

No. 651,815.

Patented June 19, 1900.

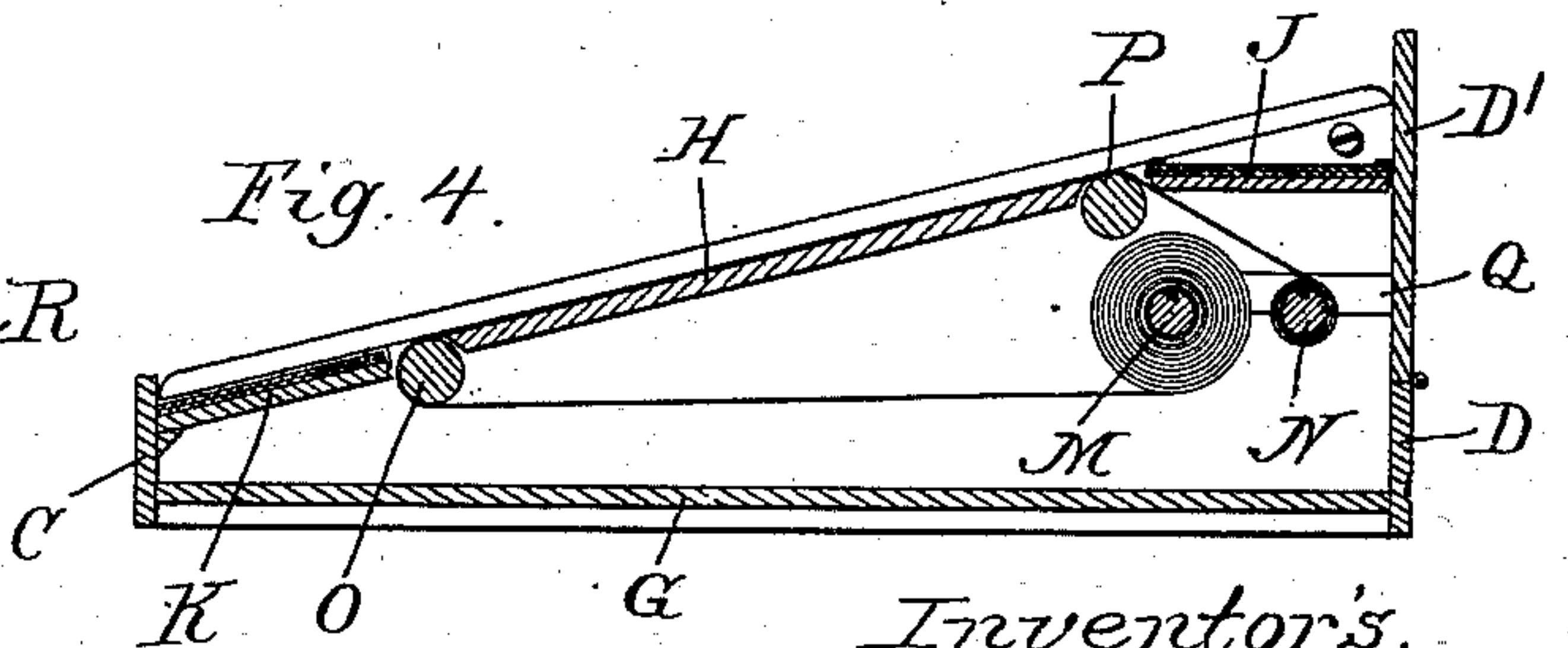
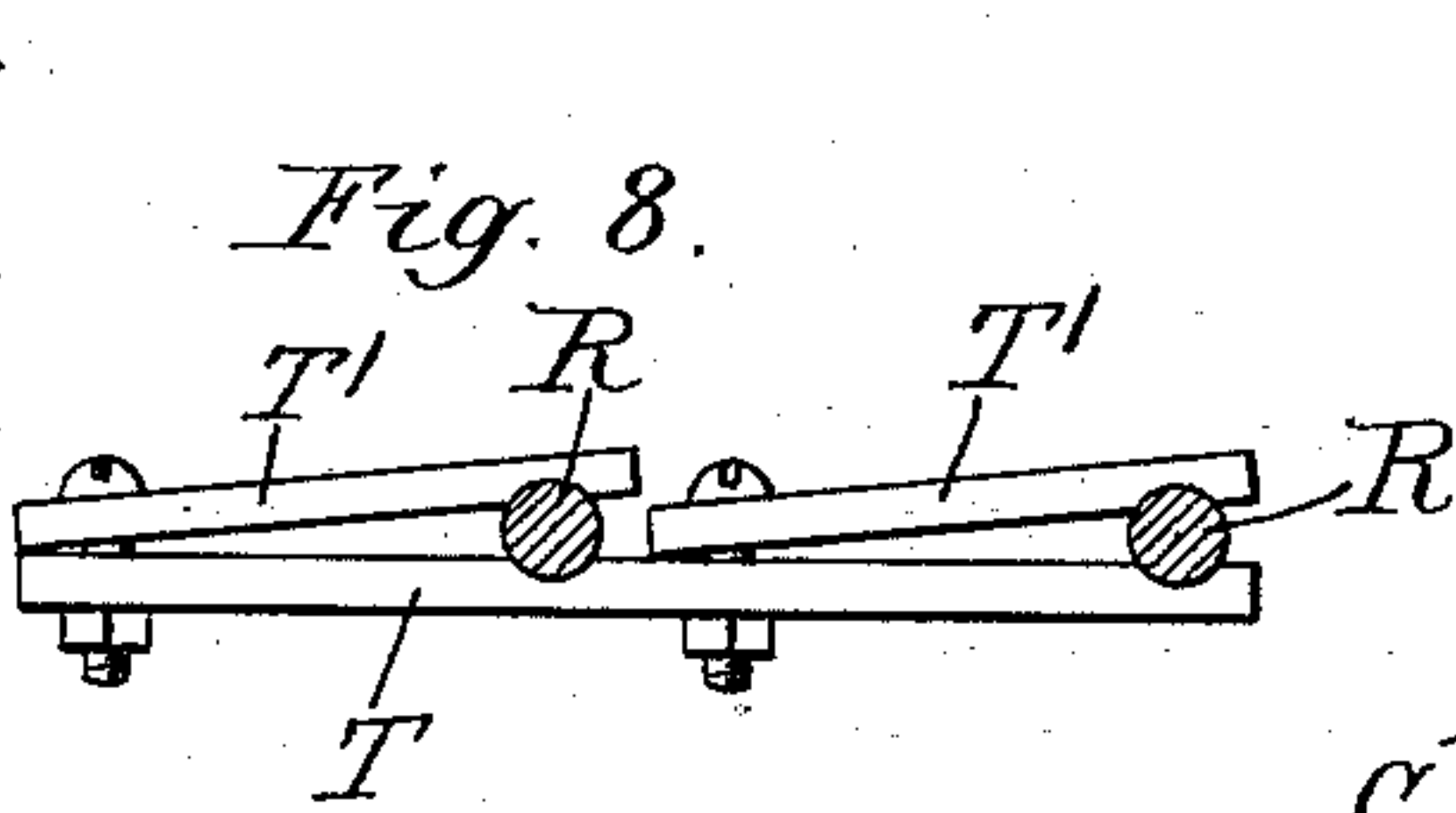
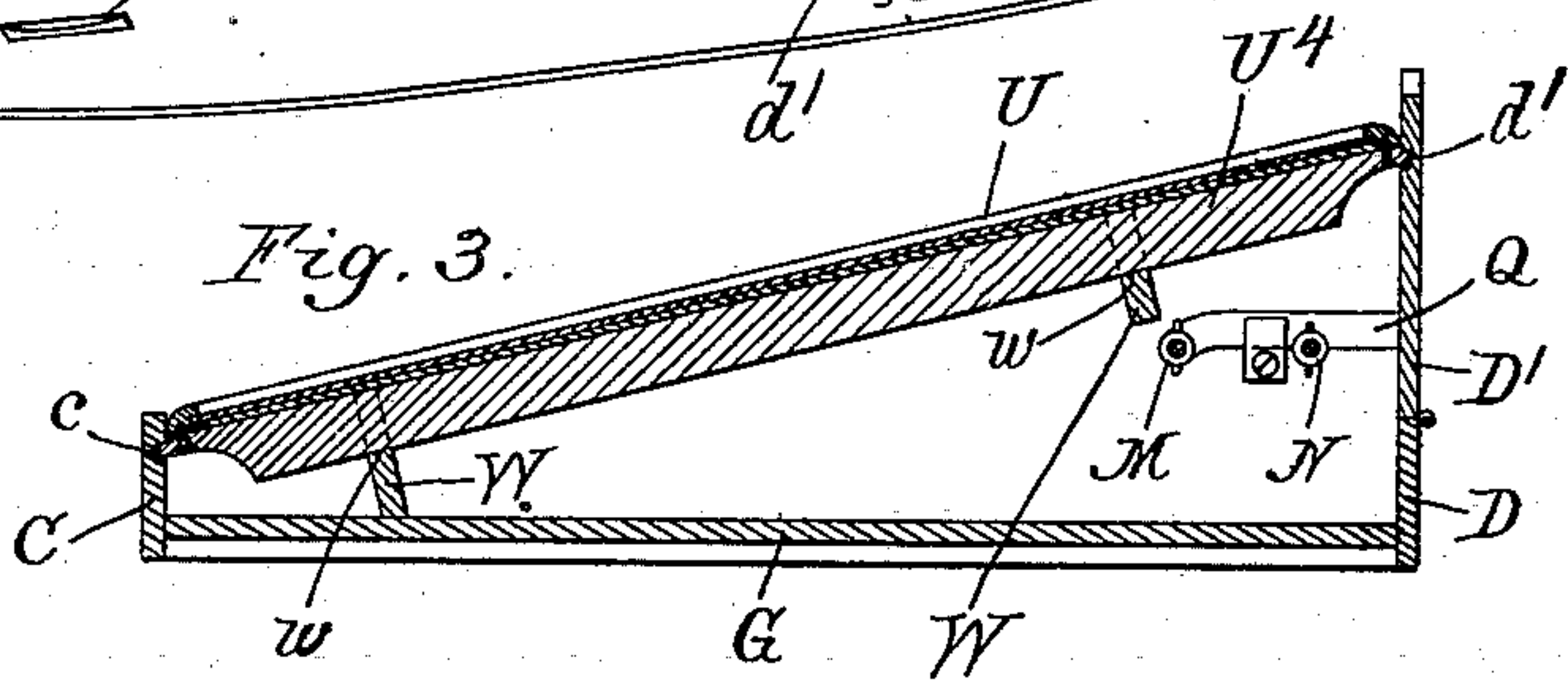
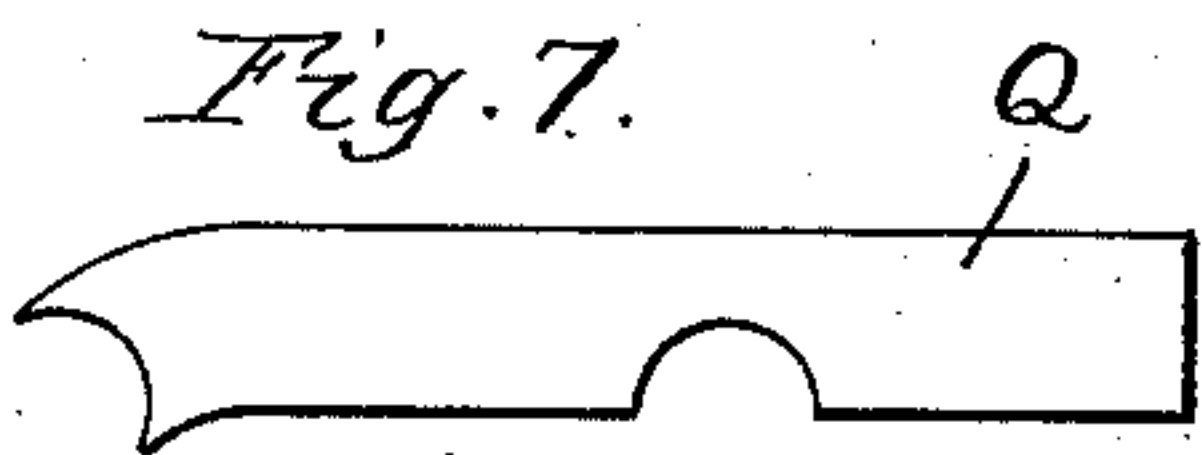
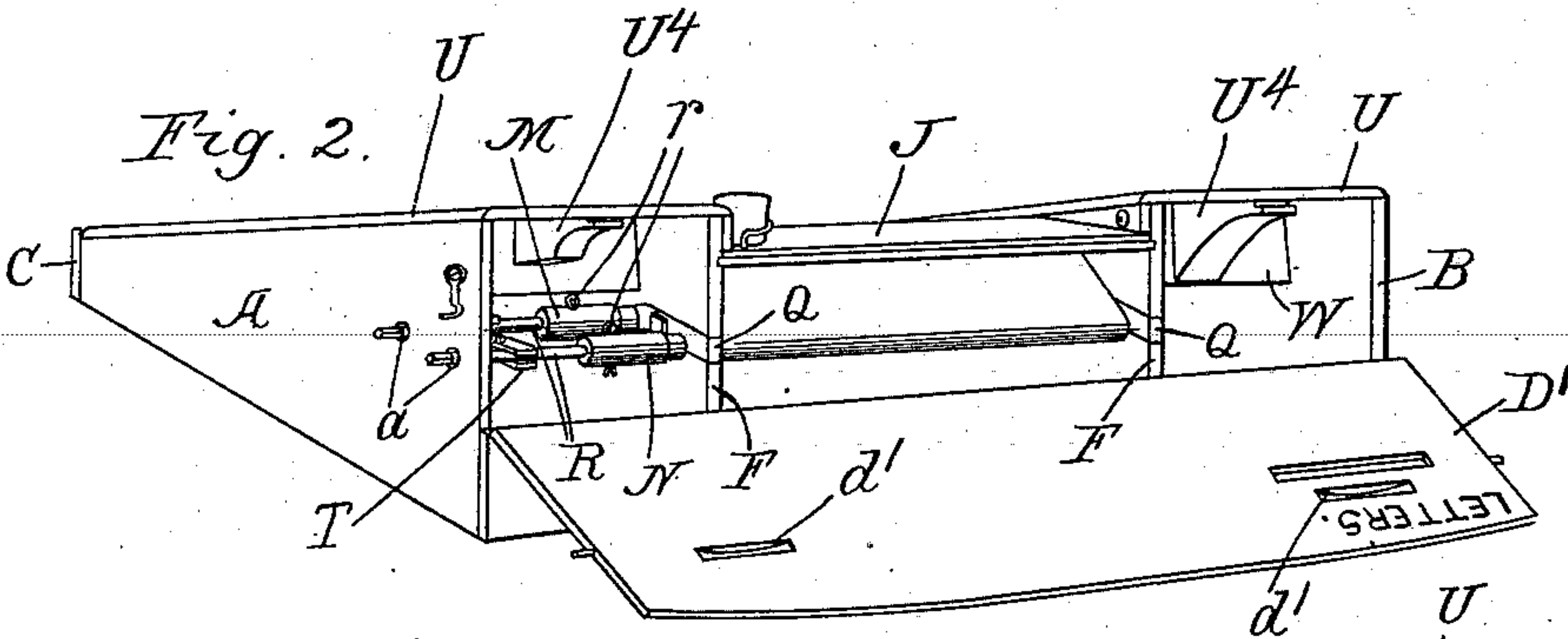
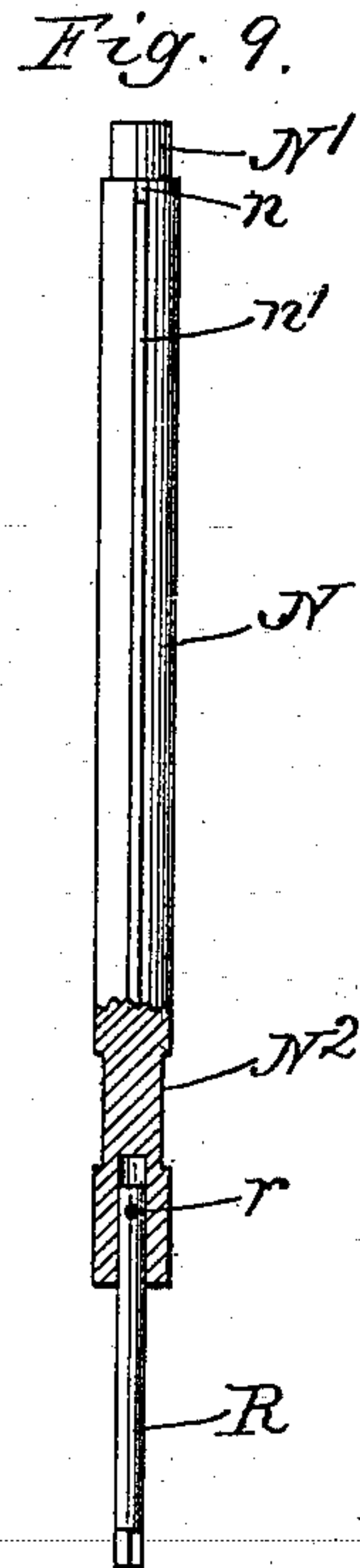
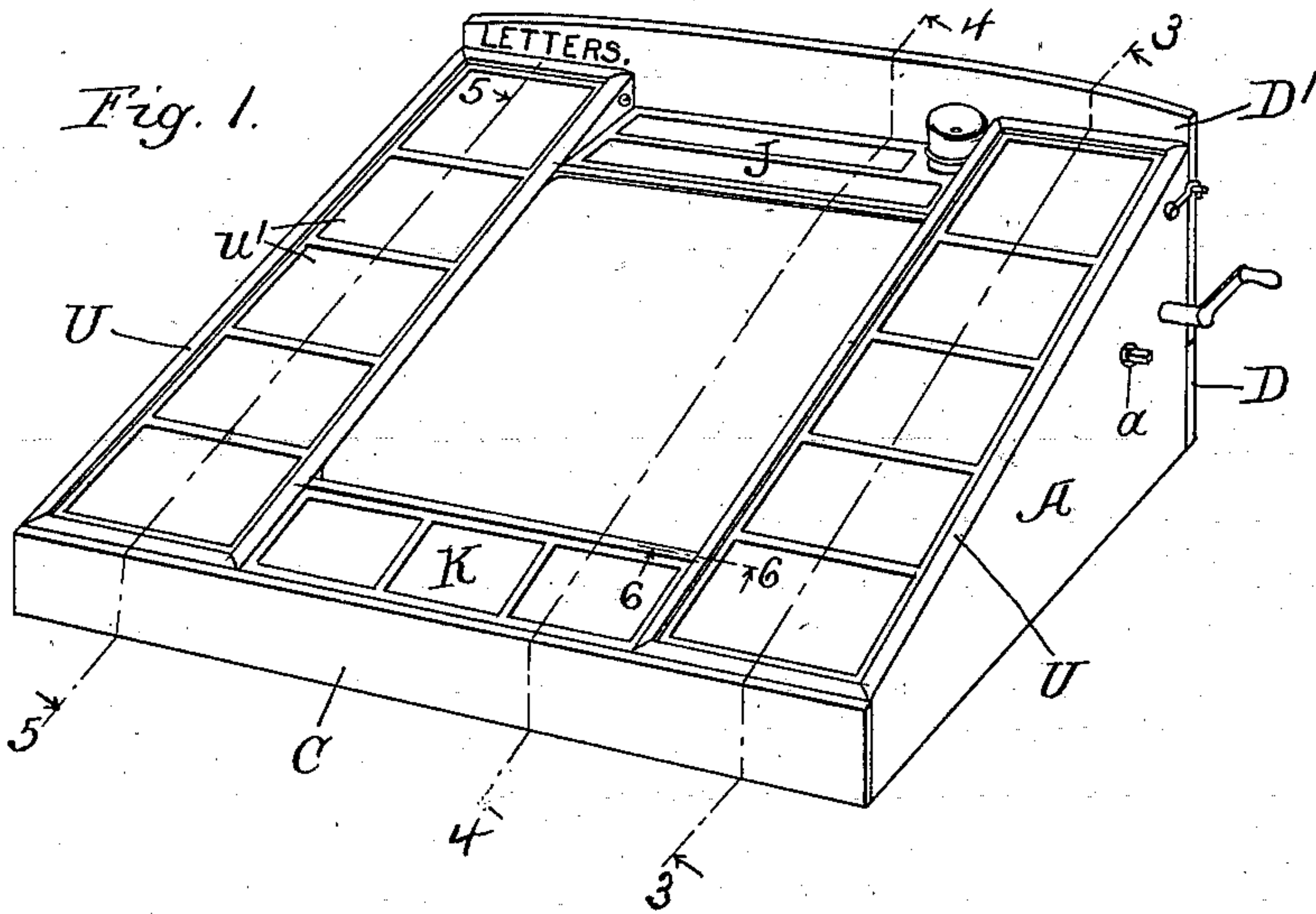
J. W. & W. L. E. APPELYARD.

REGISTER DESK.

(Application filed Dec. 6, 1899.)

(No Model.)

2 Sheets—Sheet 1.



Witnesses.  
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by *Benton and Benton*  
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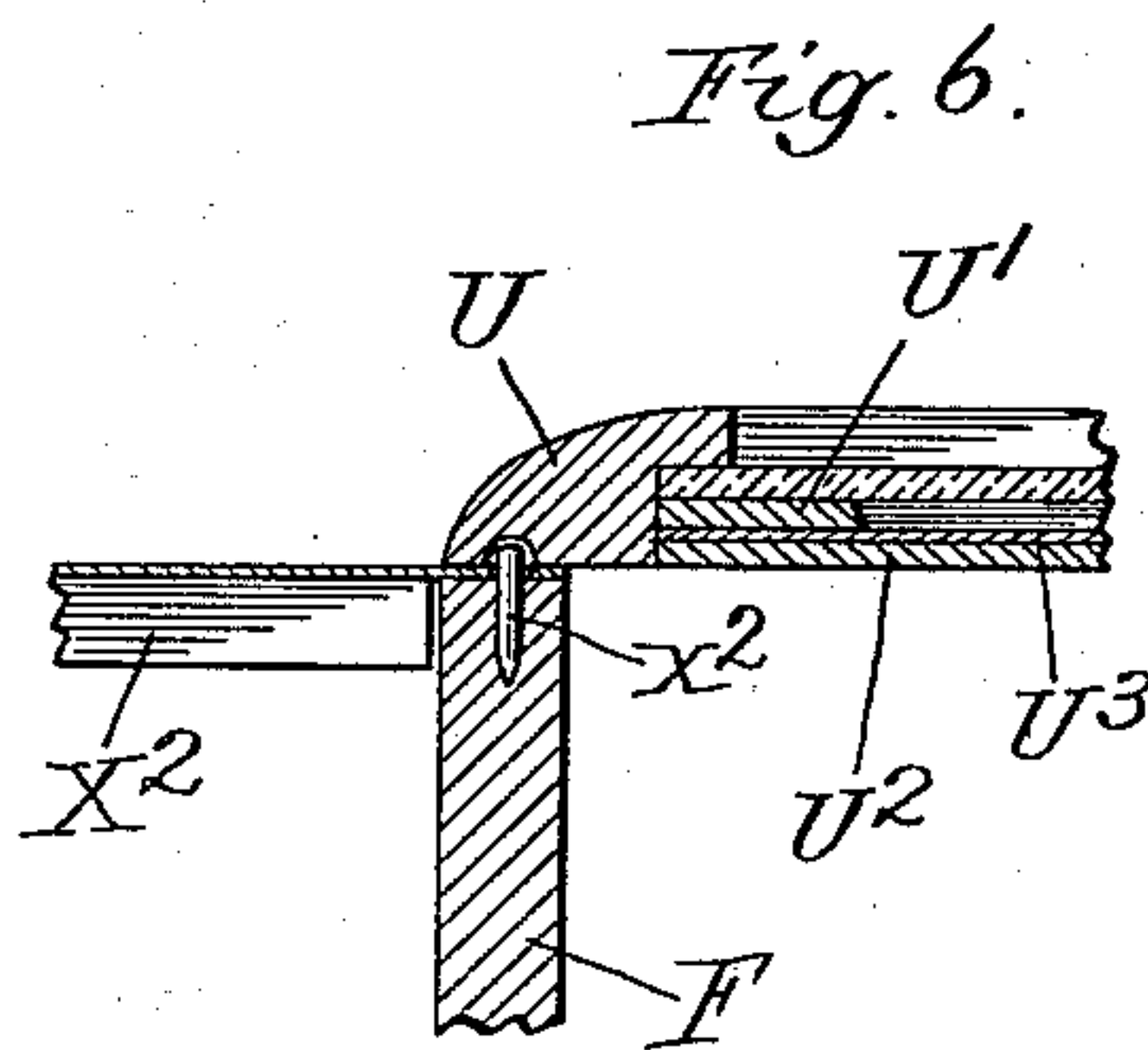
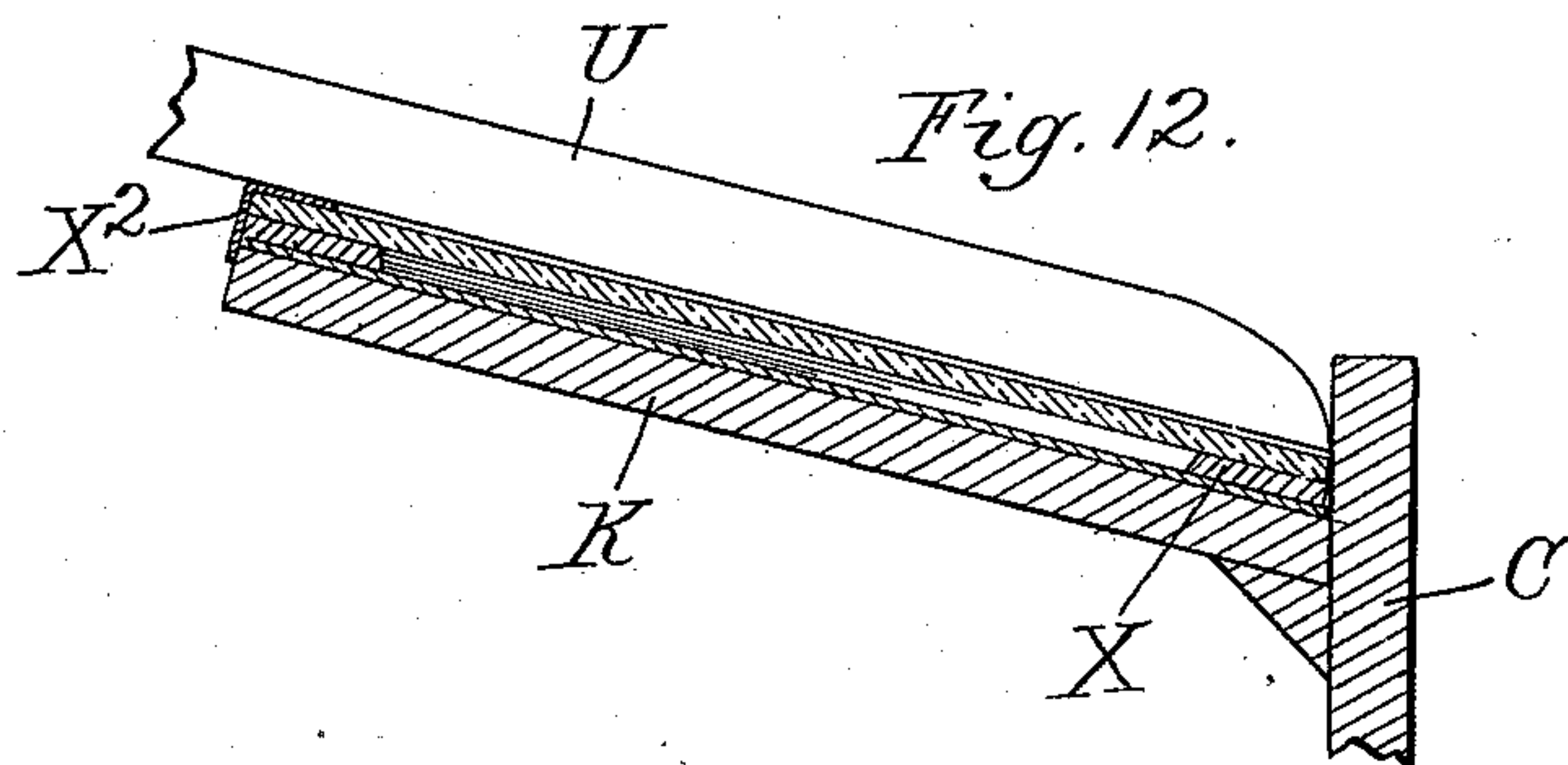
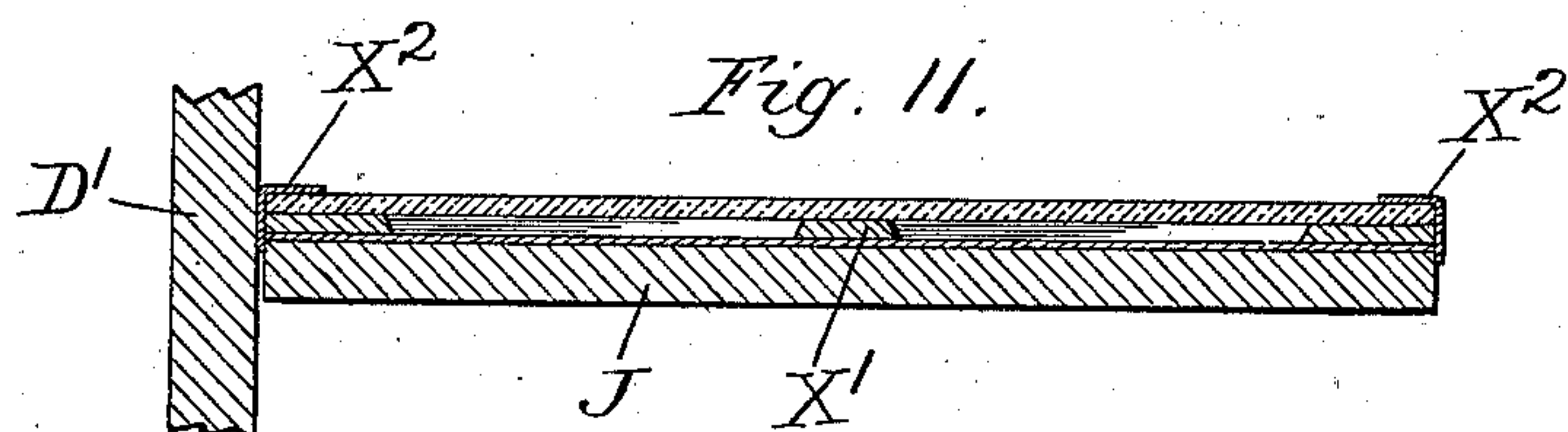
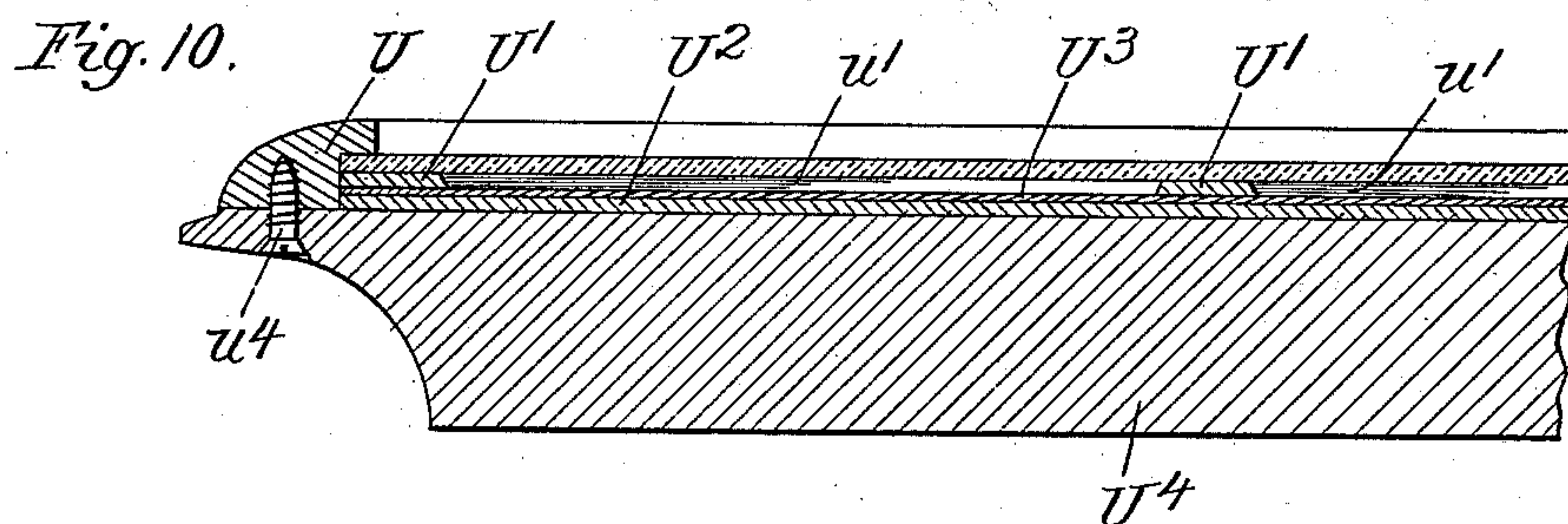
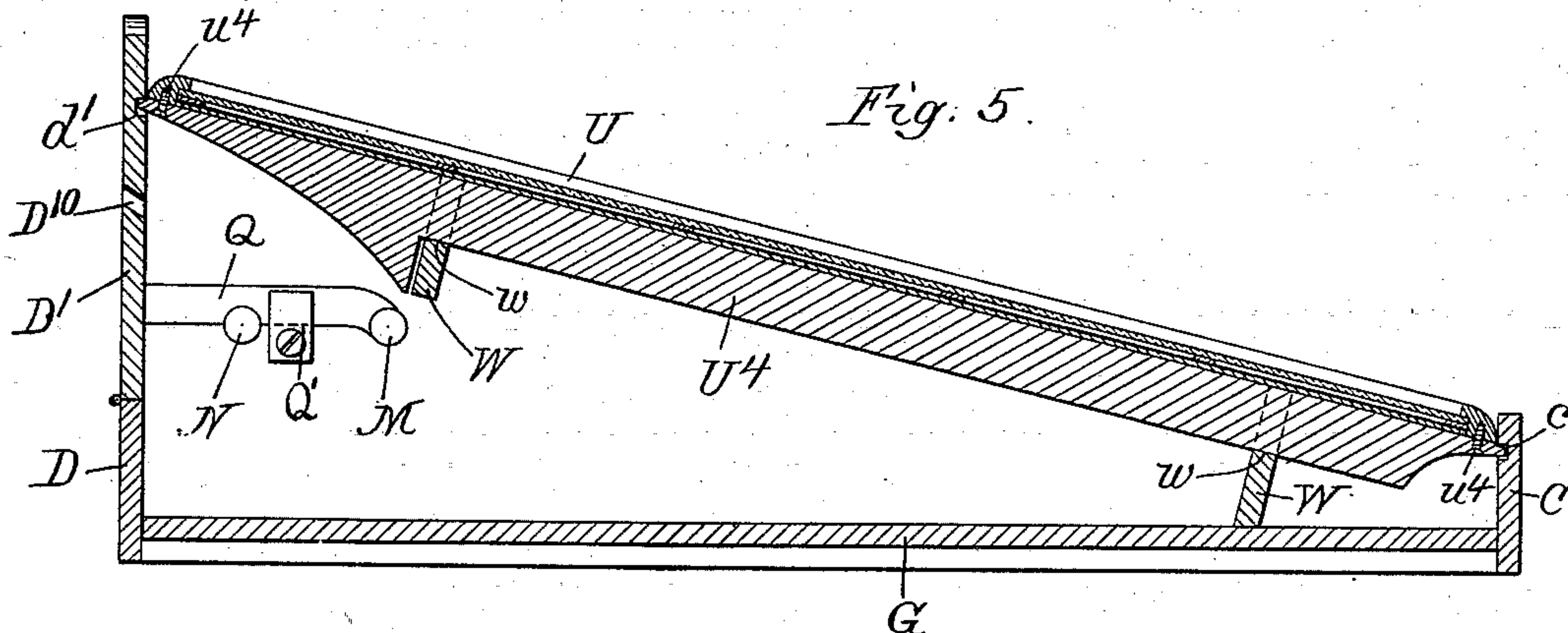
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2 Sheets—Sheet 2.



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# UNITED STATES PATENT OFFICE.

JOHN W. APLEYARD AND WILLIAM L. E. APLEYARD, OF ODEBOLT, IOWA.

## REGISTER-DESK.

SPECIFICATION forming part of Letters Patent No. 651,815, dated June 19, 1900.

Application filed December 6, 1899. Serial No. 739,338. (No model.)

*To all whom it may concern:*

Be it known that we, JOHN W. APLEYARD and WILLIAM L. E. APLEYARD, citizens of the United States, residing at Odebolt, county of Sac, and State of Iowa, have invented certain new and useful Improvements in Register-Desks, which are fully set forth in the following specification, reference being had to the accompanying drawings, forming a part thereof.

In the drawings, Figure 1 is a perspective view of our improved register-desk. Fig. 2 is a rear perspective view showing the same open for access to the interior parts. Fig. 3 is a section at the line 3 3 on Fig. 1. Fig. 4 is a section at the line 4 4 on Fig. 1. Fig. 5 is a detail section at the line 5 5 on Fig. 1. Fig. 6 is a detail section at the line 6 6 on Fig. 1. Fig. 7 is a side elevation of a key-block for the bearings of the register-rolls. Fig. 8 is a sectional side elevation of the tension-clamps, the shaft of the rollers being shown in transverse section between the clamps. Fig. 9 is a sectional plan of the roll on which the paper is wound, section being made axially through a line at one end to show the connection with the shaft. Fig. 10 is a detail section, on an enlarged scale, longitudinally through the card-panels, the section being in the same plane as Fig. 3. Fig. 11 is a similarly-enlarged detail through the head-board and across the head-panel in the same plane as Fig. 4. Fig. 12 is a similarly-enlarged detail section through the footboard and lower panel in the same plane as Fig. 3.

Our improved desk is designed to carry a continuous roll of paper suitable for a register, such paper being wound from a supply-roll about a suitable guide-roller over a suitable platen or desk, above which it is exposed for use, and thence about a suitable guide-roller and to the take-up roll. The supply and take-up rolls are provided with suitable shafts which protrude from the case and are arranged to be operated by proper key to wind the paper from either roll to the other. The space at each lateral margin and at the head and foot of the platen, over which the paper is exposed for use as a register, is arranged to be occupied by advertising and announcement cards, and the frames in which these cards are inserted are especially con-

structed to facilitate their removal and insertion and so that the frames are rigidly and securely held in place notwithstanding such facility. The supply and take-up rolls are arranged also to be readily removed and re-instated when it is necessary to change the paper and are provided with devices for checking their movement, so that the paper may be wound and held taut on the desk or platen. Our invention relates to the details of construction by which these several purposes are accomplished.

The desk comprises a piece of cabinet-work the exterior elements of which are the two side cheeks A and B, head and foot boards D and C, to the latter of which there is hinged the head-door D', the bottom G, and the desk-top, comprising elements hereinafter mentioned specifically.

F F are fore-and-aft vertical diaphragms or partitions corresponding in outline substantially to the cheeks A and B, extending parallel thereto at about equal distances from said cheeks, respectively, and rigidly united with the bottom and head and foot boards.

The desk-top comprises three panels or parts secured to the partitions F F—to wit, the desk or platen H, over which the paper runs, a foot-panel K, and a head-panel J. Between the platen H and the foot-panel is the guide-roller O, journaled in the partitions F F, and between the platen H and the head-panel J is a guide-roller P, similarly journaled. Below and toward the head from the roller P there are journaled the two paper-rolls M and N, the former being the supply-roll and the latter the take-up roll, the paper extending from the roll M forward horizontally about the guide-roll O, up on the platen H, about the roller P, and down rearwardly to the take-up roll N. The rolls M and N are each provided with a slot and key for securing the end of the paper. The structure is represented in Fig. 9 lettered with reference to the roll N, *n* being the slot and *n'* the key, the structure being one which is familiar for such purposes. The rolls M and N being alike in every respect the description of the roll N will suffice for both. The roll is reduced at N' and N<sup>2</sup> for bearings in the partitions F F. The rolls do not extend beyond the left-hand partition, the reduction being



at the very end of the roll; but at the right hand they extend between the partition and the cheek A for the purpose of permitting them to be coupled to the shafts R R. For this purpose each roll is bored at the right-hand end for a moderate distance to admit the shaft, which is inserted endwise through a suitable aperture  $a$  in the cheek A, and the head-door D' being turned down, as seen in Fig. 2, and access opened through the space in which the coupling is made, the shaft inserted from the outer side is secured by a coupling-pin  $r$ , inserted through the roll and shaft at suitable apertures provided for that purpose.

The introduction of the rolls into their bearings must be accomplished by inserting them laterally, not only because they are reduced in diameter at their bearings, but because the supply-roll when inserted and the take-up roll when removed will be loaded with paper, so that it could not be withdrawn otherwise than laterally, and for this purpose we cut from each of the partitions F a key or bearing-cap Q, making an opening and pathway from both bearings to the rear edge of the partition, so that the rolls may both be introduced laterally from that edge. The width of this key and the aperture which it occupies when in place, and which is opened when the key is removed, is enough greater than the diameter of the bearings N' and N<sup>2</sup> to permit the roll to be introduced easily. At the lower edge it contains the upper half of the bearing of the rear or take-up roll N, and at the inner end it contains substantially half of the bearing of the inner or supply roll M. The two bearings being substantially at the same level, the formation of the half of the one bearing in the lower edge and the half of the other in the inner end involves giving to the inner end of the key the curved portion shown in Fig. 8, and by making it in this form the path which is thus opened to said bearing of the roll M trends downward toward the seat of the roll in the bearing, so that when introduced it tends to roll into its seat, thus facilitating the manipulation of the rolls during the process of adjusting them. The key at the left-hand end is readily introduced laterally from the space between the left-hand partition F and the cheek B. In order to similarly introduce the key at the right-hand end, the roll N is reduced at the part N<sup>2</sup> for a distance double the thickness of the key, so that the key can be withdrawn laterally and removed upwardly. A button Q' may be employed to retain the key against lateral displacement in the direction in which it is inserted. The inner shoulder of the reduced portion of the roll checks and retains it in the other direction. For the purpose of suitably checking the rolls to enable the operator to put the paper under proper tension to prevent it from being slacked and distorted in use, we provide a clamping device (shown in Fig. 8) consisting of a bar T, which extends underneath

both the shafts R, and separate bars T' T', lodged above the bar T and each lapped upon one of the shafts R at one end, while the other end is secured to the lower bar by a clamping-bolt. For this purpose we use an ordinary stove-bolt, with its slotted head at the upper side of the upper bar and the nut at the lower side of the bar T, and a screw-driver can be used to apply the tension to each of the bars, respectively. This is desirable, because when the supply-roll is full and the take-up roll is empty, or nearly so, the tension required of the shaft of the full roll is greater and on the shaft of the empty roll less, and when the conditions are reversed the tension should be reversed. It is not intended to indicate by this statement that any special accuracy is necessary, but that the tension which may be necessary to prevent slack when the supply-roll is full may put too great strain on the paper when that roll becomes nearly empty, so that the paper would be liable to be ruptured in winding from the supply to the take-up roll unless the tension were slacked; and for like reason the tension which might be necessary to apply to the take-up roll when it is nearly full might be too great for the safety of the paper when that roll is nearly empty, and an occasional adjustment, therefore, of these tensions as the paper runs from one roll to the other in the desk may be found desirable.

An important feature in the utility of this desk consists in the advertising or card spaces, and it being desirable to obtain access from the top to the chambers between the cheeks and partitions for different purposes—as, for example, adjustment of the tension above described and also because the spaces may be utilized as receptacles—we have provided a special structure by which the cards in the several advertising-spaces are easily inserted and removed, and the entire panel on each side containing these cards may be handled bodily to uncover the space beneath. These panels are identical in structure, and the description of one will suffice. The panel comprises a frame U, rabbeted at the back to receive a mat U', apertured at  $u'$  according to the number of card-spaces desired, a back U<sup>2</sup>, of thin board, and the advertising-card U<sup>3</sup> between the mat and the back. To retain the back, advertising-card, and mat, we provide a longitudinal rib U<sup>4</sup>, extending from end to end of the frame U and arranged to be secured to the end bars of the frame by screws, as seen at  $u^4$ , set into each of said bars. This rib extends at each end a little beyond the frame and is arranged to take into recesses formed in the footboard C and in the head-board D', as seen at  $c$  and  $d'$ , respectively, Fig. 3.

W W are cross bars or ribs extended across the spaces between the cheeks and partitions F F', respectively, toward the front and toward the rear, (see Fig. 3,) both for the purpose of stiffening the partitions and also for



the purpose of definitely lodging the card-panel frames U, these partitions W being notched at *w* to receive the bar U<sup>4</sup>, the notch being of such depth as to stop the bar, and thereby lodge and definitely determine the position of the frame, thus taking the strain off from the margin and transmitting it chiefly to the bar, which is comparatively heavy. When the frames U are put in place, by inserting the lower ends of the bars U<sup>4</sup> into the recesses *c* in the footboard and then dropping the bars into the notches *w* the headboard D' may be then swung up into place, so that its recesses engage the upper ends of the bars, and the door being hooked or locked in any suitable manner retains the frames in their place.

Upon the foot-panel K and upon the head-panel J there are lodged suitably-apertured mats X X', under which, corresponding to their apertures, advertising-cards may be placed, the mats being held in place by glass panels laid over them and retained by engagement under the inner edges of the frames U, and to retain the glass and mats against moving up or down we provide an angle-guard X<sup>2</sup> of sheet metal, (see Fig. 6,) the horizontal lip of which laps the lateral margin of the glass, while its vertical lip guards the edge, and these angle-guards at their ends extend under the edges of the frames U and are retained thereby, the vertical lip being cut away so as to extend down between the partitions F F, while the horizontal lip only laps onto the edge of the partitions under the frames U U, and a tack or dowel-pin *x*<sup>2</sup> is driven into the edge of the partition and extends through the horizontal lip—that is, so arranged that the lip apertured may be dropped onto the pins when it is put in place, and thus checked against lateral displacement.

The chamber inclosed between the left-hand cheek B and the partition F at that side is utilized as a letter-receptacle, and a letter-slot D<sup>10</sup> is made through the head-door D' to admit the letters, which are removable by opening said door.

We claim—

1. In a register-desk, two fore-and-aft vertical partitions, and the platen which extends between their upper edges; the register-sheet arranged to run over the platen, and the supply and take-up rolls for such sheet journaled in the partitions, said partitions having each an avenue or path from its rear edge leading to the bearings of the two rolls; a key or journal-box cap adapted to be inserted in and fill said path after the rolls are in their bearings, and a locking device to retain such key.

2. In a register-desk, two vertical fore-and-aft partitions and a platen or tablet extending between their upper edges, the register-sheet arranged to run over such platen, and the supply and take-up rolls for such sheet; each of the partitions having an avenue or path from its rear edge to the bearings of the two rolls; a removable key-piece which occu-

pies and closes said path and has in its edge one-half of each bearing, such keyed pieces being adapted to be removed and replaced laterally, and a locking device to retain them against lateral displacement.

3. In a register-desk; a pair of fore-and-aft vertical partitions; the platen which extends between them; the register-sheet running over the platen, and the supply and take-up rolls for such sheet journaled in the partitions, each of said partitions having a path or avenue from its rear edge leading to such bearings; a key or journal-box cap adapted to occupy and close said path, said key having in its inner or forward end half the seat or bearing for the inner roll and in its lower edge half the seat or bearing for the outer or rear roll, said keys being adapted to be removed laterally from the partitions respectively, and locking devices to prevent their lateral displacement.

4. In a register-desk, a pair of fore-and-aft vertical partitions and a register-supporting platen extending between them; the register-sheet extending over such platen, and the supply and take-up rolls for such sheets journaled in the partitions and reduced in diameter at their journal-bearings therein, whereby they are longitudinally checked in both directions by the partitions when in their said bearings; said partitions having an avenue from the rear edge to the two journal-bearings; a key-piece adapted to occupy and close such path, and having in its edge half of each of the bearings; said key-pieces being adapted to be removed and replaced laterally, and a button on the outside of each of the partitions adapted to lock said pieces against displacement by lateral movement outward.

5. In a register-desk, lateral cheek-pieces and suitable framing to connect them rigidly; a pair of fore-and-aft vertical partitions between the cheek-pieces having the bearings for the register-rolls, such rolls protruding through one of the partitions and terminating in the chamber formed between that partition and the proximate cheek, and axially bored from the ends in the protruding portion, in combination with winding-shafts inserted through the cheek into such axial bore, and protruding outside the cheek; the case having a head-door through which access is afforded to the rolls in said chamber, and removable pins inserted through each roll and shaft to pin them together.

6. A register-desk, comprising a platen occupying the middle portion of the width, and flanked on both sides by card-spaces; vertical fore-and-aft partitions which support the platen at its lateral edges and form the inner walls of lateral fore-and-aft chambers underneath the card-spaces; rollers journaled in said partitions at the head and foot of the platen, arranged to actuate the web of paper over the latter, the mechanism for operating said rollers being located in one of said lateral chambers, the other lateral chamber be-



ing unoccupied by mechanism; the head-door which closes the chambers arranged to be opened to afford access thereto having a letter-slot at the portion which closes said unoccupied chamber.

7. A register-desk comprising a case and supply and take-up rolls journaled therein having shafts which protrude outside the case, a tension device comprising a bar extending underneath both shafts, and separate clamp-bars extending over said shafts respectively, and bolts which clamp said upper bars independently of each other to the lower bar.

8. In a register-desk, a case comprising a footboard and a head-door; a register-platen and card-panels at the sides thereof, the card-panels consisting each of a frame adapted to be filled from the back; a back-board to re-

tain the contents of the frame, and a longitudinal binding bar or rib extending behind the back-board to retain the latter, secured to the end bars of the frame and projecting beyond the same, the footboard and head-door having recesses which receive and engage the projecting ends of the bar, whereby the head-door, when closed, locks the frame and its contents in place on the desk.

In testimony whereof we have hereunto set our hands, at Odebolt, Iowa, in the presence of two witnesses, this 2d day of November, 1899.

JOHN W. APPLEYARD.  
WILLIAM L. E. APPLEYARD.

Witnesses:

B. BRYNTERON,  
JOHN H. KETTERER.