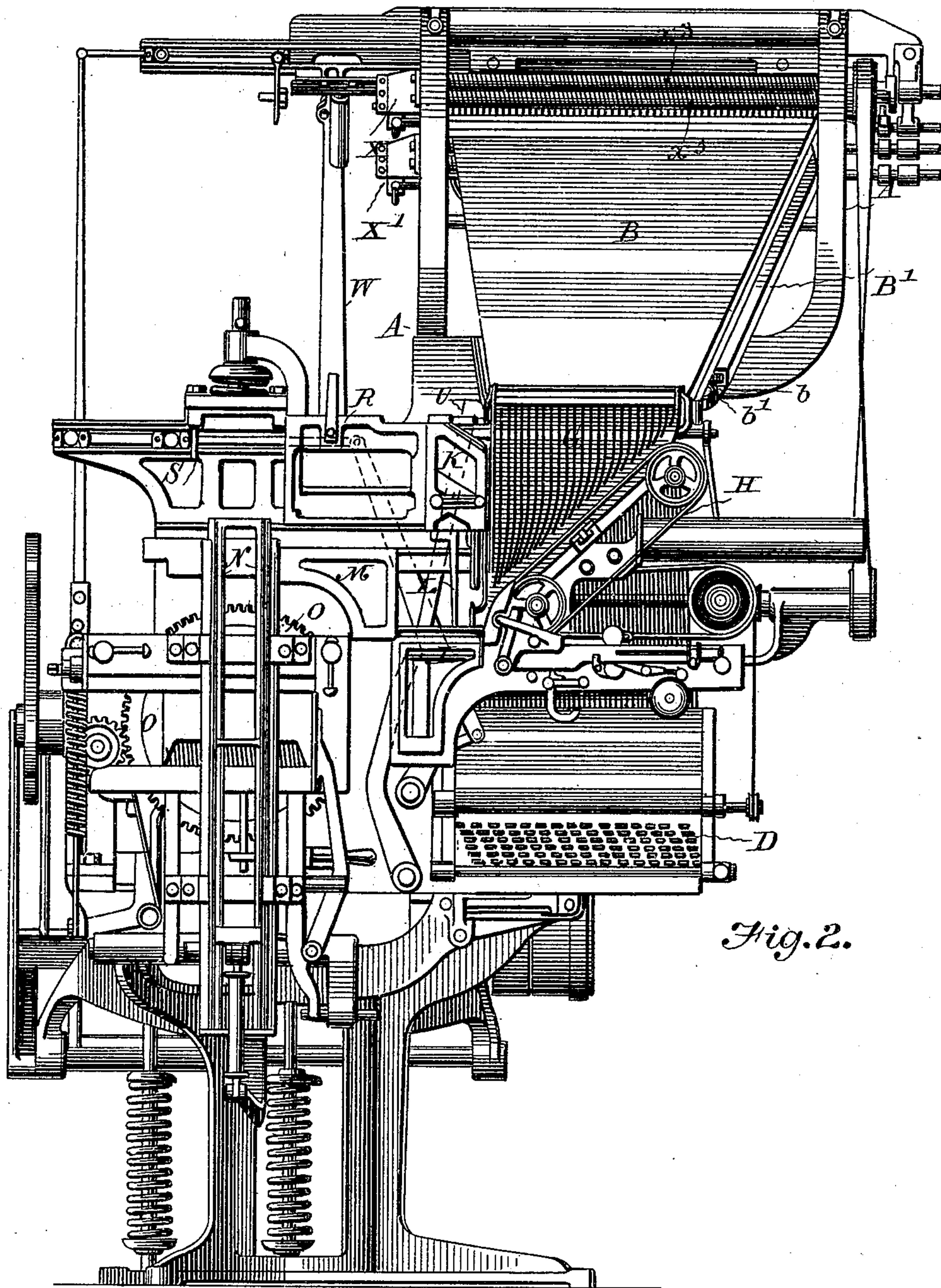


Fig. 2.

WITNESSES:

J. S. Emore
N. R. Kennedy

INVENTOR

J. R. Rogers
BY *R. F. Dodge*
ATTORNEY

No. 640,033.

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6 Sheets—Sheet 3.

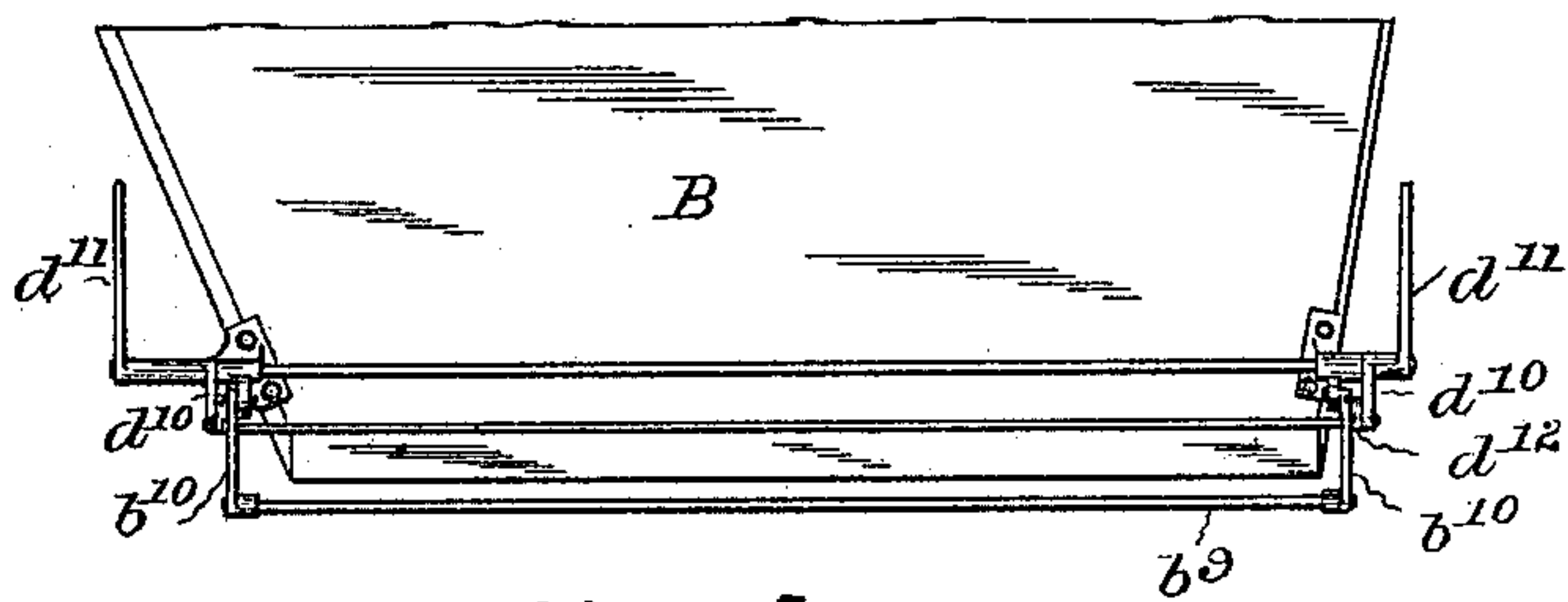


Fig. 5.

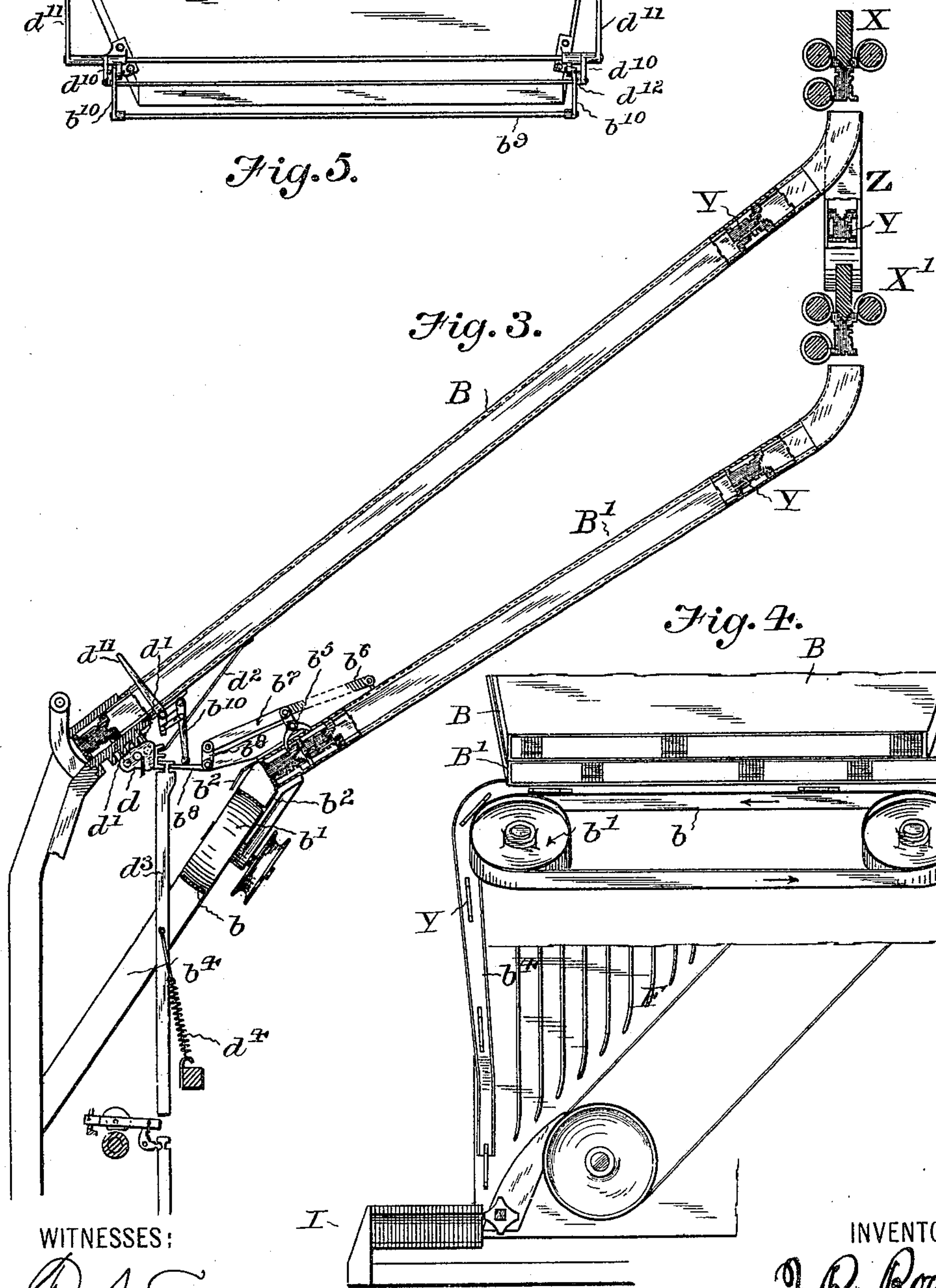
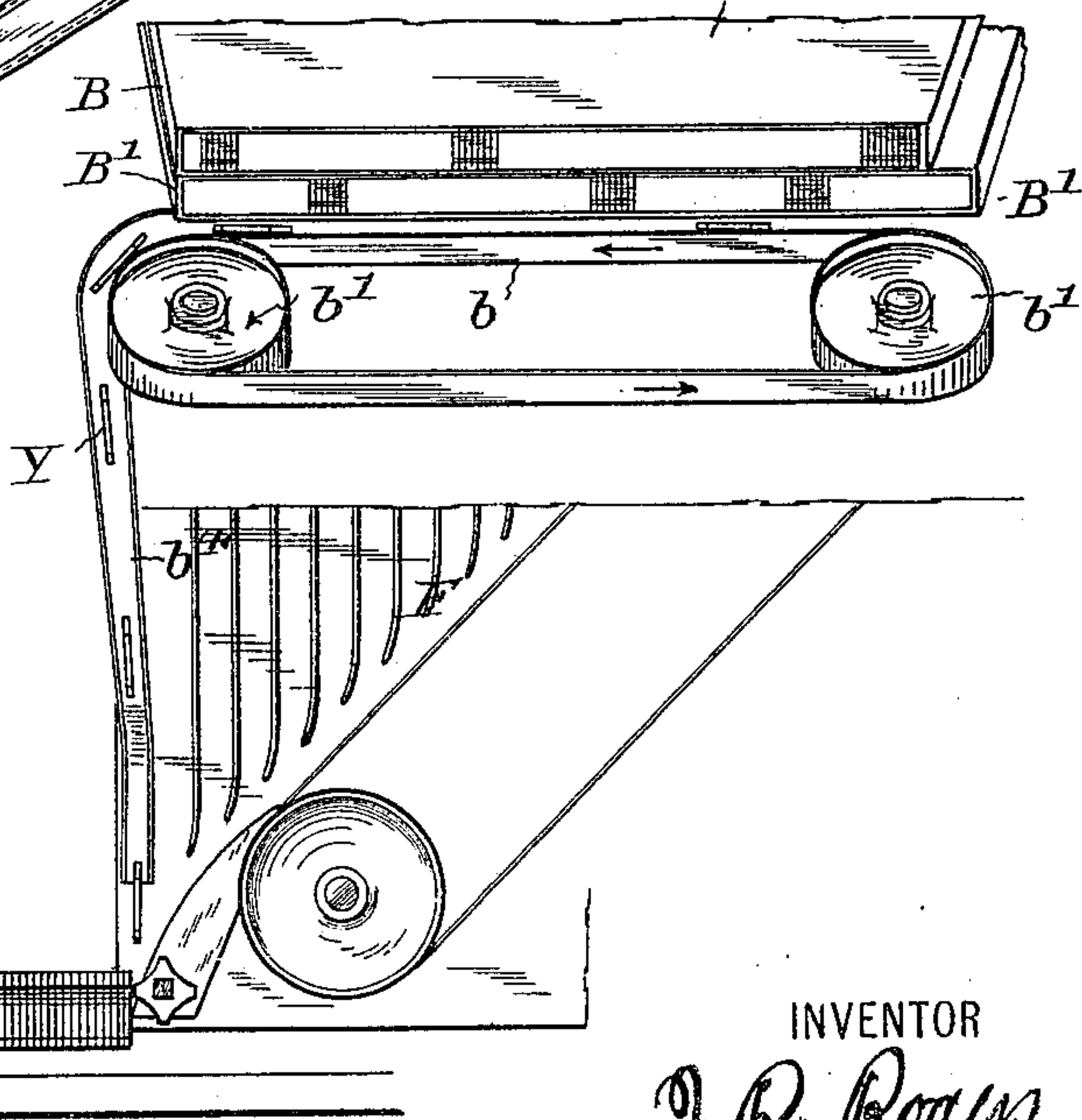


Fig. 3.

Fig. 4.



WITNESSES:

P. J. Elmore
A. R. Kennedy

INVENTOR

J. R. Rogers
BY *P. Dodge*
ATTORNEY

No. 640,033.

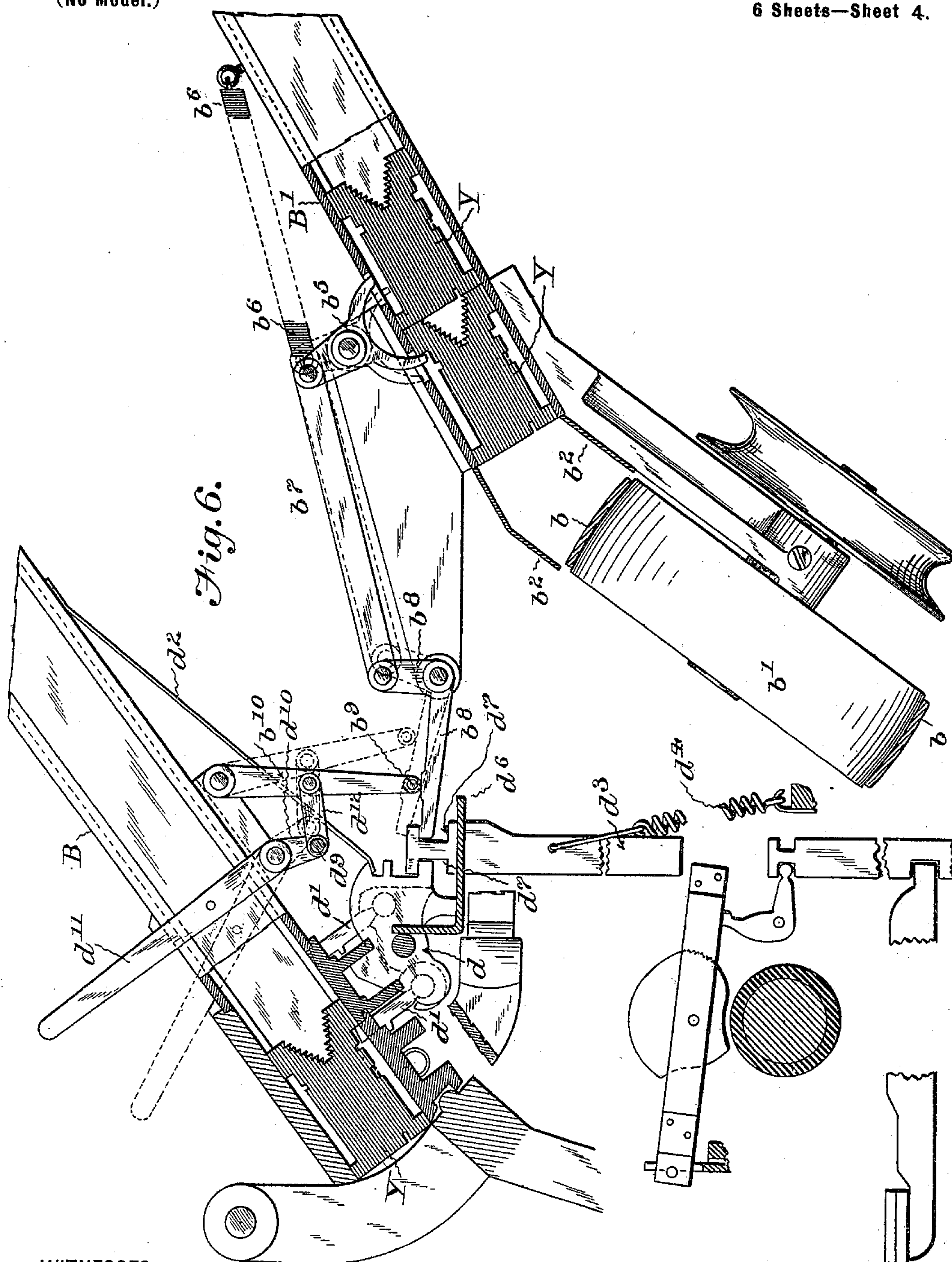
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(Application filed June 14, 1899.)

(No Model.)

6 Sheets—Sheet 4.



WITNESSES:

P. S. Elmore
H. R. Kennedy

INVENTOR

J. R. Rogers
BY *R. Dodge*
ATTORNEY

No. 640,033.

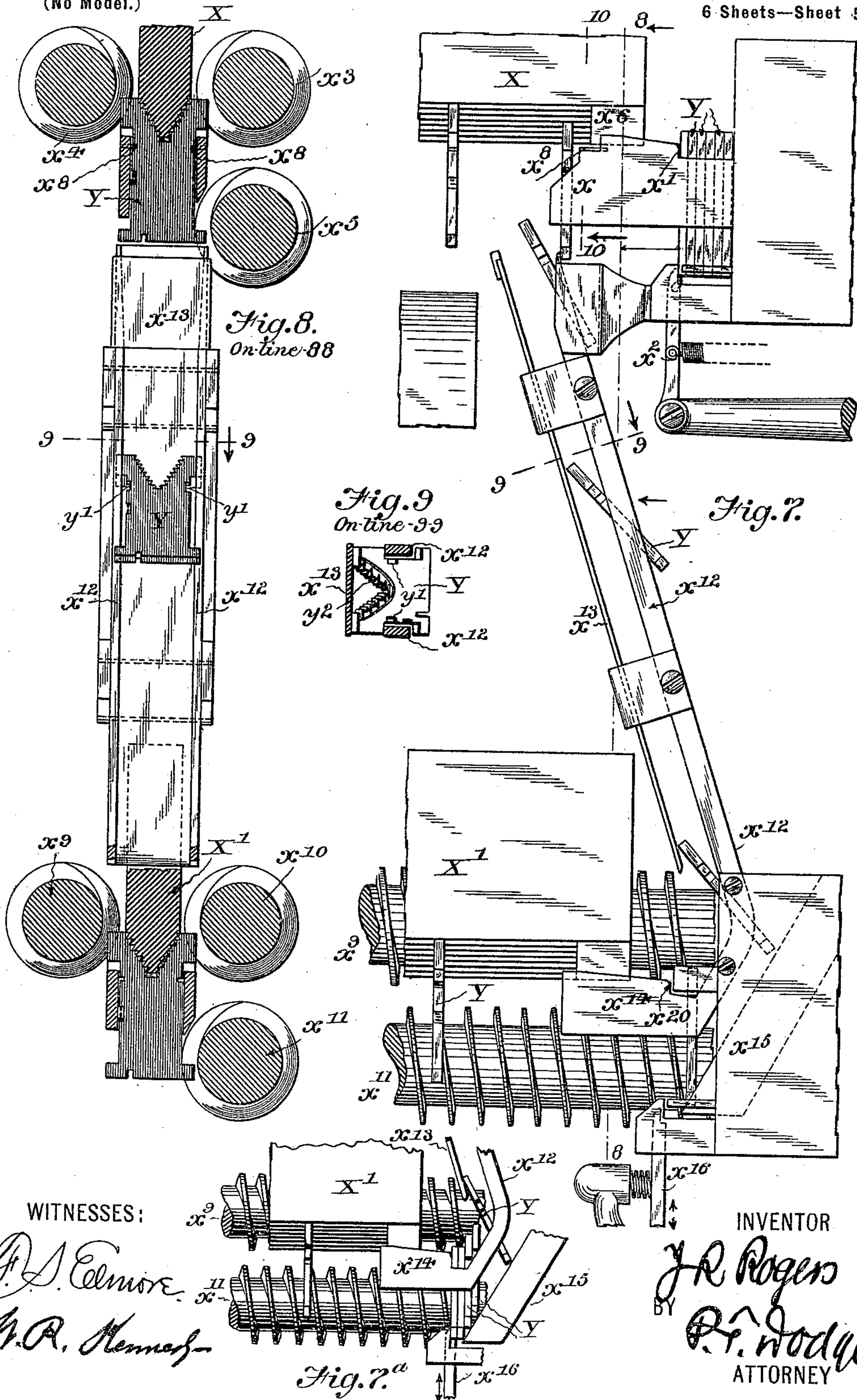
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(No Model.)

6 Sheets—Sheet 5.



No. 640,033.

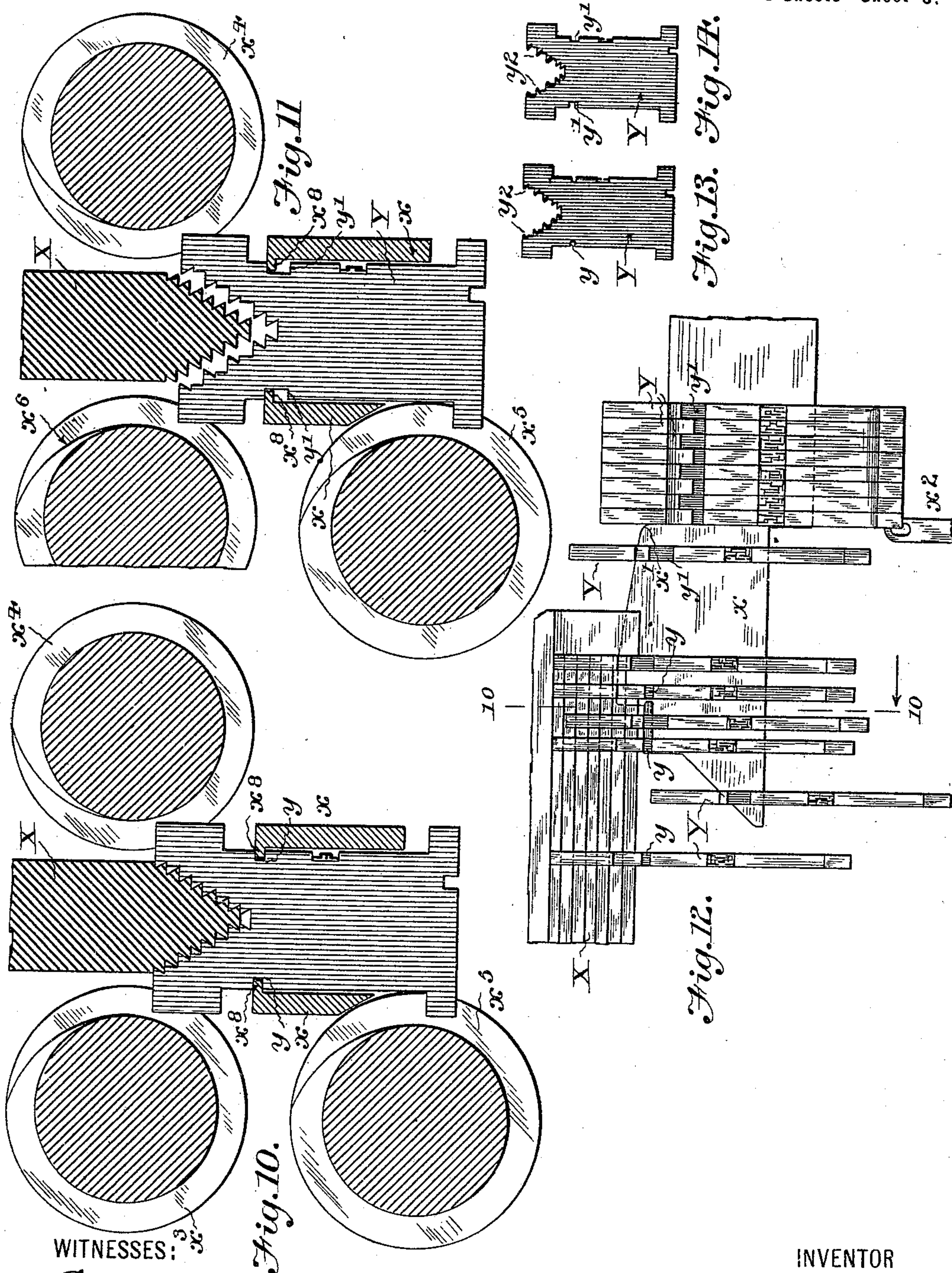
Patented Dec. 26, 1899.

J. R. ROGERS.
LINOTYPE MACHINE.

(Application filed June 14, 1899.)

6 Sheets—Sheet 6.

(No Model.)



WITNESSES:

P. J. Elmore
N. R. Kennedy

INVENTOR

J. R. Rogers
BY *A. J. Wood*
ATTORNEY

UNITED STATES PATENT OFFICE.

JOHN R. ROGERS, OF NEW YORK, N. Y., ASSIGNOR TO THE MERGENTHALER
LINOTYPE COMPANY, OF NEW YORK.

LINOTYPE-MACHINE.

SPECIFICATION forming part of Letters Patent No. 640,033, dated December 26, 1899.

Application filed June 14, 1899. Serial No. 720,539. (No model.)

To all whom it may concern:

Be it known that I, JOHN R. ROGERS, of New York, (Brooklyn,) county of Kings, and State of New York, have invented a new and
5 useful Improvement in Linotype-Machines, of which the following is a specification.

The object of my invention is to adapt linotype and analogous machines to carry a much larger assortment of matrices than usual in
10 order that they may be economically employed for the production of technical print and for advertising matter, display-work, &c., requiring the use of characters other than those commonly employed in plain print--
15 such, for instance, as black or bold faces, display-type, italics, small capitals, &c.

To this end my invention consists in combining in one machine two distributors, two or more magazines arranged to deliver their
20 matrices to one and the same composing mechanism, these magazines being each provided with escapement devices, means through which these escapements are actuated from a single keyboard, and means by which one series of escapements or the other may be held
25 out of action.

Each magazine is provided with its own distributing mechanism and means are provided for presenting the composed lines of matrices
30 to one of said distributors and as a preliminary step separating the matrices of the one magazine from those of the other and directing them to the respective distributors, by which they are restored to the appropriate
35 channels in the magazines.

I believe myself to be the first to construct a machine with two independent magazines, means actuated by a single keyboard for delivering the matrices from either magazine at
40 will, and means for separating the matrices and directing them previous to any further distribution to the respective distributors, and it is to be understood that the details of construction may be widely modified without
45 changing, essentially, the mode of action or the result secured or passing beyond the scope of my invention.

In the accompanying drawings I have represented a construction intended more particularly for embodiment in the commercial
50 Mergenthaler linotype-machine of the present

day, such as represented in Letters Patent No. 557,000, dated March 24, 1896, for a detailed description of which reference may be had to said patent, also to the patent of
55 Mergenthaler, No. 347,629, dated August 17, 1886, showing the construction of the distributor-bar and the toothed matrices to cooperate therewith, and to the patents of Mergenthaler, Nos. 436,531 and 436,532, dated September 16,
60 1890, showing the general organization of the machine, and to the patent of P. T. Dodge, No. 530,931, dated December 18, 1894, showing the keyboard and escapement mechanism for discharging the matrices from the maga-
65 zine.

Figure 1 is a side elevation showing in outline the commercial Mergenthaler machine of the present day with my improvement incorporated therein. Fig. 2 is a front elevation
70 of the machine. Fig. 3 is a side elevation showing the two magazines with the distributors at their upper ends and the escapement-operating devices at the lower ends, the distributors and escapement devices being shown
75 in vertical cross-section. Fig. 4 is a view looking rearward and showing the lower ends of the two magazines with the carrier-belt and connections for delivering matrices from the lower magazine to the assembling devices,
80 other parts being removed in order to expose to view the parts shown in the drawing. Fig. 5 is an outline elevation looking from the front and showing more particularly the devices for locking the escapement devices out
85 of action when required. Fig. 6 is a vertical cross-section from front to rear through the lower ends of the two magazines, their escapement devices and adjacent parts. Fig. 7
90 is a view looking forward against the rear side of the two distributors and illustrating the manner in which the matrices delivered to the upper distributor are separated into two groups and the latter directed to the upper and the lower distributors, respectively. Fig. 7^a is
95 a side elevation illustrating in detail the action of the parts shown in the preceding figure. Fig. 8 is a vertical cross-section on the correspondingly-numbered line of the preceding figure. Fig. 9 is a cross-section on the corre-
100 spondingly-numbered lines of the two preceding figures looking in a downward direction.

Figs. 10 and 11 are vertical cross-sections on the line 10 10 of Figs. 7 and 12, the former showing the position assumed by a matrix belonging to the upper magazine and the latter the position of a matrix belonging to the lower magazine. Fig. 12 is a side elevation of the parts shown in the upper portion of Figs. 7 and 8 and in Figs. 10 and 11, illustrating the manner in which the matrices are divided into two groups or series as they approach the upper distributor. Figs. 13 and 14 are side views of two matrices belonging to the upper and the lower magazines, respectively, and showing the differing notches in their edges to determine their course to the magazines.

With the exception of the secondary magazine, its distributor, and other coöperating parts, the machine is practically identical with that represented in Letters Patent No. 557,000, dated March 24, 1896. It comprises as leading features the main frame A, the inclined channeled magazine B, in which the usual set of matrices are stored, and a series of finger-keys D, acting through intermediate devices to discharge the matrices one at a time from the magazine through vertical channels G to a traveling belt H, by which they are delivered, together with suitable spaces from the small magazine K, into an assembling-elevator I. This assembling elevator or block may be raised at will by the operator to present the composed line of matrices and spaces between horizontally-shifting fingers L, by which the line is transferred from the elevated assembler-block through the intermediate channeled guide M to a yoke or elevator N, commonly known as the "first" elevator, by which the line is lowered to a casting position in front of the mold-slot in the mold wheel or disk O. The line thus presented in front of the mold is confined between jaws which limit the length of the justified line, so that it will correspond with the length of the mold and of the slug or linotype cast therein. After the casting operation the yoke or elevator N rises from the mold to a position above its original level in order that the line may be transferred from it by means of a horizontal slide S into a stationary guide R, the distributing-teeth in the upper ends of the matrices being thus engaged with a bar on the end of the vertically-swinging elevator-arm W, commonly known as the "second" elevator. This arm, swinging upward, lifts the line of matrices to the distributing devices X at the top of the machine, while the elongated spaces remaining behind in the guide R are engaged by a horizontally-reciprocating hook U and shifted to the right into their magazine K.

The parts referred to above are constructed and arranged to operate in essentially the same manner as in the commercial linotype-machine of the present day and are substantially identical with those described in Letters Patent No. 557,000.

In carrying my invention into effect I mount

rigidly in the main frame below the ordinary magazine B and parallel therewith, or substantially so, a second magazine B' of similar construction, except that it is reduced in length by cutting away its lower end in order to leave room for the devices hereinafter described for carrying the matrices therefrom to the assembling devices. Above the upper end of this lower magazine I mount a distributing mechanism X', which may be in all respects identical with that of the upper magazine. The matrices carried in the two magazines after being assembled or composed in line and used at the mold are lifted by the elevator W and delivered, as usual, to the upper distributor X, which carries forward the matrices belonging in the upper magazine and drops them into the proper channels, as usual, while the matrices intended for the lower magazine are released and allowed to fall through a conductor Z to the lower distributor X', by which they are distributed into the lower magazine B'. The parts for thus separating the matrices into two series, that they may pass to the respective distributors and magazines, will be hereinafter explained in detail.

The matrices, delivered one at a time from the lower end of the secondary magazine B', are received on a carrier-belt b, extending transversely across the machine and carried at its ends by pulleys b'. This belt, being constantly driven in the direction indicated by the arrows in Fig. 4 and passing between the flanges or guides b², (see Fig. 3,) receives the matrices and carries them successively to the left, delivering them into the upright tube or channel b⁴, which, as shown in Figs. 3 and 4, delivers them into the assembler I, where they are assembled in line in the same manner as matrices delivered from the upper magazine.

The line may be composed of matrices wholly from the upper or wholly from the lower magazines or matrices in part from one magazine and in part from the other. In either case the matrices are received in the assembler in front of the star-wheel, composed in line, and the lines thereafter handled in the machine in the ordinary manner.

The single keyboard is arranged to deliver matrices from one magazine or the other at the will of the operator in the manner following: The upper magazine A is provided with escapement devices and connections to the keyboard identical, or practically so, with those represented in the patent of P. T. Dodge, dated December 18, 1894, No. 530,931. These devices, plainly shown in Figs. 3 and 6, consist, primarily, of an escapement-lever d, centrally pivoted under each channel of the magazine and carrying at its ends two pawls or pins d', which by the vibration of the lever are projected upward alternately through the bottom of the magazine in order to permit the matrices Y to escape one at a time. A spring d², engaging the rear end of the escapement-lever, tends to lift its rear end and de-

press the lower pawl to effect the release of the lowermost matrix. This lifting action of the spring d^2 is overcome, however, by the key-bar d^3 , which engages the rear end of the lever 5 and is pulled down by a spring d^4 sufficiently strong to overcome the spring d^2 , so that the parts stand normally in the position shown in Figs. 3 and 6.

When the bar d^3 is lifted by the action of 10 the corresponding finger-key, either directly or through the intermediate devices commonly employed, it relieves the escapement-lever d , which is then actuated by spring d^2 to discharge the matrix. When the key-bar 15 d^3 is released and drawn downward by its spring d^4 , the escapement devices resume their original position, the second matrix in the column having in the meantime advanced to assume the position vacated by its predecessor.

20 For the purpose of discharging the matrices from the lower magazine B', I pivot thereto over each of its channels a forked escapement-lever b^5 , the lower ends of which project downward through slots into the top of the 25 magazine in order to engage the ears of the matrices in the manner shown in Fig. 6. A spring b^6 , extending from the escapement-lever to the top of the magazine, tends to lift the lower arm of the lever to release the lower 30 matrix. The lever is held, however, normally in the reverse position, with its lower arm in engagement with the matrix, by a link b^7 , connecting its upper end with an elbow-lever b^8 , the latter having one arm extended forward 35 and seated in a notch in the upper end of the key-bar d^3 . The spring d^4 , holding this bar down, is sufficiently strong to overcome the spring b^6 and keep the escapement normally in the position shown in full lines. When, 40 however, the finger-key is actuated and the bar d^3 lifted, the escapement of the lower magazine momentarily assumes the position shown by dotted lines in Fig. 6, allowing the matrix to escape. As the bar d^3 ascends the 45 escapement assumes its original position.

It will be observed that the one key-bar d^3 is relied upon to actuate the escapements of the two magazines. Obviously it must operate only one of these escapements at a time.

50 Instead of resorting to the complicated and expensive arrangement of movable magazines or of moving the key connections so that they will engage the two escapements alternately I mount the key-bar d^3 at its upper 55 end in the usual fixed guide d^6 , so that it retains at all times its operative relation to both escapements. The notches in the upper end of the bar d^3 , in which the escapement-levers engage, are lengthened vertically in order to 60 leave spaces d^7 beneath the levers, as shown in Fig. 6, thus allowing the bar d^3 to move independently of either lever when the latter is held at rest.

I provide means by which all of the escapement devices of either magazine may be 65 locked fast at will, so as to be unaffected by the movement of the key-bar d^3 , while those of

the other magazine remain operative. These locking devices may be made in various forms. As shown in the drawings, Figs. 3, 5, and 6, 70 they consist of a rod or bar b^9 , carried by the lower ends of the swinging arms b^{10} , extending transversely of the machine and overlying all the escapement-levers b^8 , as shown in Fig. 6, so that it may be swung into position 75 to hold them down and prevent them from moving when the key-bar d^3 rises. When the escapements are thus locked, the key-bar and finger connections move without effect on the escapements of the lower magazine. When 80 the rod b^9 is swung back to the right, as indicated by dotted lines in Fig. 6, the escapements are left free to operate as usual.

The locking device for the escapements of the upper magazine consists of the transverse 85 rod d^9 , carried by swinging arms d^{10} , so that it may be swung backward and downward against the series of escapement-springs d^2 in order to prevent these springs from rising and actuating the escapements when the key- 90 bars d^3 are raised. A hand-lever d^{11} is attached to the rock-shaft carrying the arms d^{10} , and the latter arms are connected by links d^{12} to the arms b^{10} , so that when the lever is moved in one direction it will cause the rod 95 d^9 to lock the escapements of the upper magazine, while those of the lower magazine are left free, and vice versa. Thus it will be seen that by simply moving the lever d^{11} the operator is enabled instantly to adjust the 100 machine for the delivery of matrices from one magazine or the other at will.

It is to be particularly noted that the magazines are fixed in position, that each maga- 105 zine is provided with its own escapement devices, and that the operating or keyboard connections are unchangeable in position. In other words, there is no shifting of the magazines and no shifting of the keyboard or its connections. The escapement systems of the 110 two magazines are wholly independent of each other, and the only thing done to prevent the delivery of matrices from either magazine is to lock its parts so that they cannot be moved; but for the locking of the 115 parts the key connections would operate the escapements of both magazines at one time.

I believe myself to be the originator of the broad idea of combining with a single finger-key mechanism two or more series of escape- 120 ments or discharging devices which at all times retain their operative relations thereto and the first to combine with the elements above named means for preventing the action of either series of escapements at will with- 125 out disconnecting them from or changing their relations to the operating devices. It is to be understood, therefore, that my invention is applicable in connection with escapements of other forms than those herein shown, 130 many of which are known in the art, and it is also to be understood that the locking devices may be varied in form and arrangement at the will of the constructor, provided a mode

of action substantially such as that herein described is retained.

The composed lines of matrices (whether consisting of matrices wholly from the upper
5 or wholly from the lower magazine or of matrices from the two magazines) are presented to the mold to produce the characters on the edge of the slug formed therein, after which the matrix-line is transferred to the second
10 elevator-arm W and lifted to the top of the machine and carried forward in the ordinary manner and by the ordinary devices to the upper distributor X. At this point I introduce devices for separating the matrices into
15 two groups, so that while those of one group pass to the upper distributor and thence into the upper magazine, as usual, those of the other group will be permitted to fall to the second or lower distributor, by which they
20 are delivered into the lower magazine B'. The details of this mechanism are clearly shown in Fig. 3 and Figs. 7 to 12, inclusive.

I propose to use in both magazines the ordinary linotype-matrices such as are now in
25 general use and represented in Figs. 13 and 14, the only change made being the formation of narrow slots y in the opposite edges of the matrices which are to run in the upper magazine, as shown in Fig. 13, and the formation
30 of similar but wider slots y' in the edges of those matrices which are to run in the lower magazine, as shown in Fig. 14.

The distributing-teeth y^2 will be constructed and arranged to operate in connection with
35 the distributor-bars in the ordinary manner and as described in Letters Patent of the United States to O. Mergenthaler, No. 347,629, dated August 17, 1886.

The upper and the lower distributor-bars
40 may be identical, and the combinations of distributing-teeth on the matrices for the upper magazine may be identical with those on the matrices for the lower magazine. This is of great advantage in that it permits the
45 employment of one set of tools for manufacturing the two distributors and also in that it avoids the necessity for constructing special matrix machinery and permits the use of the commercial matrices already in existence.

50 The manner of separating the matrices and delivering them to the respective distributors is clearly shown in Figs. 3, 7, and 8, &c. Looking forward toward the rear side of the machine, the line of matrices Y is pushed forward from the second elevator W, between
55 the supporting-rails x , as usual, the foremost matrix in the line being arrested by a shoulder x' directly over the reciprocating lifting-finger x^2 , which raises the matrix clear of the
60 shoulder and into engagement with the horizontal feed-screws x^3 , x^4 , and x^5 in the ordinary manner, these screws serving to carry the matrices to the left in order that they may engage the teeth of the distributor-bar X.
65 The receiving end of this bar and the ends of the rails are cut away at x^6 , so that unless otherwise supported the matrices would fall.

In order to give the proper support to matrices to enter the upper magazine, short horizontal lips x^8 are formed on the inner sides
70 of the rails x . As each matrix passes forward these lips enter the special notches y y' in the sides of the matrices. As the notches in the matrices for the upper magazine are narrow, these matrices are sustained by the
75 lips at their original level, as shown in Figs. 7, 8, 10, and 12, so that they travel forward into engagement with the upper distributor-bar. The matrices for the lower magazine
80 having wider slots y' are permitted to fall slightly as they pass upon the lips x^8 , as shown in Figs. 7, 11, and 12, so that their teeth are too low to engage the distributor-bar. As a result of this construction it follows
85 that as soon as the matrices for the lower magazine have passed to the left over the ends of the lips x^8 they are released and permitted to fall, so that they may be carried into engagement with the lower distributor-bar X' by means of the carrier-screws x^9 , x^{10} ,
90 and x^{11} , which are of essentially the same arrangement as those of the upper distributor. As the matrices fall toward the lower distributor-screws, it is necessary that they should be properly guided and presented thereto. For
95 this purpose I provide a fixed guide, (clearly shown in Figs. 7, 8, and 9,) consisting of two parallel side bars x^{12} and the adjacent plate x^{13} . The upper ends of these side bars are in such
100 position that the matrices before falling clear of the lips x^8 are arrested at the bottom by the upper ends of the guides x^{12} , as shown in Fig. 7, and prevented from moving farther to the left. The matrix falls in an inclined position
105 between the guides x^{12} , its lower ears riding on the right-hand edges of these guides, while the upper ears or shoulders are at the left of the guides, as plainly shown in Figs. 7 and 9. At the same time the upper end of
110 the matrix rides against the rail or guide x^{13} , so that the matrix is prevented from turning over endwise. At their lower ends the rails x^{12} are extended to the left and attached to
115 or fashioned into side plates or rails x^{14} to receive and sustain the upper shoulders of the matrices, which hang upon and between the rails. These rails x^{14} are nearly identical with those of the upper distributor, having
120 shoulders x^{20} to arrest the movement of the forward matrix toward the left and hold it directly over the lifting-finger x^{16} , which serves to raise the matrix clear of the shoulders x^{20} and into engagement with the screws
125 x^9 , x^{10} , and x^{11} , which carry it to the left along the upper inclined edges of the rails x^{14} , whereby the matrix is caused to engage the teeth of the distributor-bar, the action at this point being substantially the same as in the ordinary Mergenthaler machine. The matrices falling successively upon the rails x^{14}
130 are crowded forward to the left into the proper position over the lift x^{16} by the matrices dropping in place behind them on the right into the angular space between the fore-

most matrix and the rails or plates x^{15} , as clearly shown in Fig. 7^a. The lifting-finger x^{16} may be identical with that used in connection with the upper distributor and with that used in the ordinary commercial machine.

From the foregoing it will be understood that the lines of matrices lifted in the ordinary manner to the upper distributor will be returned to the magazine from which they were originally delivered. If they were all from the upper magazine, they will pursue their course directly to the upper distributor. If they were delivered from the lower magazine, they will all be lifted to the upper distributor and delivered through the guide to the lower distributor without engaging the upper distributor-bar. If the line was composed in part of matrices from one magazine and in part of matrices from the other, the line will be separated and the appropriate matrices carried forward directly into engagement with the upper distributor, while the others are separated, released, and dropped through the intermediate guides to the lower distributor. The essence of my invention in this connection resides in the employment of two series or sets of matrices, which are differentiated in form in any suitable manner, and in the employment of devices which will separate from each other the matrices belonging to the respective magazines and direct them to the corresponding distributors.

It is manifest that the details may be widely modified without changing the principle of action or passing beyond the scope of my invention. The upper and the lower distributor-bars may be identical as to the construction and arrangement of their teeth, or, in other words, as to the permutations of their teeth, in which case the matrices for the upper and lower magazines may be identical as to the arrangement of their distributing-teeth, the only difference between them being in the width of the special slots or notches in their edges, or the two bars and the matrices used in connection with them may differ as to the form and arrangement of the distributing-teeth. The first plan is, however, highly advantageous in that it permits the two distributing mechanisms to be alike in all essential particulars, so that they may be cheaply constructed by the use of one set of tools. It is also advantageous in that it permits the utilization of the commercial matrices, which are now in existence in very large numbers, so that existing matrices for any two faces have only to be notched in order to adapt them to run in the respective magazines. In this way it becomes possible to practically and cheaply equip the machine with any special combination of faces which may be necessary to meet the demands of each office, the requirements of different offices, especially of book-offices, varying widely as to the combinations demanded.

As hereinbefore indicated, any variation in

form between the matrices of one magazine and those of the other which will serve as a means of separating them in advance of the distribution will answer my purpose in the present machine, and in fact I have made and successfully used matrices having their distinguishing-notches of different form and location from those shown at $y y'$, but serving the same end.

Having now described my invention, what I claim is—

1. In a linotype-machine, the combination of two independent escapements, a finger-key, a single connection from said key for operating both escapements, and means for preventing the action of either escapement at will; whereby the single key is enabled to operate either escapement without disconnecting the parts or changing the relations between the keyboard and escapements.

2. In a linotype-machine, the combination of two magazines, each having a series of escapement devices to release the matrices, a series of finger-keys, a single bar operated by each key and connecting with two escapements one in each magazine, and means for locking one series of escapements or the other against movement at will.

3. In a linotype-machine, two fixed magazines, each having a series of escapements to release the matrices singly therefrom, a fixed keyboard, connections mounted in fixed supports and coupling each finger-key to two escapements one in each magazine, springs tending to move the escapements in opposition to said key connections, and locking devices acting in opposition to the springs and arranged to hold the two series of escapements alternately out of action.

4. In a linotype-machine, the two inclined magazines, each provided with a series of escapements and springs to actuate the same, a key connection, as d^3 , fixed in operative relation to two escapements, one in each magazine, and fitted for lost motion in relation thereto, and means substantially as shown for holding the escapements of the two magazines alternately, substantially as described and shown.

5. In a linotype-machine, the two fixed inclined magazines and their escapements for releasing the matrices, the springs tending to move said escapements, each in one direction, the actuating-bar d^3 , having the elongated grooves or openings to engage two escapements, and locking devices d^9 and b^9 , coupled together and arranged to prevent the action of the respective series of escapements.

6. In a linotype-machine, the combination of two fixed magazines, each having a distributor, means for presenting a line of matrices from both magazines to the distributor of one magazine, and means for separating the matrices when so presented and delivering those for the second magazine directly to its distributor; whereby the matrices are separated and delivered to the respective distribu-

ters without compelling those from one magazine to first traverse the distributor of the other.

7. In a linotype-machine, two magazines 5 lying in parallel or substantially parallel planes, and each provided at the upper end with a distributing mechanism, in combination with means for presenting all of the matrices to the entrance of one distributor, and 10 means for separating the matrices belonging in the other magazine and delivering them directly to the entrance of its distributor, substantially as described and shown.

8. In a linotype-machine, the two inclined 15 magazines, one overlying the other and each provided with a distributor at the upper end, in combination with means for presenting all the matrices to the upper distributor, and means for separating at such point of pre- 20 sentation the matrices belonging to the lower magazine and delivering them by gravity to its distributor.

9. In a linotype-machine, the upper and 25 lower inclined magazines, each having at its upper end a distributor-bar and feed-screws, substantially as described, means for presenting all of the matrices to the upper distributor, means for separating the matrices for the 30 lower magazine from the remainder in advance of the distribution, and an upright guide through which the separated matrices are directed to the feed devices of the lower distributor.

10. In a linotype-machine, the two maga- 35 zines, their distributor-bars and screws, in combination with the two series of matrices, having notches of different forms in their edges, in combination with the upper side plates X, having lips x^8 and inclined ends to 40 permit the separation of matrices for the lower magazine from those for the upper magazine, the guide-rails x^{12} , adapted to arrest the lower ends of the matrices and guide the latter in their descent, and the guides x^{14} and x^{15} and 45 lift x^{16} , whereby the descending matrices are presented to the lower distributor-bar.

11. In a linotype-machine, a series of matrices provided in opposite edges with grooves or notches y, y' , those in certain matrices be- 50 ing wider than those in others, whereby they are adapted to coöperate with separating devices, substantially as described.

12. In a linotype-machine and in combina- 55 tion with matrices having respectively wide and narrow notches in their edges, the separating device consisting of the upper distributor-rail and side rails X, having lips x^8 ,

whereby certain matrices are compelled to engage the distributing-rail while others are permitted to escape and fall therefrom. 60

13. In a linotype-machine, the combination of two independent magazines, each having a distributing mechanism for delivering matrices thereto and escapement devices for releasing matrices therefrom, a single series 65 of finger-keys, connections from each key to escapements in the two magazines, means for locking the escapement devices of one magazine or another out of action at will, and means for delivering the composed lines of 70 matrices in part to one distributor and in part to the other; whereby the machine is adapted to assemble matrices by the single keyboard from either or both magazines and to return the matrices thereafter to the magazines from 75 which they were delivered.

14. In a linotype-machine, two independent magazines, having distributors with like distributing combinations, two sets of matrices, one for each magazine, having like distribut- 80 ing combinations, those of one set differentiated in form from those of the other substantially as described for the purpose of preliminary separation, and means for separating the matrices one at a time from the com- 85 posed lines on their way to the respective distributors.

15. In a composing mechanism, two magazines, each provided with an escapement or type-delivering device, a finger-key and a sin- 90 gle rod or connection, through which it communicates motion to the two escapements, in combination with an intermediate mechanism arranged to engage the escapements alternately to lock one or the other out of action, 95 said locking mechanism being independent of the finger-key connection through which the escapements are operated.

16. In a linotype-machine, the combination of a distributor-bar, carrier-screws for ad- 100 vancing the matrices along said bar, a matrix-guide extending downward and arranged to deliver the matrices one at a time to said carrier-screws, and means for causing engagement of the matrices, one at a time, with the 105 screws.

In testimony whereof I hereunto set my hand, this 31st day of May, 1899, in the presence of two attesting witnesses.

JOHN R. ROGERS.

Witnesses:

M. C. RESEK,

JOHN S. PAULSEN.