

No. 886,314.

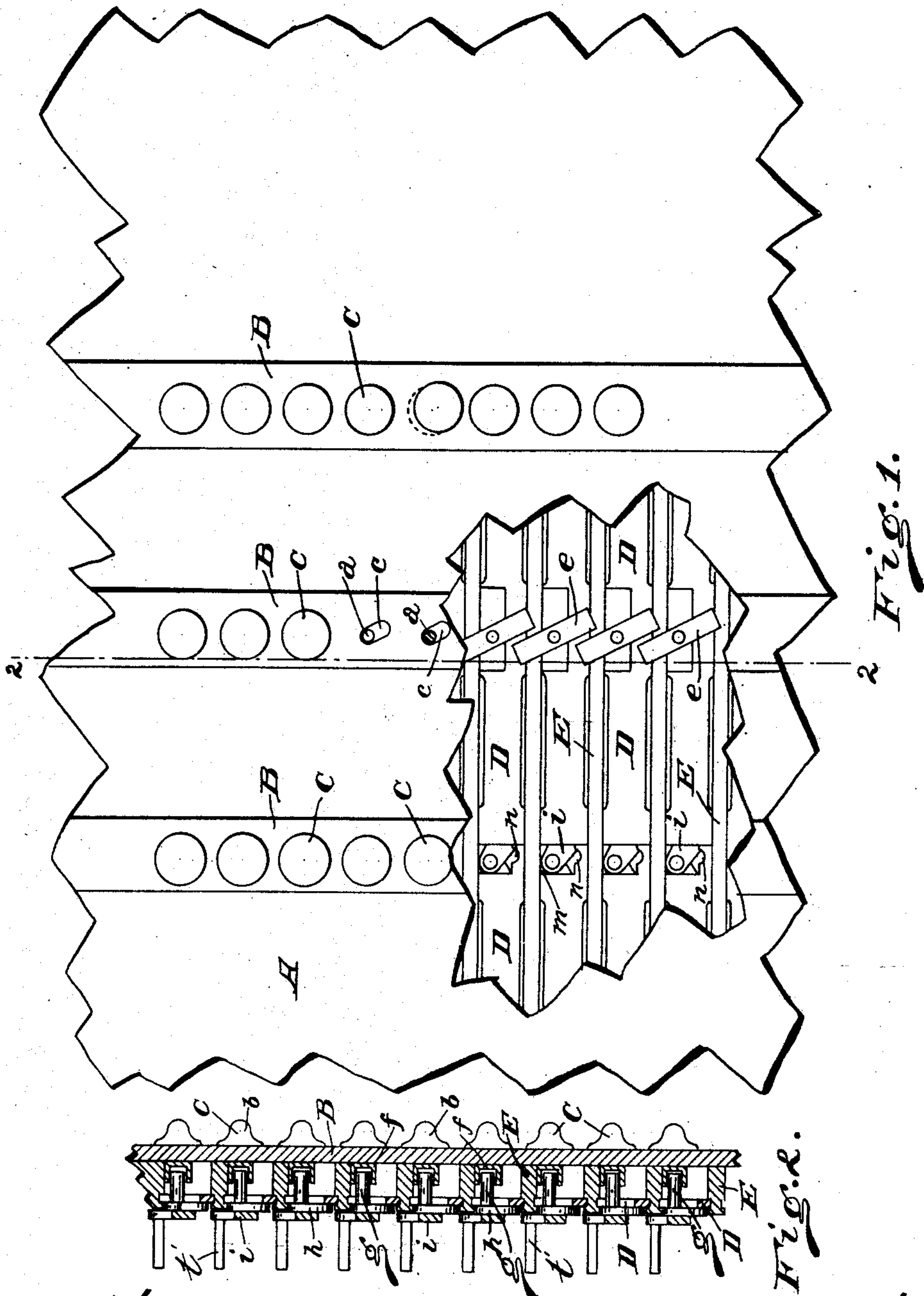
PATENTED APR. 28, 1908.

W. H. DANA.

VOTING MACHINE.

APPLICATION FILED APR. 18, 1904.

2 SHEETS—SHEET 1.



Witnesses

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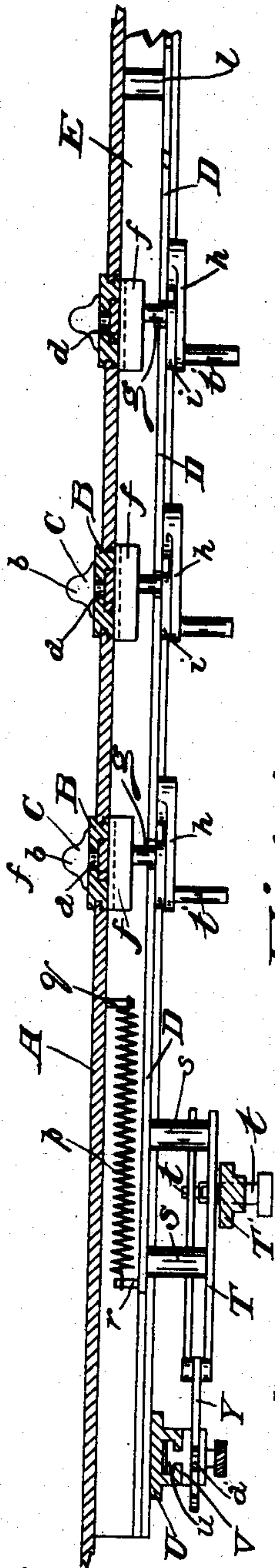


Fig. 4.

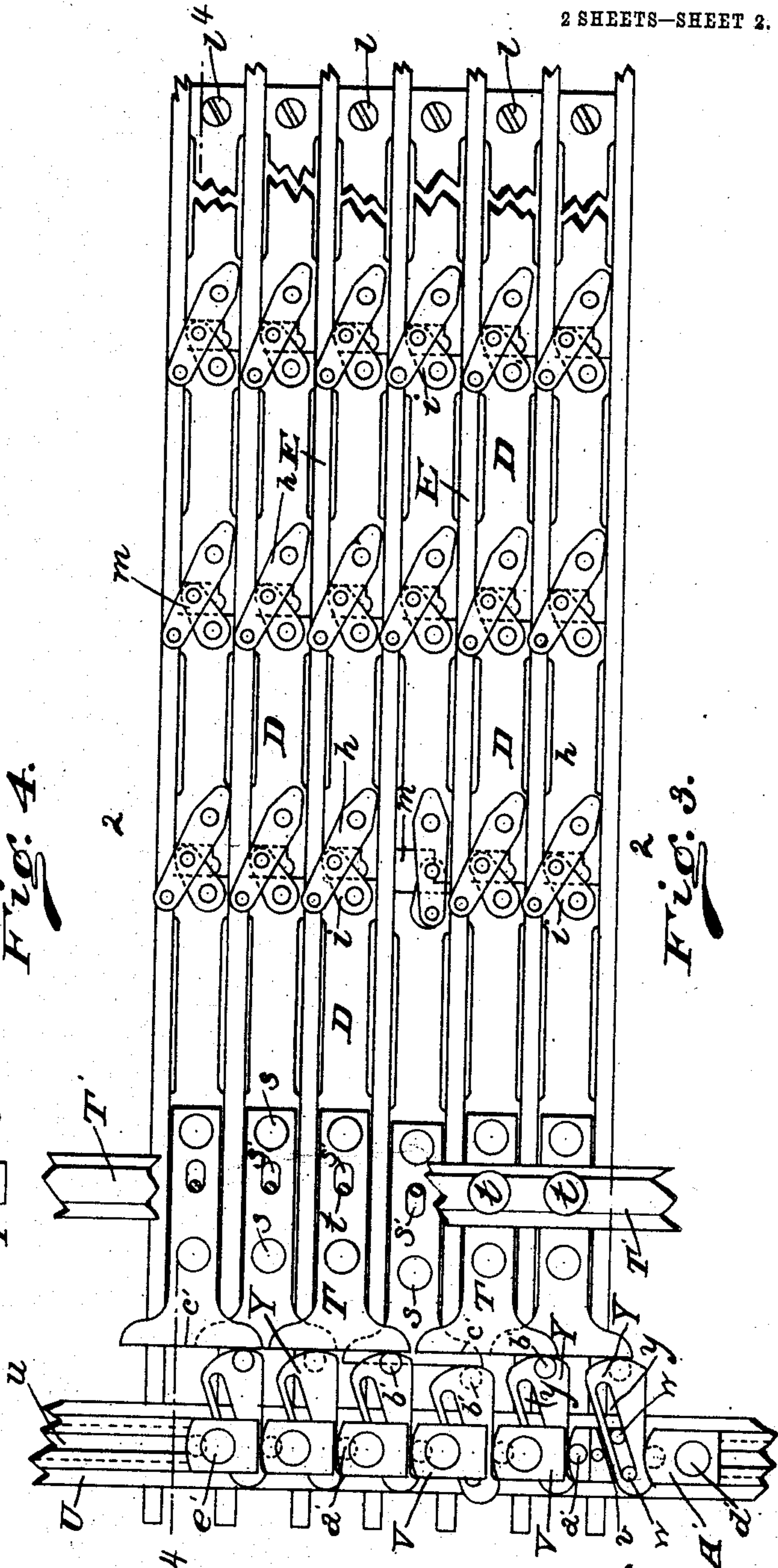


Fig. 3.

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UNITED STATES PATENT OFFICE.

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VOTING-MACHINE.

No. 886,314.

Specification of Letters Patent.

Patented April 28, 1908.

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Serial No. 203,726.

To all whom it may concern:

Be it known that I, WILLIAM H. DANA, a citizen of the United States, residing in Dayton, in the county of Montgomery and State of Ohio, have invented certain new and useful Improvements in Voting - Machines, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to devices for voting machines, for interlocking the voting levers to prevent the elector voting for more than one candidate for a single office, and at the same time to permit the voter to select any names he may wish from a group of tickets when a plurality of names are to be selected for any particular office, a requirement generally known in the art as a provision for multi-candidate or multiple voting.

My invention is especially adapted for the general construction of voting machine shown and described in my certain application for Letters Patent, filed May 6th, 1903, Serial Number 155,898, of which the present application is a division. It will be understood, however, inasmuch as the construction to be hereinafter particularly described and claimed relates only to the devices for multiple voting, and that the construction can be readily adapted to very many of the different kinds of voting machines without departing from the spirit of the invention.

In the drawings Figure 1 is a front elevation of a portion of the voting machine, with a part of the front wall broken away. Fig. 2 is a vertical cross section taken on the lines 2, 2 of Fig. 1, with the registry mechanism removed. Fig. 3 is a rear elevation of a portion of the voting machine showing the interlocking devices with the registry and other mechanism removed. Fig. 4 is a horizontal cross section of the same taken on the lines 4, 4 of Fig. 3.

The voting machine mechanisms are mounted in a suitable casing in any suitable booth, or compartment, arranged to conceal the voter while using the machine, and in the construction of the machine illustrated in my former application, of which the present application is a division, the machine proper is intended to stand vertically with the various tickets containing the names of the candidates and the questions arranged in vertical rows, with the names of the candidates for

the same offices on the various tickets in horizontal rows. It will be understood, however, that the vertical position of the machine, and the arrangement of the tickets in vertical rows, is not at all essential, as the names on the various tickets may be reversed and arranged in horizontal rows, while the candidates for the same office are arranged in vertical rows.

In illustrating my present improvements, I have not thought it necessary to illustrate any parts of the voting machine proper, except those that relate to the interlocking mechanism.

A is the front wall of the machine, and B, B are vertical bars secured to the frame at top and bottom, which bars carry the key levers C, one for each name, which key levers consist of a shank portion *a*, with an enlarged button-like head *b*, made smooth in order to prevent anything being wedged between the key levers, and the buttons are of sufficient diameter to cover the slots *c* through which the shanks *a* of the key levers pass, in order that there may be no opportunity for any one to insert anything through the slots *c* to block the machine. In the spaces between the key lever bars B, the tickets containing the names for the various candidates for each party are inserted so that there will be one key lever for each candidate.

I have illustrated in the portions of the machine shown spaces for three tickets, but it will be understood, of course that the machine is designed to hold as many tickets as may be presented at any election.

The backs of the key lever plates B are provided with a diagonal groove *d* in which rides the bar *e* for each key lever attached to the shank *a*, this bar serving as a guide for the movement of the key lever. On the rear face of the guide bar *e* is secured a channel bar *f*, which engages the central pin *g*, forming the knuckle joint of a pair of toggle levers *h*, *i*. The toggle levers *h*, *i* are pivoted respectively at their lower ends to the sliding blocks D, D. These sliding blocks are arranged to slide horizontally in suitable grooves in the channel bars E, E running from side to side of the machine, and forming a part of the frame-work.

There are a pair of sliding blocks for each key lever, and the block in each channel at the end of a horizontal row is secured to the

frame of the machine by the pin l . The sliding blocks for each pair of toggles abut, and are recessed at m to permit the knuckle pin of the levers to descend and one of the sliding blocks is provided with a slight groove n to receive the knuckle pin, and in this position the knuckle pin is slightly beyond the center line joining the pivots of the levers to the sliding blocks, so that when a voting lever has been operated, and the sliding blocks are spread apart, the spring p , which is secured at one end q to the frame, and at the other end r to the end sliding block of the row, will not throw back the voting lever operated. As soon as the voting levers are released, however, by the operation of the registry mechanism, which is not shown, these springs p return the sliding blocks, and the voting levers, to their normal position. The free sliding block at the end of each row is provided with an abutment plate T mounted on studs s, s . These abutment plates are provided more for features of construction connected with other parts of the voting machine not shown, and the free sliding blocks at each end can be alone used for the interlocking mechanism when desired.

Any suitable means can be employed for limiting the movement of the sliding blocks, so that there will be only space for the movement of a single voting lever in any horizontal row. For this purpose I employ a vertical bar T' secured to the frame of the machine at top and bottom and running across the abutment plates T . This vertical bar T' carries pins t, t , one for each row of sliding blocks, the ends of the pins passing through slots s', s' in the abutment plates. These slots are of sufficient length to allow for the lateral movement of the row of sliding blocks, sufficient to permit one set of toggle levers h, i , to be spread apart by the pulling down of the key lever, but the slot is not sufficiently long to permit any other set of toggles in that particular row to be operated.

In order to allow the selection of the proper number of any group of candidates to be elected for any office, it becomes necessary to permit a plurality of voting levers to be operated in any horizontal row and at the same time to prevent more than the proper number of levers to be operated in the plurality of rows containing the names of the candidates for the single office. U is a vertically disposed bar secured at top and bottom to the frame of the machine, and provided with a longitudinal channel u , as shown in Figs. 3 and 4, for holding and guiding vertically movable wedge blocks V . These wedge blocks V are provided with a wedge shaped slot, v , running laterally through the blocks. These wedge shaped slots are provided with small roller bearings w , upon which is mounted for each block a wedge plate Y , a diagonal slot y , being provided in the wedge plate Y , in which

slot the roller bearings w ride. The upper end of each wedge block V is also slotted and carries a roller bearing a' , upon which the lower edge of the wedge plate Y , of the next block above bears. These various bearings are provided to permit the wedge plates Y , to move very easily in the wedge blocks, and a lateral movement of a wedge plate will raise the loosely mounted wedge blocks above it when the lowest wedge block is prevented from having any downward movement by the stop block A' . Each of the wedge plates Y carries a roller bearing b' at its broad end with which bearing the abutment plates T contact. These abutment plates T are expanded at the outer ends to provide a long contacting surface c' , and each pair of abutment plates overlap, one plate contacting with the roller bearing b' on the front face of its wedge plate, and the next abutment plate contacting with a similar roller bearing on the rear face of its wedge plate.

Now when it is desired to couple together any number of horizontal rows to provide for multiple voting, the block A' is first slipped into the channel bar U and secured by the pin or clamping screw d' , immediately below the lower most horizontal row of sliding blocks to be coupled together. Then a wedge block V , with its plate Y is slipped into the channel and the lower edge of the wedge plate rests loosely on the roller bearing in the stop block A' , then a second wedge block is inserted in place on top of the first one, and so on until the upper most row of sliding blocks to be coupled together is reached. Then the unit stop pins t, t , which limit the movement of the rows of sliding blocks to unit voting, are removed for the rows to be coupled together, and the operator votes one voting lever in each of the rows to be coupled or the entire number in one row, and the result of this is that the abutment plates T shift the wedge plates to the left as viewed from the rear, a sufficient distance to allow for actuating the exact number of voting levers whether they be selected one in each row, or the desired number in one or more rows. When we have thus obtained the proper movement of the wedge blocks, the upper most wedge block is secured to the channel bar by the pin or clamping screw e' . It will be evident that if we have selected say five rows of sliding blocks to couple together, so that five levers may be voted in any one row and none in the other four rows, then the construction above described will accomplish this result. Inasmuch as there is a stop block secured in the channel bar against which the lower most wedge plate Y bears by moving this wedge block five spaces and then securing the upper most wedge block to the channel plate, I have provided for five spaces and no more, and then only five voting levers can be operated and it makes no difference

how they are selected. It will also be evident that I can arrange for any number of multiple groups in succession, because the uppermost wedge block V, which is secured to the channel bar to serve as a stop for the lower multiple group, can also serve as a stop for the multiple group immediately above it.

In older constructions it has been sought to provide a wedge between which each separate key should be operated, so as to permit the operation of only one key in a row at a time, but when it has been sought to provide for multiple voting, it has been necessary in some way to couple together the several rows, so that the movement in any one row would block out the movement in the succeeding rows. My construction differs radically from these older constructions, in that a single wedge plate Y, and wedge block V, moves for each particular row for all the sliding blocks in that row, and the rows are all connected together by means of the wedge actuated blocks. The contacting edge *c'* of the abutment plates, is made of considerable length and overlaps with the adjoining plates, because it is evident that where a number of rows are grouped together, the wedge blocks V, will shift their position vertically, if it should happen that a number of levers should be actuated in any one row. It will also be evident that these multiple voting sliding blocks actuated by the toggles will shift their position, because each movement of the wedge plate Y will carry it one space to the left as viewed from the rear, and for that reason, the voting lever is not pivoted to the toggle pins *h, i*, but contact is made through the channel bars *f, f*, carried by the voting levers.

It will be seen that by using the clamping screws of each wedge block to provide sufficient play for each wedge for the movement of a single voting lever that each wedge block can be used as a unit stop for each row of sliding blocks, and in this event, when it is desired to provide for multi-candidate voting the clamp screws of the rows to be grouped together are loosened. As above stated, however, I prefer to use a unit stop bar with pins to stop the various rows for single candidate voting, and to use the wedge block construction only for multi-candidate voting.

The advantage of my construction will be very evident; when the tickets are furnished for any election, there will be certain offices where multiple voting must be allowed. For example, candidates for certain boards where a plurality are to be selected. Wherever these groups may appear on the ticket it takes but a moment for the operator to either remove the unit stop pins, or to release the clamping screws of the wedge blocks, and then slide into the channel bar the necessary stop blocks and wedge blocks with their wedge plates. Then space the necessary dis-

tance, as above described, by operating the required number of voting levers of the particular group, and then secure the top-most block. The construction is arranged to move very smoothly and easily, so that any of the keys can be readily and easily voted, although there may be a multiple group of a great many names.

I might add that for the purpose of registering and counting the votes, one of the toggle levers as *h* is extended and carries on its outer end a pin *t'*, and this pin is brought in contact with the registering devices by the shifting of the parts as the voter leaves the machine, or booth.

In the present application I have not shown this connecting or registry mechanism, as it forms no part of the present invention, and very many devices can be used for the purpose of setting the registry devices and actuating them.

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

1. In a voting machine, the combination with a plurality of voting keys arranged in rows, and a corresponding plurality of interfering blocks, of a plurality of wedge plates, one for each row of interfering blocks, and actuated thereby, said wedge plates being disconnected from the interfering blocks and positively movable bodily in the direction of the movement, and transversely of the movement, of single candidate interfering blocks, with adjustable stops to limit the movement of the wedge plates, substantially as described.

2. In a voting machine, the combination with a plurality of voting keys arranged in rows, and a corresponding plurality of interfering blocks, of a plurality of wedge plates one for each row of interfering blocks, and actuated thereby, said wedge plates being disconnected from the interfering blocks and positively movable bodily in the direction of the movement, and transversely of the movement, of single candidate interfering blocks, and a series of stop blocks with adjustable stops therefor to couple together and limit the movement of any selected plurality of rows of interfering blocks, substantially as described.

3. In a voting machine, the combination with a plurality of voting keys arranged in rows, of a series of channel bars, with abutting blocks sliding in said channels a toggle lever between each pair of abutting blocks actuated by its voting key, and a plurality of wedge plates, one for each row of interfering blocks and actuated thereby said wedge plates being disconnected from the interfering blocks with adjustable stops to limit the movement of the wedge plates, substantially as described.

4. In a voting machine, the combination

with a plurality of voting keys arranged in rows, of a series of channel bars with abutting blocks sliding in said channels, a toggle lever between each pair of abutting blocks 5 actuated by its voting key, and a plurality of wedge plates, one for each row of interfering blocks and actuated thereby, said wedge plates being disconnected from the interfering blocks and a series of stop blocks with adjustable stops therefor, to couple together 10 and limit the movement of any selected plurality of rows of interfering blocks, substantially as described.

5. In a voting machine, the combination 15 with a plurality of keys arranged in rows, and a series of channel bars, with abutting blocks sliding in said channels free to move in one direction only, a channel bar secured across the free ends of said sliding blocks, 20 stop blocks sliding in said channel bar, with wedge plates between said stop blocks actuated by the movement of the sliding blocks, said wedge plates being disconnected from the sliding blocks and positively movable 25 bodily in the direction of the movement and transversely of the movement of said sliding blocks, with stops for the stop blocks to limit the movement thereof, whereby the movement of the wedge plates is limited to prevent the movement of the sliding blocks beyond a pre-determined amount, substantially 30 as described.

6. In a voting machine, the combination 35 with the plurality of keys arranged in rows, and a series of channel bars, with abutting blocks sliding in said channels free to move in one direction only, a channel bar secured across the free ends of said sliding blocks, stop blocks sliding in said channel bar, with 40 wedge plates one for each row of sliding blocks, mounted in a slot in said stop blocks and bearing with its edges between the base of said slot and upper edge of the adjacent

block, said wedges being disconnected from but actuated by the movement of the sliding 45 blocks, and positively movable bodily in the direction of the movement and transversely of the movement of said sliding blocks, and clamping screws for said stop blocks to secure same in said channel bar to limit the 50 movement of the sliding blocks a pre-determined amount, substantially as described.

7. In a voting machine, the combination with a plurality of voting keys arranged in rows, of a series of stop blocks for each row, 55 a toggle lever pivoted between each pair of stop blocks, and connecting same together and connecting mechanism between the toggle levers and the keys with stops for the stop blocks to prevent the operation of more 60 than a predetermined number of keys at a time, substantially as described.

8. In a voting machine, the combination with a plurality of voting keys arranged in rows, of a series of channel bars, with abut- 65 ting blocks sliding in said channels, a toggle lever between each pair of abutting blocks actuated by its voting key, with stops for each row of abutting blocks to prevent the operation of more than one toggle lever in a 70 row at a time, substantially as described.

9. In a voting machine, a plurality of sliding blocks arranged in rows with means for limiting their movement, said blocks of each row abutting, toggle levers coupling said 75 blocks of each row together, knuckle pins therefor, and key levers carrying channel bars engaging said knuckle pins whereby the toggles may be depressed to shift the sliding blocks laterally without disconnecting the 80 key levers, substantially as described.

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