

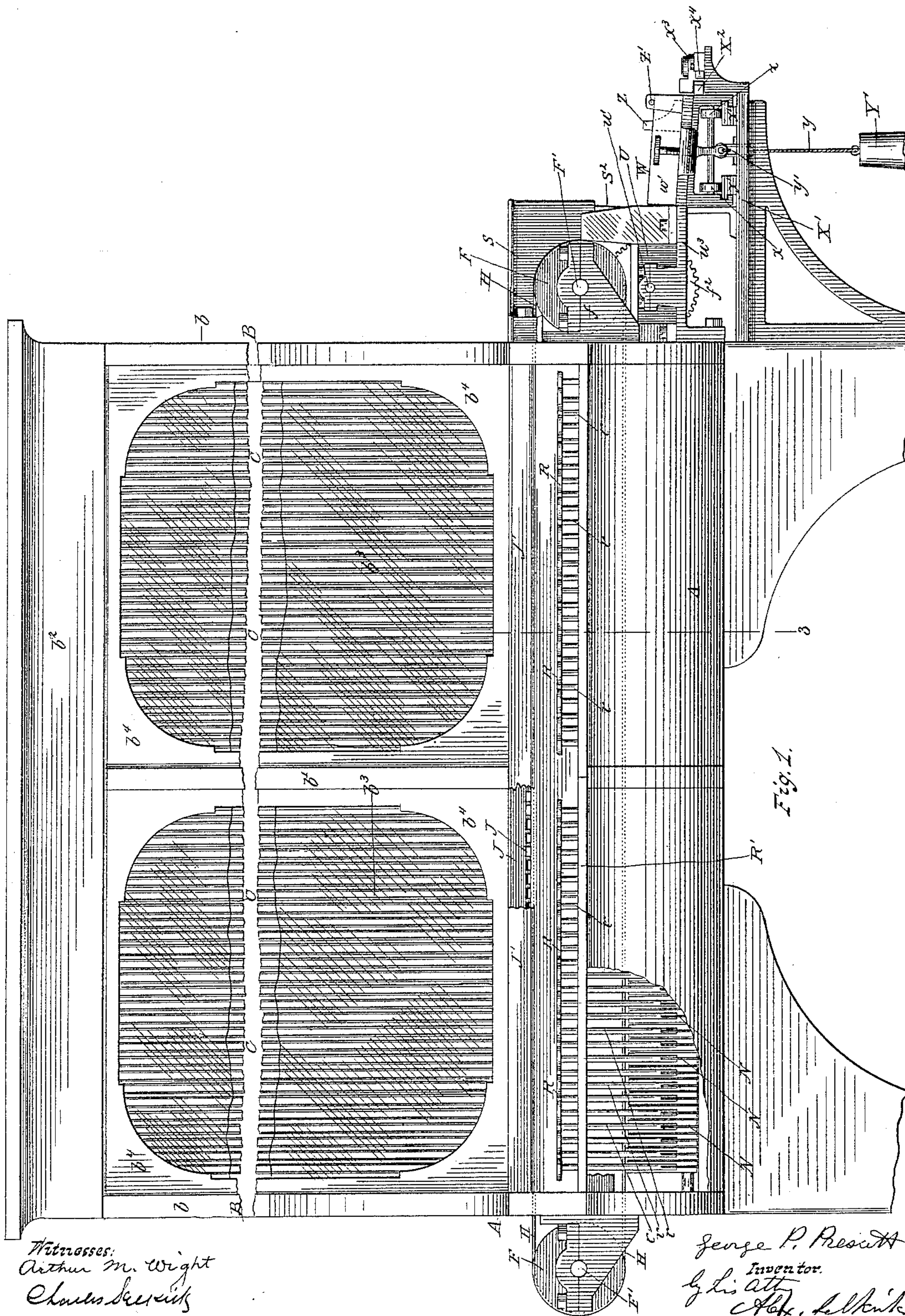
(No Model.)

6 Sheets—Sheet 1.

G. P. PRESCOTT.
TYPE SETTING MACHINE.

No. 433,030.

Patented July 29, 1890.



(No Model.)

6 Sheets—Sheet 2.

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TYPE SETTING MACHINE.

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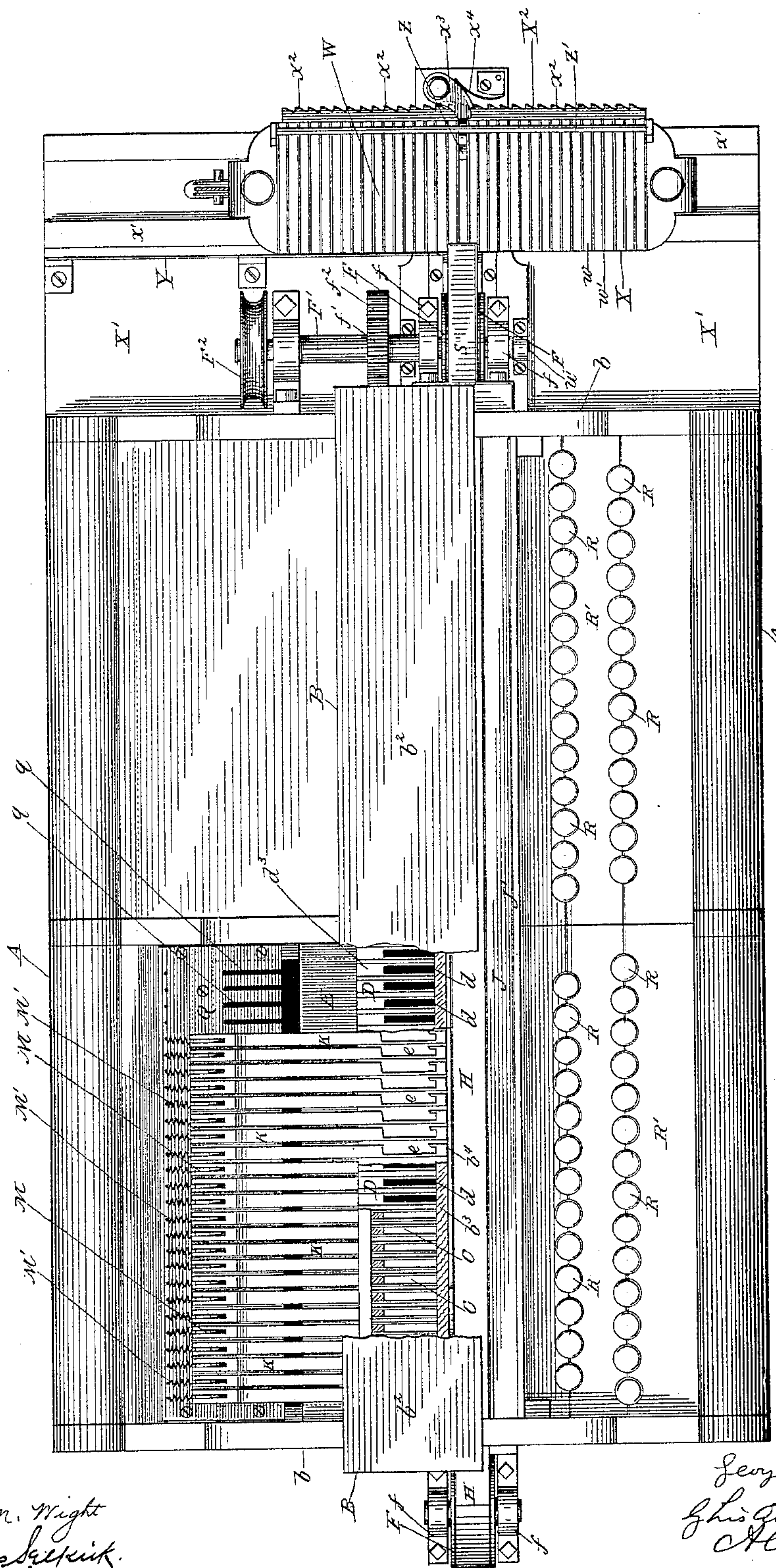


Fig. 2.

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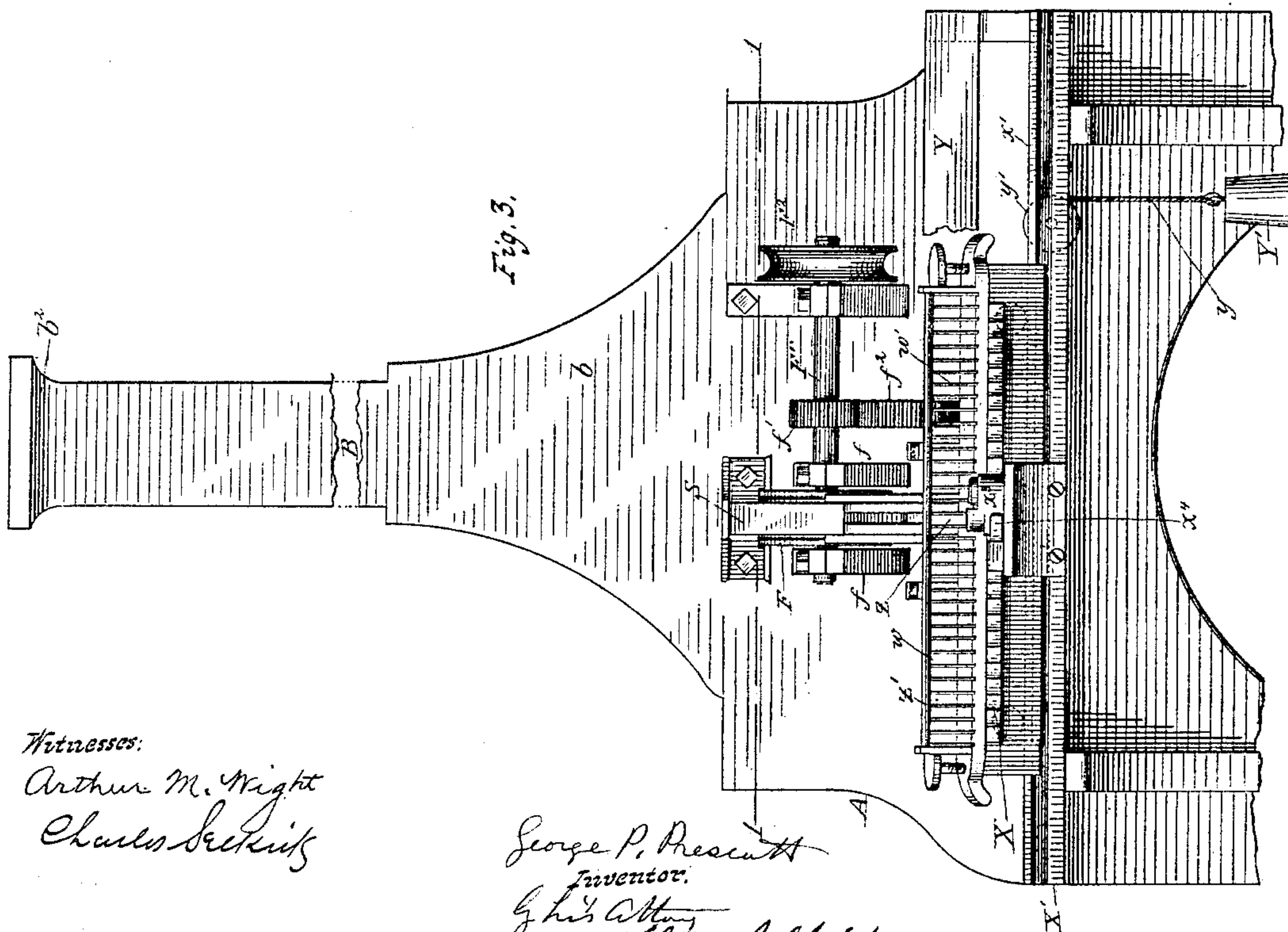
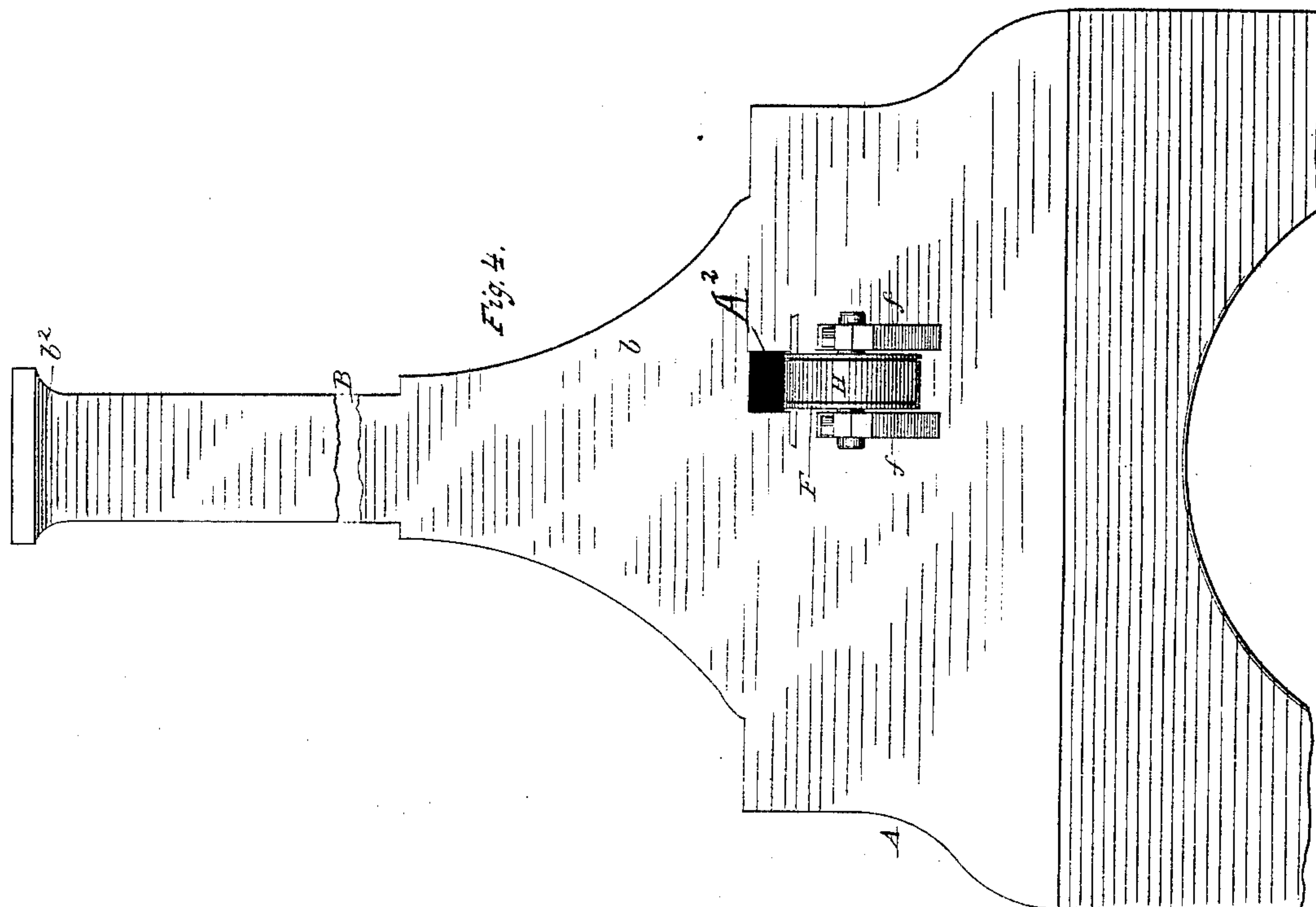
(No Model.)

6 Sheets—Sheet 3.

G. P. PRESCOTT.
TYPE SETTING MACHINE.

No. 433,030.

Patented July 29, 1890.



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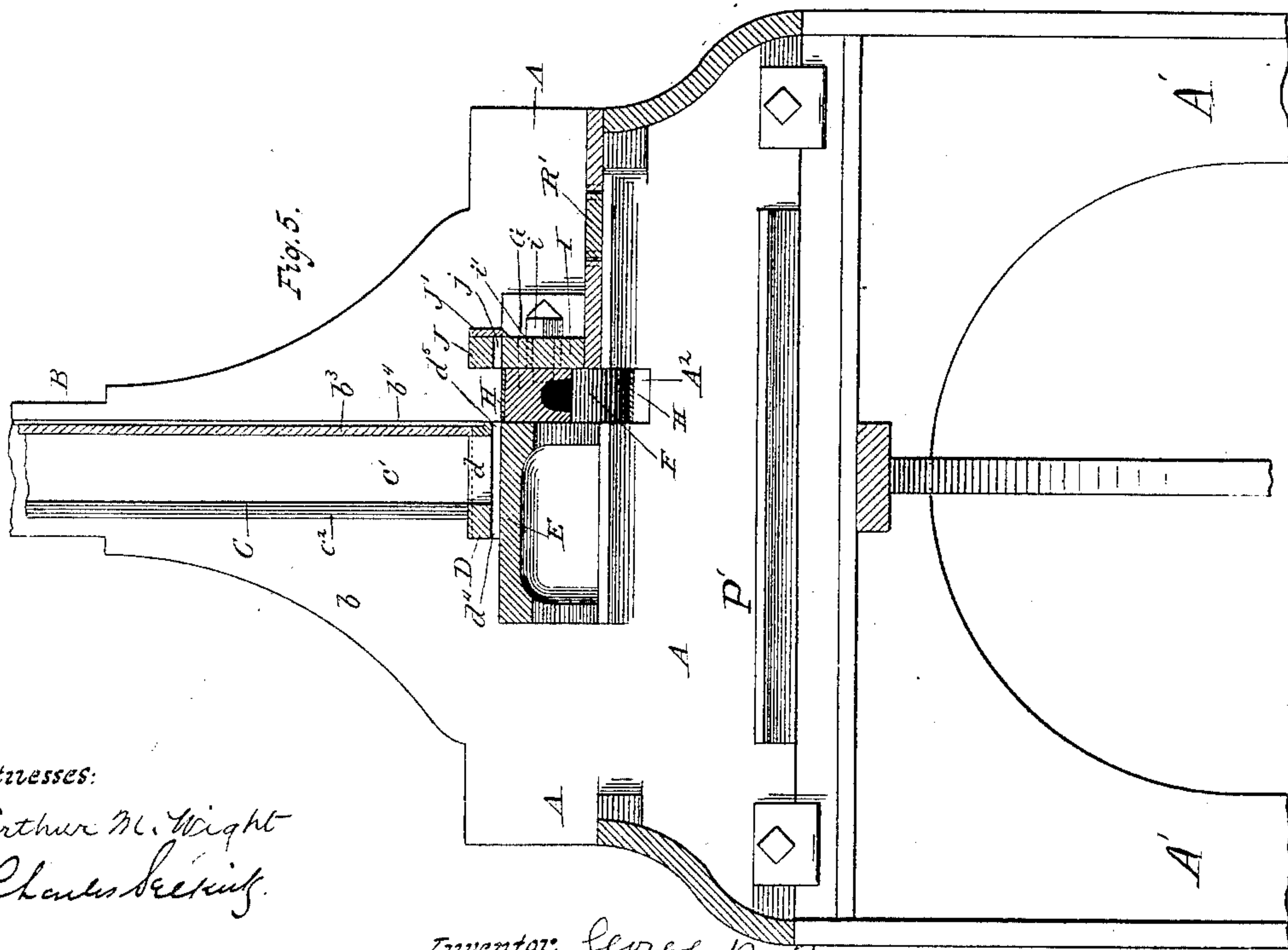
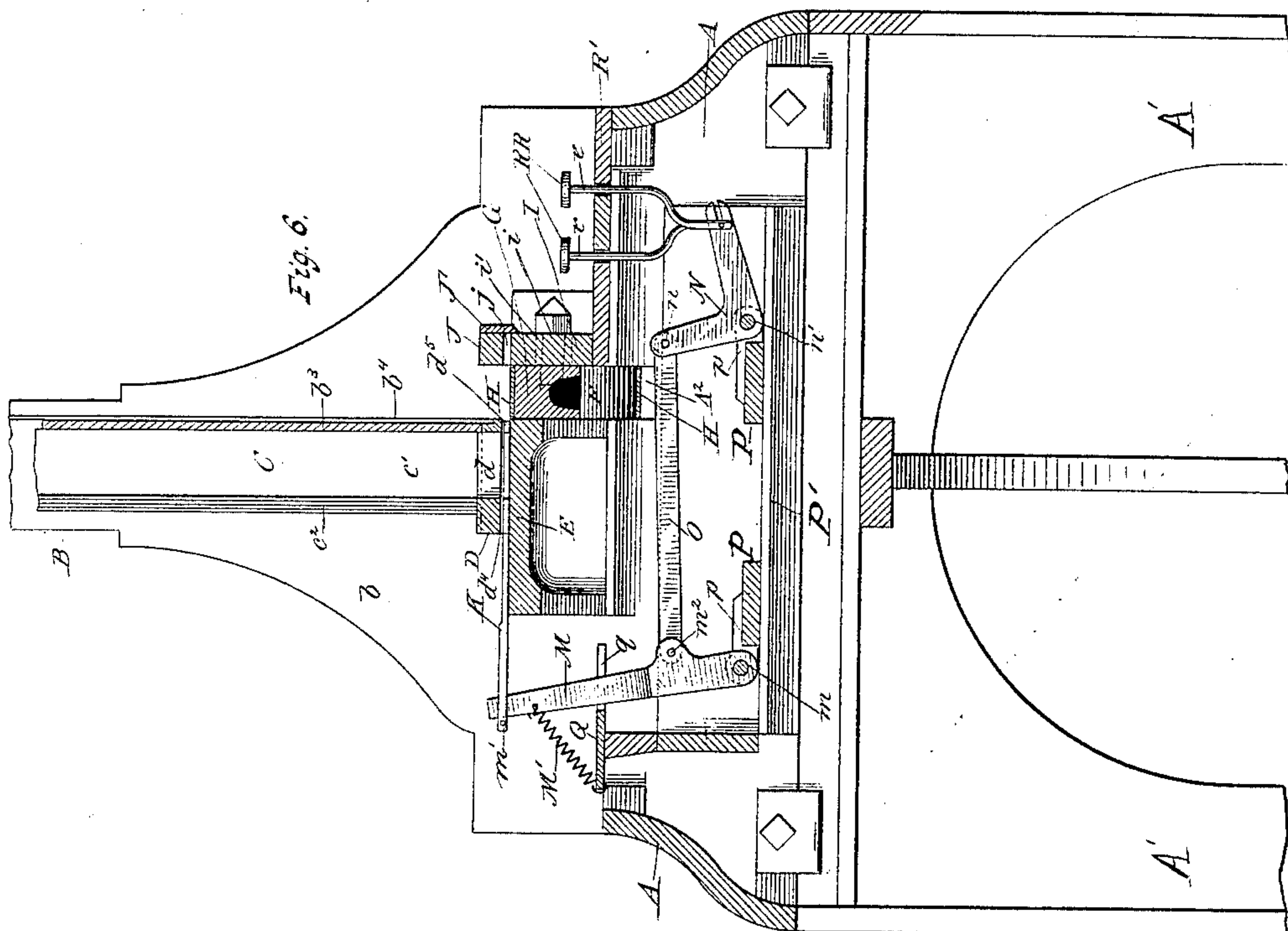
(No Model.)

6 Sheets—Sheet 4.

G. P. PRESCOTT.
TYPE SETTING MACHINE.

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Witnesses:

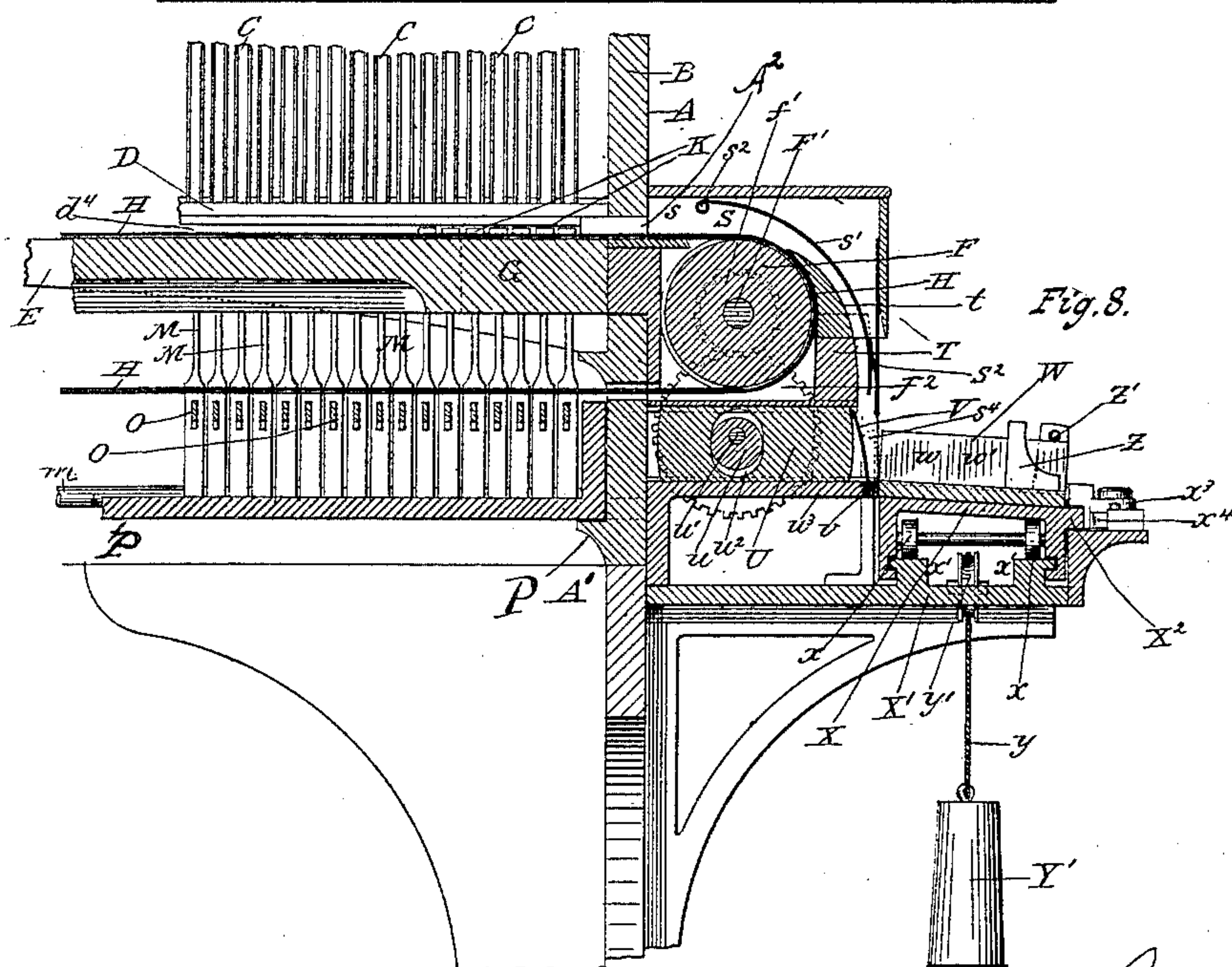
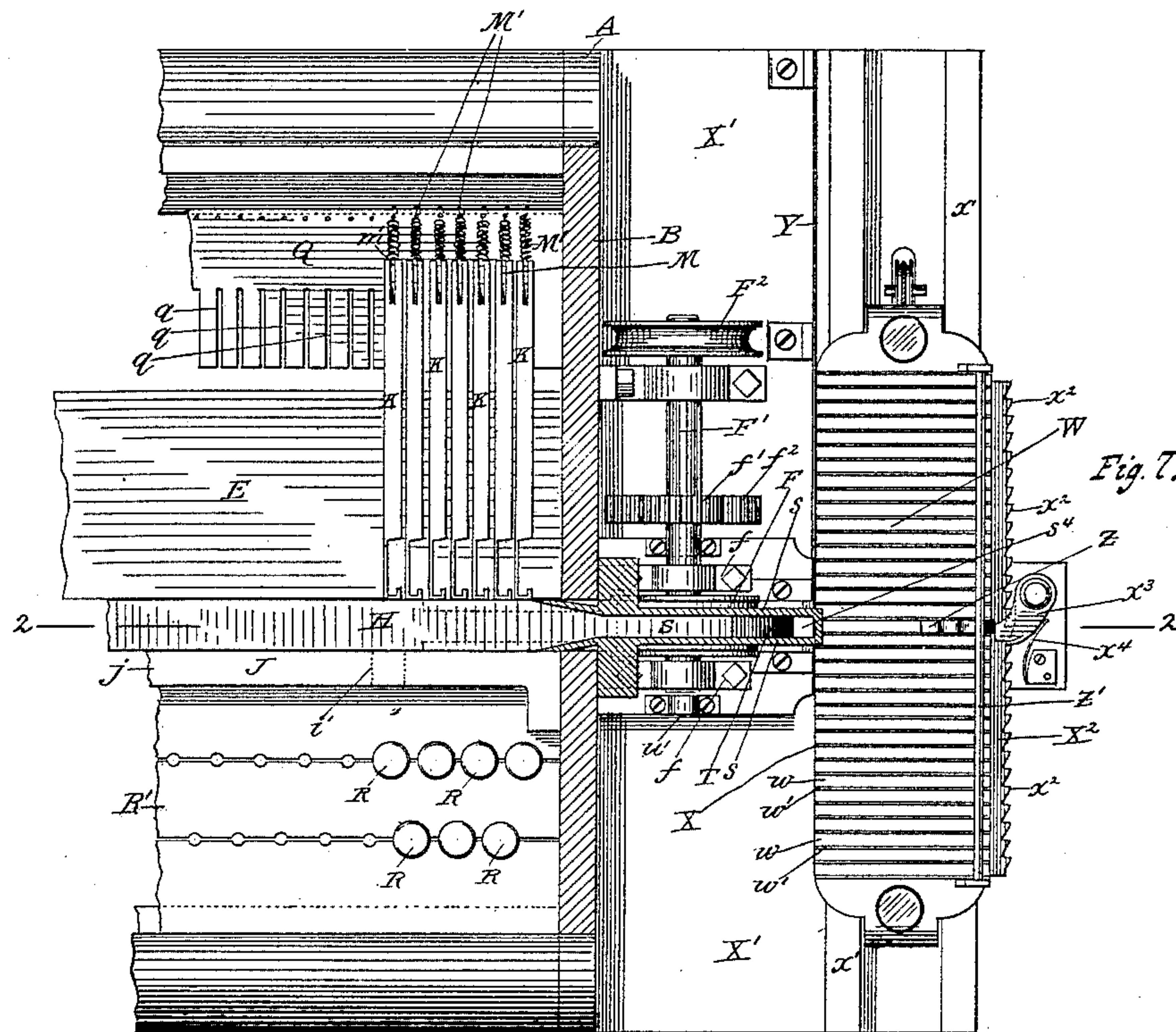
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TYPE SETTING MACHINE.

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Patented July 29, 1890.



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UNITED STATES PATENT OFFICE.

GEORGE P. PRESCOTT, OF WEST TROY, NEW YORK, ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, TO ANNA M. PRESCOTT, OF SAME PLACE, AND ALBERT W. HAM, ARTHUR M. WIGHT, AND JOB P. LYON, OF TROY, NEW YORK.

TYPE-SETTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 433,030, dated July 29, 1890.

Application filed September 15, 1887. Serial No. 249,739. (No model.)

To all whom it may concern:

Be it known that I, GEORGE P. PRESCOTT, a citizen of the United States, residing in West Troy, in the county of Albany and State of New York, have invented certain new and useful Improvements in Type-Setting Machines, of which the following is a specification.

My invention relates to a type-setting machine in which are employed the devices and elements, and combination of devices and elements, hereinafter described, and set forth in the several claims.

The object of my invention is to provide in a type-setting machine certain devices and elements, by means of which assorted type contained in removable galleys will be successively conveyed from said galleys in suitable order and be delivered into type-receiving channels of a galley in the form of live matter. I attain this object by the means illustrated in the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a front elevation of the machine with parts broken away to show internal mechanism. Fig. 2 is a plan view with parts broken away. Fig. 3 is an end elevation showing the setting-up mechanism. Fig. 4 is an elevation of the opposite end. Fig. 5 is a cross-section at line 3 in Fig. 1 with the keys, levers, and ejectors removed. Fig. 6 is a cross-section at line 3, Fig. 1, showing the lever mechanism and ejectors. Fig. 7 is a plan view at line 1 in Fig. 3. Fig. 8 is a longitudinal view at line 2 in Fig. 7. Fig. 9 is a view of a section of the channel-frame and channels from the rear sides. Fig. 10 is a cross-section through line 4 in Fig. 9. Fig. 11 is a section at line 5, Fig. 9. Fig. 12 is a vertical view of the type-ejectors, section of type-carrier and reservoir bar, and supporting-bed, on a large scale.

The same letters of reference refer to like parts throughout the several views.

In the drawings, A A represent the frame-work of the machine, which frame-work can be made of metal or wood, or both combined, and with any suitable form of construction

which will be calculated to contain and support the operating parts and devices of this machine. This frame-work is preferably supported by legs A' A', (shown broken,) yet it can be supported on a suitable table or bench, if preferred.

B is the channels-holding frame, which frame can be made of metal or wood, or both combined, and with any form of construction which will adapt it to hold the several removable channels which are employed to hold the type characters to be operated with. This channel-frame in its essential parts is composed of end posts b b , middle post b' , top rail b^2 , transparent wall b^3 , and the flange-plates b^4 , secured to said posts and top rail for holding the transparent wall b^3 in place.

C C are removable channels, made each a duplicate of the others, and employed in number corresponding with the number of type characters the machine is intended to set. The openings c of these channels are uniformly the same and correspond in width with the width of the type and in depth with the length of the same, and their side walls c' c' and back wall c^2 are made of metal or other suitable material. The front wall or transparent wall b^3 of the channels-holding frame is glass and forms the front wall of these channels when they are in place, and these channels C C can be readily introduced into the channels-holding frame from its open rear side and be readily removed at will from the same. The footends of the several channels are held from being moved horizontally forward by the transparent wall b^3 , and from being moved rearwardly by any suitable bar or piece secured to the main frame A A. The upper ends of these channels are locked in position by means of the locking-bars b^5 , one or more, hinged to the top rail b^3 , and secured by any suitable catching or holding devices.

D is the type-throat bar, made of metal and containing such a number of type-throats d as will correspond with the number of channels C C employed with the machine. These throats d d consist each of a vertical opening or perforation of rectangular form, and having a

length and width which will correspond with the length and width of the type and also with the width and depth of the grooves c of the channels C , so that when the latter are in place over these throats d the type will nicely move downwardly from the respective openings c of said channels into the corresponding throat d below and vertically through said throats without liability of turning. I prefer to make the bar D , containing the throats d , in sections, yet it can be made of a single piece of metal, if preferred. This throat-bar is secured to the frame A of the machine in any suitable manner. Made in the front edge portion of this bar D is the rabbet d' , which receives the lower margin edge of glass or wall plates b^4 , and made in the upper side of this bar D and bordering the respective openings or type-throats d are ways or grooves d^3 for receiving the foot ends of the channels and holding them in position, so that their grooves will be vertically over the respective throats they are to lead the type into. An opening d^4 is made from the rear side edge of bar D to the rear end of each of the type-throats d , and a similar opening d^5 is made from the front ends of each of said type-throats to the front edge of said bar D . These openings d^4 and d^5 are made in said bar from its lower side, and are made with a uniform width, which will correspond with the width of the ejectors working in said openings, and they have each a vertical extension from the line of the lower side surface of said bar upwardly, which will correspond with the thickness of the type the respective throats d are to contain and the thickness of the ejectors or pushers which move in said openings d^4 d^5 .

E is the supporting-bed of the type-throat bar D and ejectors. This bar is rigidly secured to the frame of the machine and has its upper surface uniformly even and smooth and extended rearwardly from the line of the front edge of the bar D to a short distance back from the rear edge of said bar, as shown in Figs. 5, 6, 10, and 12.

F F are wheels or pulleys, which have their bearings in brackets f f , which are preferably secured to the outer ends of the type-carrier bed G . This bed is preferably made of metal and has its upper or bed surface uniformly even and smooth, and with a width about equal to the length of the type. This bed G and its connected wheels F F are preferably made to be adjustable in a vertical direction, and are secured in place in the machine by means of bar I and set-bolts i , working through oblong perforations i' i' , made through said bar from its front side, as indicated by dotted lines in Figs. 5 and 6, and screwing into screw-threaded holes made in said bed G .

H is the endless type-carrier, made of rubber or paper or of any other suitable material of uniform thickness and in the form of an endless belt or band. This type-carrier is

carried by the wheels F F in front of the bed E , and with the upper surface of its upper web about on a line with the horizontal plane of the top surface of the said bed, as shown in Figs. 1, 5, 6, and 8. This endless type-carrier is moved in direction preferably toward the right hand as the operator faces the front of the machine, with a speed sufficient to carry the type thereon successively to their delivery at the end of said carrier without being clogged. When the set-screws i i , working through bar I , are loosened, this type-carrier H , together with its supporting-wheels F F and bed G , can be raised or lowered simultaneously, so as to adjust the same with the upper side surface of the upper web at about on a plane with the upper surface of bed E or slightly below the same, as will be required, when said set-screws will be tightened. To allow the bed G and its endless type-carrier H to be freely raised and lowered for adjustment in relation to bed E , there are provided in the side pieces of frame A slots A^2 A^2 , into which the ends of bed G can freely move vertically and from which the brackets f f will project, as shown in Figs. 3 and 4.

J , Figs. 2, 5, and 6, is the ejector guard-bar, which bar is arranged relatively above the plane of the upper surface of the endless type-carrier H and opposite to the type-throat-supporting bar E . This bar J is of metal and has in its lower side the slots or openings j , which are in number and size corresponding with the number and sizes of the openings d^4 d^5 in bar D , through which the ejectors work—that is to say, these openings j in bar J are opposite the openings d^4 d^5 in bar D , and are of the same width and depth as the respective openings d^4 d^5 they face, so that the ejectors K K when moved forward will freely move through said openings d^4 d^5 and into said slots or openings j in bar J , Figs. 5 and 6. These openings j are closed on their front ends by the closing-bar J' , which is secured to bar J by screws or other suitable means, while bar J is secured in any suitable manner to the end pieces of the frame of the machine.

K K , Figs. 2, 6, 7, and 12, are the type-ejectors, which are each a duplicate of the other, except in thickness, and are each made substantially as shown in Fig. 12. These ejectors are employed in number corresponding with the number of type-throats d in bar D , and are each made with a width corresponding substantially with the width of the openings d^4 d^5 in bar D and openings j in bar J , and are made with a thickness corresponding with the vertical extension of said openings d^4 d^5 , in which the respective ejectors are moved when operated.

L is a type-guard made with each ejector. This type-guard is connected with the pushing end of the ejector by means of the bar l , as shown in Fig. 12. This guard in its essential parts consists of the ward e , having a width corresponding with the width of the

type to be operated with and finger e' , projected from the front side of the head-piece l' of this guard and toward pushing end k of the ejector. This finger e' is at an angle to the bottom of ward e , and is made to be slightly inclining from the bottom of said ward to the end of said finger, as in said Fig. 12. This finger e' is preferably slightly longer from the bottom of ward e in those guards which are to operate with type having shoulders, while the shorter fingers are in those guards which operate with type which have no shoulders. The incline of finger e' is preferably slightly curved and turned outwardly from ward e toward the front side edge. The pushing end of the ejector is shown to be slightly inclined or relatively at an angle with the edge of guard-bar l , which is slightly greater than a right angle, as shown in Fig. 12. The bottom of ward e of this type-guard is set off from this slightly-inclined line of the pushing end k of the ejector to a distance preferably about one sixteenth of an inch greater than the length of the type over all from face to foot of the type. These ejectors KK have their forward or pushing portions or ends supported on the smooth upper surface of the bed E and working in the openings d^4 d^5 in the lower side of throat-bar D , as shown in Figs. 2, 6, and 8.

M M are levers for operating the ejectors KK , which levers are employed in number corresponding with that of the ejectors in the machine, and can be of any suitable form. These levers are pivoted, as at m , to the frame of the machine or a piece suitably connected therewith, and the rear ends of the ejectors are each pivoted to the upper end of its co-acting lever K in any suitable manner, but preferably by means of a slot k' , in the rear end of the ejector, and pin m' , passing transversely through the limbs of this slotted end, with the upper end of the lever passing through said slot k' , as shown in Figs. 2, 6, 7, and 12.

Levers M are connected with the finger-key levers N by means of connecting bars or rods O , which rods are each pivoted to its lever M , as at m^2 , and with the levers N , as at n , and these levers N are pivoted to any suitable part or piece of the machine, as at n' .

The levers M and N can be pivoted to any suitable bar or piece, as bars P , Figs. 5, 6, and 8, by means of bearings p p , secured to such bars, and the pivot-shafts m and n' , as illustrated in Fig. 6. These bars P can be made to extend from one end piece A of the frame to the other, and they can, if preferred, be supported at their ends by brackets P' , secured or connected with the end pieces A of the frame, as illustrated in said Figs. 6 and 8.

Q is the guide-bar of levers M , which bar is of thin metal secured to some fixed piece of the machine and preferably to the bar P . This bar Q has in it a series of slots q q , in each of which works the upper portion of a lever M , as shown in Fig. 2, and they operate

to guide the movement of the said upper ends of said levers, and through the latter the rear ends of the ejectors these levers operate. 70

$M' M'$ are reacting springs, having one end of each secured to a lever M , and the opposite end preferably to the guide-bar Q ; yet these reacting springs can be connected with some other fixed piece of the machine when preferred. These springs operate through levers M to draw the ejectors back immediately after they have been relieved of the pull on them of the finger-key levers N . They also operate to move the levers and finger-keys to their normal positions when the latter have been relieved of pressure. 80

R R are the finger-keys, mounted on stems r , which are suitably guided in their vertical movements by vertical guide-holes made in the key-board R' , which board is preferably made in sections. The lower ends of these stems r are slotted and straddle the forward ends of the front limbs of the levers N , to which each key-stem is pivoted, as shown in Fig. 6. 90

Located, preferably, at the right-hand end of the machine is the type-setting-up mechanism, which operates with each type in succession as it is delivered to this mechanism by the endless type-carrier H . 95

The essential parts or elements in this type-setting-up mechanism are shown in Figs. 1, 2, 3, 7, and 8.

S is a type-conveyer formed by the gradually-contracted walls s s and the curved elastic wall s' . The walls s s lead from the sides of bars D and J outwardly past the turn of the type-carrier H over wheel F . These walls operate as guide-walls to the type from the type-carrier and have their lines of lower edges corresponding in form with the line of the upper or outer surface of the said type-carrier running beneath the same, so that the portions of the edges of these type-walls over the straight or horizontal portion of said type-carrier will be straight, while the other portions thereof will be with a curved form corresponding with the curvature of the type-carrier over wheel F . These walls s s are gradually contracted from an extension of channel equal to the width of the type-carrier H to one equal to a little more than the width of the type to be operated with. The curved elastic wall s' of this type-conveyer S consists of a light strip of steel or other elastic or flexible metal having a width slightly less than the width of the contracted portion of the channel of this conveyer, so as to freely move between said side walls s s . The upper end of this elastic wall s' is fixed to any suitable piece, as bar s^2 , Fig. 8, while its body is curved forwardly and downwardly and is extended in length, so that its opposite and free end will be carried to near a point on a line with the lower side web of the top carrier. 100 105 110 115 120 125 130

T is the type-take-off piece, which piece is arranged in the lower portion of the channel of the type-conveyer S and at the front of

the curve or turn of the type carrier on wheel F, and sets close or near to the surface of the same and has its outer or front side facing the curved elastic wall s' , made with the incline t , which incline is preferably of a curved form, beginning at a point about at sixty degrees, more or less, on the curve below the top of the carrier and running downwardly and forwardly on a curved line to a point at or near a line with the lower side of the lower web of the type-carrier, as shown in Fig. 8. This type take-off is of a width corresponding with the distance between the walls s s at the point of the turn of the type-carrier H. This curved incline t of this type take-off T gradually approaches the curved elastic wall s' as it runs downwardly, as shown in the same figure.

S^2 is the elastic check-piece which operates to give an elastic limit to the outward movement of the free end of the elastic wall s' . This piece S^2 consists of a straight piece of thin spring-steel secured to a fixed piece forward of wall s' , which this check-piece operates with and extends down to a point about on a line with the point of termination of elastic wall s' , as shown in Fig. 8.

U is a reciprocating pusher, which is situated below the type-take-off piece T and the turn of the type-carrier on wheel F. This pusher is of a length sufficient to extend its forward end to a point on a vertical line with the convex side of the piece T, and it has a vertical extension of width, which is about equal to the length of a type, and has a horizontal extension or thickness about equal to the width of the type. The front or face end of this pusher is convex, and its body is suitably guided in grooves respectively above and below, and is preferably operated by eccentric u on shaft u' , and revolved within the oblong perforation u^2 , made through the body of this pusher, as shown in Fig. 8.

V is the elastic face of pusher U, and is preferably of thin steel of a width about equal to the thickness of pusher U, and with a length a little greater than the width of the same. The upper end of this elastic pusher-face is secured to the upper side or corner of the front end of the pusher, while its lower end is free and works in slot v at the end of the lower guiding-piece u^3 of the pusher, as shown in Fig. 8. When the pusher U is in its normal position or thrown back, as shown in Fig. 8, this elastic face-piece of the pusher will be inclined and also convex on its forward side, as shown in the same figure.

The wheel F, at the setting-up mechanism, is mounted on shaft F' , on which shaft is fixed drive-pulley F^2 , which is revolved by any suitable power. Mounted on shaft F' is the gear f' , which communicates motion to gear f^2 on shaft u' of eccentric u , operating pusher U.

W is the type-receiving galley, which galley is made with any suitable length and width preferred, and is divided into channels

w w of width equal to the width of the type they are to receive by the division-strips w' .

X is the galley-carriage, of any suitable form of construction to adapt it to be freely moved in either direction on its wheels x x , rolling on the tracks or ways x' x' , which are supported by any suitable piece, as X' , secured to the end of the machine. Secured to the outer side edge of this carriage is the toothed rack X^2 , having its teeth x^2 x^2 made with uniform length and corresponding in their extension with the width of channels w of the galley so nearly that when the carriage is moved to the distance of one tooth the galley will be moved to the distance of the width of one channel and thickness of a division-piece. A pawl x^3 , pivoted to the bracket or piece X' , operates with the teeth x^2 x^2 of the rack X^2 to hold the carriage X and its galley W to each point it is moved to in its forward progress. A spring x^4 operates to hold this pawl with an elastic pressure in engagement with the teeth of the rack. When the galley W is in place on carriage X, some one of the several channels w of said galley will be directly opposite the discharge end s^4 of the channel of the type-conveyer S in front of the elastic pusher-face V.

Y is a guard-piece, made, preferably, of metal and secured to a fixed piece of the machine, as piece X' , and is extended from the discharge end s^4 of the channel of the type-conveyer S in direction of the forward movement of the type-receiving galley W to a distance equal to the length of the said galley, and it is arranged parallel with the line of series of open receiving ends of the several channels w w of said galley, as shown in Figs. 2 and 7.

Y' is a weight, attached to the carriage X by means of a cord or strip y , passing over a pulley y' . This weight operates to move the carriage X and the galley W forward whenever the pawl x^3 is thrown out of engagement with the teeth of rack X^2 .

Z is the galley-governor for holding the type upright in the channels w of the galley W and for limiting the length of the line of set-up type and for operating with the pawl x^3 to throw it out of engagement with the rack X^2 at each finish of a line, so that the weight Y' will move the same to the distance of another line or width of a channel w of the galley W. This device consists of a piece of metal Z, Figs. 7 and 8, of a thickness about equal to the width of the channel w of the galley, and has a vertical extension a little greater than the length of the division-pieces w' and an extension of base sufficient to prevent it from tipping in either direction, and its type-supporting face is at right angles with the line of its base-edge.

Z' is the check-rod, which rod is extended over and across the forward end portions of the several division-pieces w' of the galley W, as shown in Fig. 7. When by the force of the pusher U the type in a channel w of the galley is so moved as to crowd the foot

end of this piece Z against the free end of pawl x^3 , so as to move it back from engagement with the tooth of the rack it is held with, the weight Y will operate to draw the carriage and the galley forward until the foot end of this governor has passed from opposite the free end of said pawl and relieved the same of its pressure, when the spring x^4 will force the pawl into engagement with the next tooth of the rack to hold the galley in place with the next succeeding channel directly opposite the discharge end s^4 of the type-conveyer S of the type-setting-up mechanism.

The manner of operation of the parts of my improved machine is as follows: The type-supply channels will be filled each with a particular type character, and will be introduced into the channels-holding frame B from its rear side, with the upper ends in the slots of the bar B' and their foot ends in the grooves d^3 in the upper side of the bar D, when the locking-bar b^5 will be turned down and secured. The type-throats d in bar D will each receive type from the channel C, standing over it. When the operator presses down on the finger-keys R R, the lever mechanism (composed of the levers M N, rod O, and key-stems r) corresponding with the respective keys will be operated and actuate through the same the corresponding ejectors K K, which ejectors, working through the openings d^4 d^5 in the throat-bar D and through the throat d , will carry, before the pushing ends k , the type which lie on the top surface of bed E and between the said pushing ends and the type-guard L, when the type will be moved out from the bottoms of the throats d on the endless type-carrier H, which is moved continuously by the revolving wheels F F by means of any suitable power applied through the drive-pulley F² and gears f' and f^2 . While the ejector is being moved forward the type will be held by its face end by the finger e' of the guard L, while the foot end of the type will be held by the side wall of the throat d the type is being moved from. When the ejector has been fully moved out from the front opening d^5 in bar D, the type will be fully on the type-carrier, which, moving forward, will hold with the type and carry its foot end forward from position shown in full lines in Fig. 12 to that of dotted lines in the same figure, while the face end will be retained for a short time in the ward e of the guard L, and as the type is being turned, foot end forward, on the belt by the joint action of the guard L and the moving carrier, the free end of the type will be gradually released from the ward e in said guard, when the type will be carried forward, foot end first, to within the contracted channel of the type-conveyer S of the type-setting-up mechanism. When the type arrives at the bend of the type-carrier H, its ends will be carried against the curved elastic wall s' , and it will be carried

down between said elastic wall and the incline of the take-off piece T into the discharge end s^4 of the type-conveyer S. While the type is passing downwardly to the discharge end s^4 , the elastic check S² will operate, especially with thick type, to hold the free end of the elastic wall s' from being forced outwardly. This elastic wall s' will operate in all cases to hold the type from jumping or from turning upside down or from one side to the other. The type will be carried down from the discharge end s^4 of the conveyer into the opening between the type-receiving galley and the elastic face V of the pusher U. This pusher is operated continuously with a reciprocating movement, and as fast as the type passes in front of the same this pusher will force the type forward into the channel opposite the pusher against the piece Z, and gradually force the same forward through the channel toward the end thereof and until the foot end of said piece has been made to move the pawl x^3 out of engagement with the toothed rack X², when the further movement of said piece Z will be checked by the piece Z', and the weight Y' will operate to move the carriage X, with the galley W thereon, to the distance of one channel w , when the foot end of the piece Z will be moved out of contact with the pawl x^3 , and the spring x^4 will force the said pawl into engagement with the next tooth of the rack X². These operations being continued, the several channels $w w$ in the galley W will be filled successively, and as soon as filled they will be automatically moved forward, channel after channel, before the pusher U. As fast as each channel is filled and moved forward, the guard-piece Y will close the open ends of said channels and prevent the type from falling down and therefrom, while the type at the opposite ends of these channels will be held from falling over by the piece Z, which will be used in each channel w . When the several channels $w w$ in the galley W have been filled, it will be removed from the carriage X and be replaced by a similar galley.

By my above-described improvements the type can be readily removed from the respective type-reservoirs and placed on the carrier without their jumping or turning over and will be turned foot first on the said carrier and be set up properly in the several channels of the galley in the form of "live matter," with but few, if any, errors, and the errors occurring will be those arising from a wrong placement of the type into the type-supply galley.

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

1. In a type-setting machine, the combination, with bar D, having a series of type-throats d , horizontal openings d^4 and d^5 , and grooves d^3 , of the series of removable type-supply channels, which respectively commu-

nicate with the throats in said bar, and the lock-bar b^5 , substantially as and for the purposes set forth.

2. In a type-setting machine, the combination, with the channels-holding frame B, of posts b , top rail b^2 , transparent wall b^3 , flange-plates b^4 , and the channel-locking bar b^5 , substantially as and for the purposes set forth.

3. In a type-setting machine, the combination, with the channels-holding frame and a series of removable type-receiving channels, of the type-throat bar D, having a series of type-throats d , the grooves d^3 , holding with the lower ends of the channels, and the openings d^4 and d^5 in its lower side and communicating, respectively, with the throats in the type-throat bar and calculated to allow the passage of the type-ejector and type, respectively, substantially as and for the purposes set forth.

4. In a type-setting machine, the combination, with the stationary bed which supports the type-throat bar, provided with throats d and openings d^4 and d^5 , and type-ejectors moving through said openings, of an endless type-carrier which is adjustable in the vertical direction in relation to the surface of the bed which supports the type-throat bar and ejectors, substantially as and for the purposes set forth.

5. In a type-setting machine, the type-ejector, which has connected with its pushing end k and at a distance therefrom slightly greater than the length of a type the type-guard L, having a ward e to receive the face end of the type, and a free opening for the free passage of the foot end of the type from the said pushing end k , substantially as and for the purposes set forth.

6. In a type-setting machine, the combination, with the type-throat having a horizontal

passage-way or opening d^5 in its rear side wall for passage of the type-ejector and horizontal opening d^4 for passage of the type from said throat, a type-carrier having its type-receiving surface about on a plane with the plane of the bottom of the said throat, of a type-ejector having connected with its pushing end the guard L, provided with ward e , and a free opening for the passage of the foot end of the type from the pushing end of the ejector and in direction of the movement of the type-carrier prior to the time of passage of the face end of the type from the said ward, substantially as and for the purposes set forth.

7. In a type-setting machine, the type-ejector K, having connected with it the type-guard L, which is provided with the ward e , and an opening between the end of finger e' of said guard and the pushing end of the ejector, for operation, substantially as set forth.

8. In a type-setting machine, the combination, with a reciprocating type-ejector provided with the type-face guard which receives and holds with the face end of the type, and a moving type-carrier running beneath the ejected type, of the guard-bar J, having openings which will receive the type-face guard of the ejector after its passage over the surface of the type-carrier, substantially as and for the purposes set forth.

9. In a type-setting machine, the combination, with the levers pivoted with the respective type-ejectors, of the guard-bar Q, having in it the series of slots q , for guiding the upper ends of said levers when moved, substantially as and for the purposes set forth.

GEORGE P. PRESCOTT.

Witnesses:

ALEX. SELKIRK,
CHARLES SELKIRK.