

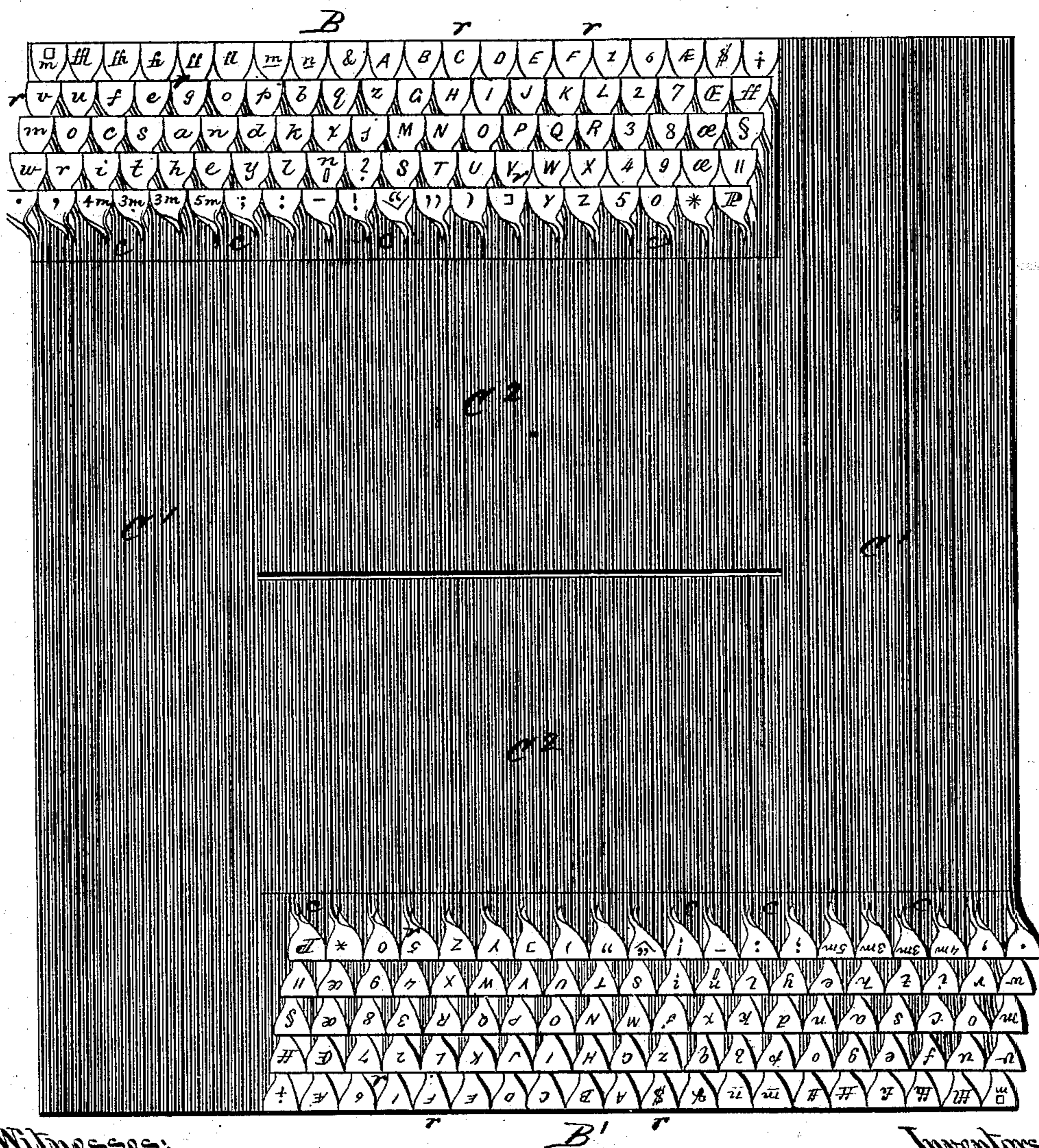
L. K. JOHNSON & A. A. LOW.

TYPE DISTRIBUTING APPARATUS.

No. 282,988.

Patented Aug. 14, 1883.

Figure 1.



Witnesses:

M. J. Matt
B. A. Phillips

Inventors:

Louis K. Johnson and
A. Augustus Low
By their attorney
Geo. H. Mott

(No Model.)

4 Sheets—Sheet 2.

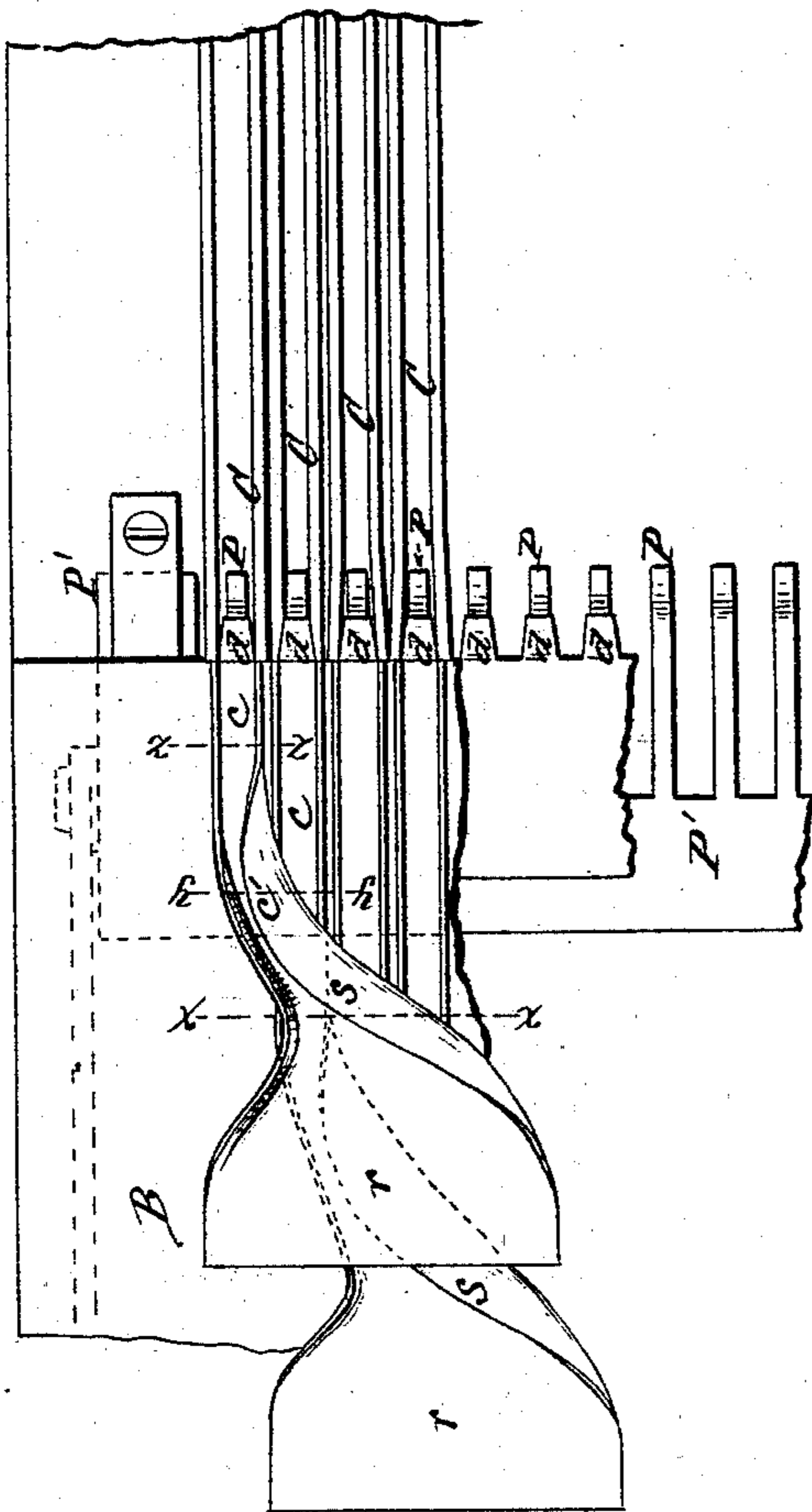
L. K. JOHNSON & A. A. LOW.

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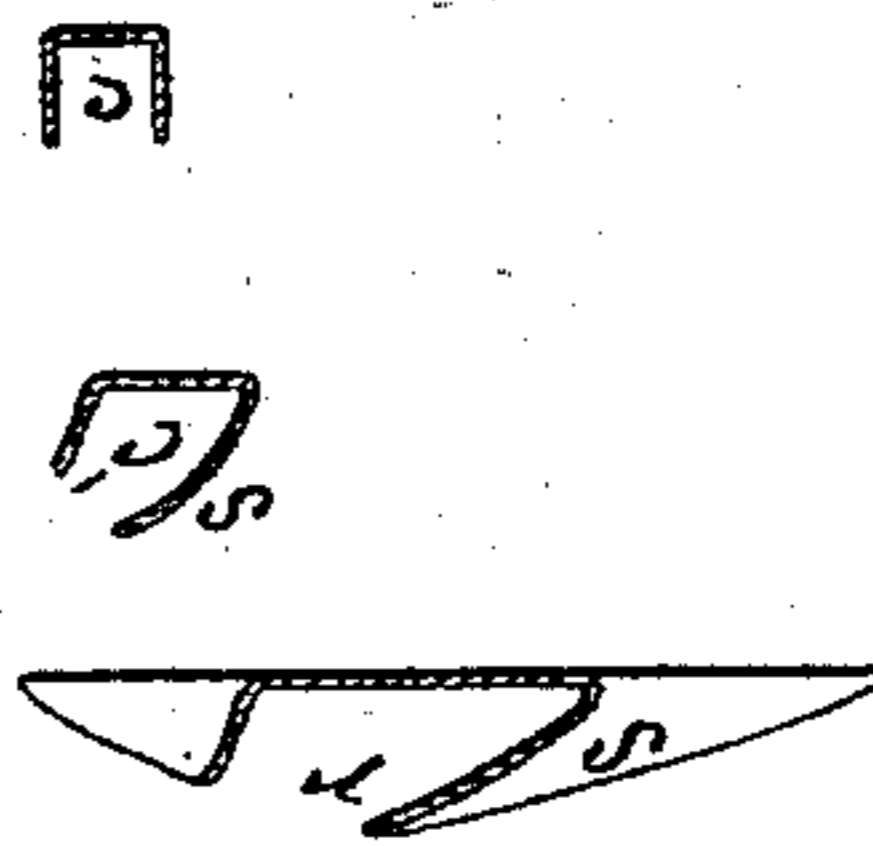
No. 282,988.

Patented Aug. 14, 1883.

Figure 2.



Figures 3, 4 & 5.



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(No Model.)

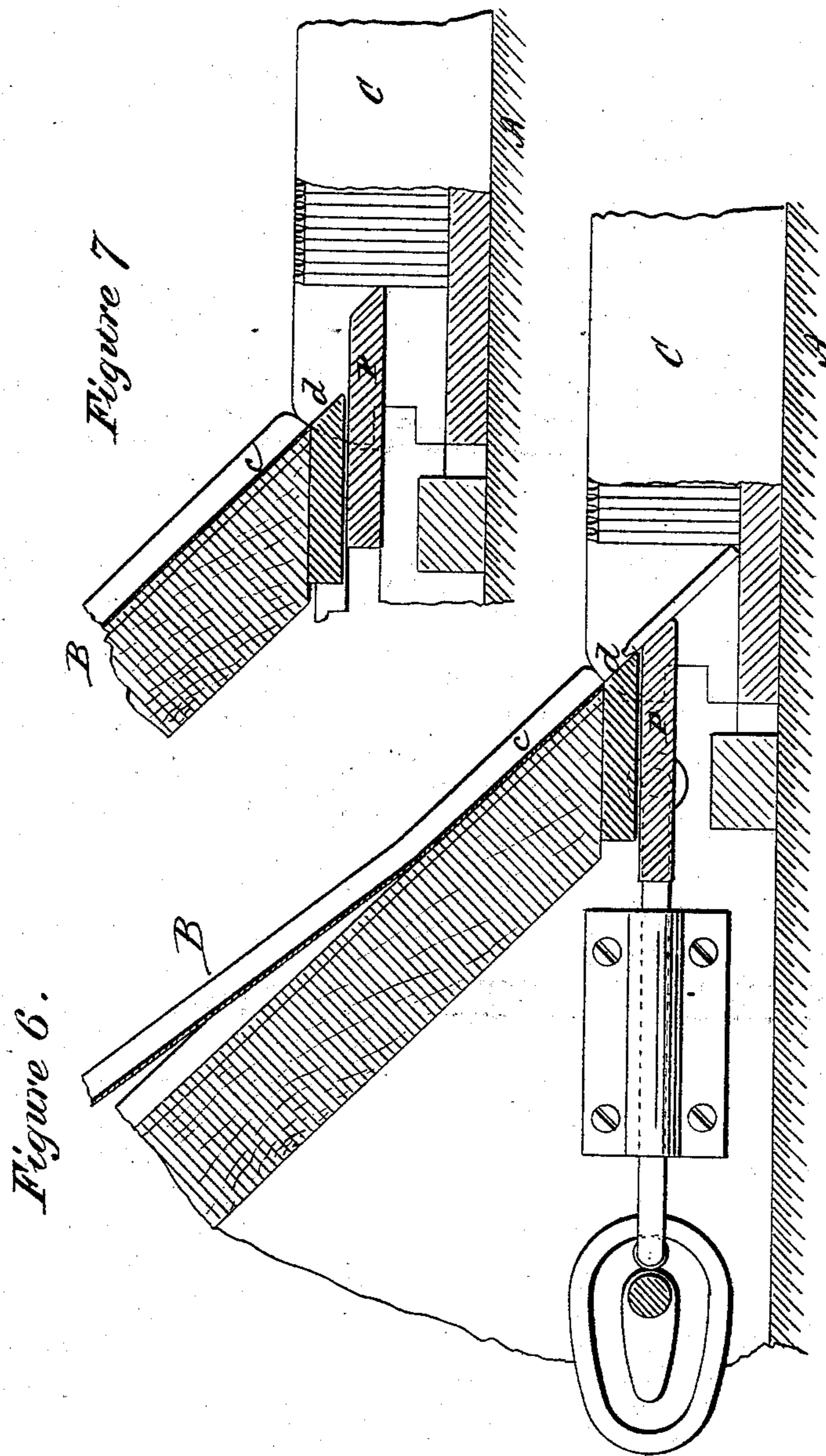
4 Sheets—Sheet 3.

L. K. JOHNSON & A. A. LOW.

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Witnesses:
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(No Model.)

4 Sheets—Sheet 4.

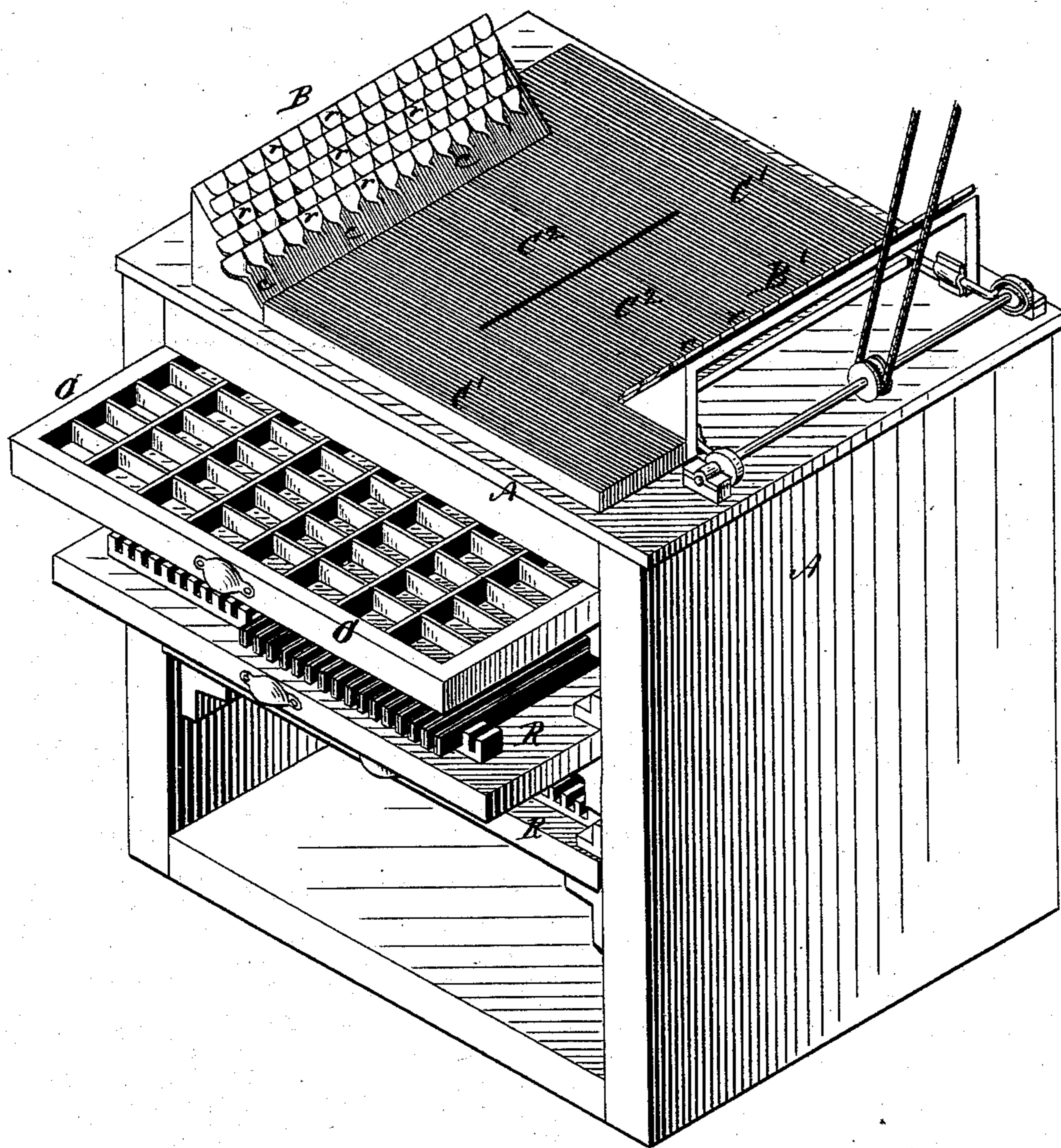
L. K. JOHNSON & A. A. LOW.

TYPE DISTRIBUTING APPARATUS.

No. 282,988.

Patented Aug. 14, 1883.

Figure 8.



Witnesses:

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R. A. Phillips

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UNITED STATES PATENT OFFICE.

LOUIS K. JOHNSON AND A. AUGUSTUS LOW, OF BROOKLYN, NEW YORK.

TYPE-DISTRIBUTING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 282,988, dated August 14, 1883.

Application filed February 13, 1882. (No model.)

To all whom it may concern:

Be it known that we, LOUIS K. JOHNSON and A. AUGUSTUS LOW, citizens of the United States, residing in Brooklyn, in the county of Kings and State of New York, have invented a new and useful Type-Distributing Apparatus, of which the following is a specification.

Our invention relates to that class of type-distributing apparatus in which the separate types are deposited by hand in receivers, from which they are conducted to and arranged in a prescribed manner in transferable containing-channels adapted to be used in type-setting apparatus.

The first feature of our present invention consists in the special arrangement and combination of parts in such manner that the apparatus is adapted to receive and accommodate a double "case" of type, or two complete sets of characters, in a space but little greater than that formerly required for a single case. Two operators may thus be employed at the same time in distributing upon the same apparatus. Aside from the economy in cost and space thus attained by the use of our duplex apparatus under any circumstances, it is particularly adapted to be used in connection with the type-setting apparatus invented by and patented to Louis K. Johnson, for the reason that a compositor working with one of the said type-setters is enabled to "set up" nearly twice as fast as the type can ordinarily be distributed by hand, and consequently one of our duplex distributing-cases would always form a proper adjunct to each setting apparatus.

The object of the second feature of our invention is to adapt the apparatus to the distribution of different sizes of type; and it consists in forming the lower ends of the conduits (which are made of sufficient width to conduct the largest size of type) so as to permit them to enter and engage with containing-channels of different widths, and in correspondingly flaring or widening the mouths of the smaller sizes of said containing-channels, so as to cause the inner surfaces of their side walls to connect and form continuations of the side walls of the conduits, thus furnishing a smooth continuous lateral support for the descending type.

In the accompanying drawings, Figure 1 is

a plan of our duplex distributing-table, showing the relative arrangement of the containing-channels and the banks of receivers and conduits; Fig. 2, a plan of a portion of the apparatus, full size, parts being broken away to show details. Figs. 3, 4, and 5 are transverse sections of a receiver and conduit, taken, respectively, on lines $x x$, $y y$, and $z z$, Fig. 2. Figs. 6 and 7 are corresponding vertical sections, showing the method of depositing and forwarding the type; and Fig. 8 is an isometrical view, showing the general form of our duplex distributing-table and the combination therewith of the auxiliary compartment-case and the sliding channel-racks.

Two banks, $B B'$, of receivers and conduits are arranged, one at each end of the table or bed A , and facing each other. Each bank is preferably composed of one hundred receivers, r , and their conduits c , that number having been found sufficient to accommodate all of the characters in a "font" of type which are most frequently employed in printing; but there are still other denominations of type included in a complete font that are, comparatively speaking, only occasionally required, for which it is still desirable to provide some convenient means of disposition—as italics, small-capitals, &c.—and which, if provided for in the cases or banks upon the table, would unduly increase the width of the apparatus, so that their particular receivers would not be within convenient reach of the operator, while the cost of the apparatus would be nearly doubled. In order to furnish a ready and convenient means of disposing of these extra types, we provide an auxiliary compartment drawer or case, O , sliding in suitable ways underneath the table or bed A , and capable of being drawn out on either side of the latter, so as to be equally accessible to both operators.

In regard to the remaining one hundred characters, it has been demonstrated that about thirty of these are required two or three times as often as the other seventy. We therefore arrange the receivers for these thirty preferred characters at the end of the bank nearest the position of the operator, and employ thirty long channels, C' , to receive the type therefrom. The banks $B B'$ are arranged a distance from each other equal to the length of these

long containing-channels C' , less the width of one bank, and are placed relatively upon opposite sides of the table, so as to permit the outer ends of each of the sets of the said thirty long containing-channels to project beyond the front of and at the side of the opposite bank farthest from the position of its operator. The seventy remaining containing-channels C'' required for each case or bank are made of a length which is equal to a little less than half the distance between the opposite banks, so that both sets of short containing-channels can be compactly arranged end to end in the space between the said banks and the opposite sets of long channels. Every inch of available space is thus fully utilized, and the capacity of the apparatus practically doubled and adapted to the use of two separate operators at the same time without materially increasing the size of the apparatus over that of a single case, as heretofore constructed.

The lower portion of each receiver r is formed with a "trip," or type-controller, s , which insures the descent of each type upon its "flat" or broadside before it can pass through the conduit. This trip consists, essentially, of an inwardly-projecting flange, formed preferably by bending over the lower portion of one side wall of the receiver toward the floor of the latter a sufficient distance to prevent the passage of a type while riding upon its edge. To insure the contact with this trip of each type dropped into the receiver, the passage or channel c' , (of which the trip s forms the lower side wall,) between the receiver r and the straight portion c of the conduit, is curved laterally a sufficient distance to bring the main portion of the receiver beyond and to one side of its conduit. The combined effect of the incline and curve in the lower side wall of the receiver is to turn all types that ride down upon their edges over upon their flat or broad sides, in which position they are at liberty to pass down into and through the conduit.

In order to adapt the apparatus to the distribution of types of all sizes, we make all the conduits of sufficient width to accommodate the largest type to be used. The centralizing tongues or continuations d of the conduit floors which project into and sustain the containing-channels at that end are, however, made tapering or wedge-shaped, so as to enter the ends of channels varying in width according to the size of the type to be distributed. The ends of all but the widest containing-channels C are also correspondingly flared or chamfered to fit over the conduit projections d , and so as to connect the inner surfaces of their side walls with those of the conduits, as shown in Fig. 2, and thereby furnish a smooth continuous lateral support for the descending type. An important feature of this construction is that we adapt a single apparatus to the distribution of types of all sizes, and at the same time avoid the necessity of a single mechanical change or

adjustment of parts, the simple substitution of one set of channels for another being all that is requisite. The saving in cost of apparatus and economy of space thus attained is also an important consideration to users.

The conduits c are inclined at an angle that will allow the types to descend gently by their own gravity. The tongues d , which are practically continuations of the floors of the conduits, project into the containing-channels when the latter are in position. The containing-channels extend horizontally, or nearly so, in front of the conduits, so that a type will descend into any of them at an angle corresponding to that of the floor of the conduit. This angle it will maintain until raised and forwarded by the forward stroke of the pusher P , by reason of its foot resting in the angle formed between the floor of the containing-channel and the last preceding type, while its upper portion rests against the projection d of the conduit-floor and the front of the pusher. The last preceding type is always ready to thus receive and sustain the next succeeding type, because the movement of the pusher is so regulated as to leave the former type in such position that the apex of the angle between it and the floor of the containing-channel will always be directly in the line of incidence of the descending type. The front ends of the pushers are beveled to the same angle as that of the conduits, and they are so regulated that when in their retracted position their front edges will coincide with and form continuations of the floors of the conduits, thus adapting them to assist in conducting the types gently to the floors of the receiving-channels.

The pushers are preferably made together in the form of a comb, P' , which is reciprocated in any suitable manner, and they are so mounted with relation to the positions of the channels that in advancing they bear first upon the inclined type at a point above its center. We prefer to make the pushers intermittent in their action by means of cams, as indicated in Fig. 6, or by other suitable means, so arranged as to allow them to remain stationary in the retracted position the greater portion of the time, for the purpose of reducing the possibility of their retarding the descent of the types to the minimum degree. By thus conducting each type gently down to the floor of the receiving-channel, controlling it upon the flat until it is so deposited, we practically obviate all danger of rebound or displacement and secure the addition of each type to the column in the prescribed position. By allowing the upper portion of the type to rest against the front edge of the pusher when the latter is in its retracted position it will, during its forward movement, gradually raise the type to the perpendicular and advance it without any jar or pounding. This method of controlling the type upon its flat and lifting it into the perpendicular position after it has reached the floor of the containing-channel, instead of drop-

ping it from above and pushing it suddenly forward, as heretofore, obviously avoids considerable wear and tear upon the type.

For the purpose of affording a convenient means of storing the containing-channels when not actually in use, we provide a series of sliding channel-racks, R R, mounted underneath the distributing-table and auxiliary compartment-case, as indicated in Fig. 8.

What we claim, and desire to secure by Letters Patent, is—

1. A duplex hand type-distributing apparatus, arranged and operating substantially as herein designated, in which two series of comparatively short containing-channels are arranged end to end between the opposite banks of receivers and conduits, while two sets of comparatively long containing-channels occur

py positions respectively upon opposite sides of the shorter channels and beyond the opposed bank of receivers and conduits, substantially as herein described, and for the purposes set forth.

2. A type-containing channel having its side walls at one extremity flared, chamfered, or otherwise widened, so as to receive the beveled or wedge-shaped tongues or continuations of the conduit-floor, in combination with the latter, arranged and operating substantially in the manner and for the purpose herein described.

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ABBOT AUGUSTUS LOW.

Witnesses:

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