

(No Model.)

4 Sheets—Sheet 1.

K. DOUGAN.  
VOTE REGISTERING MACHINE.

No. 440,546.

Patented Nov. 11, 1890.

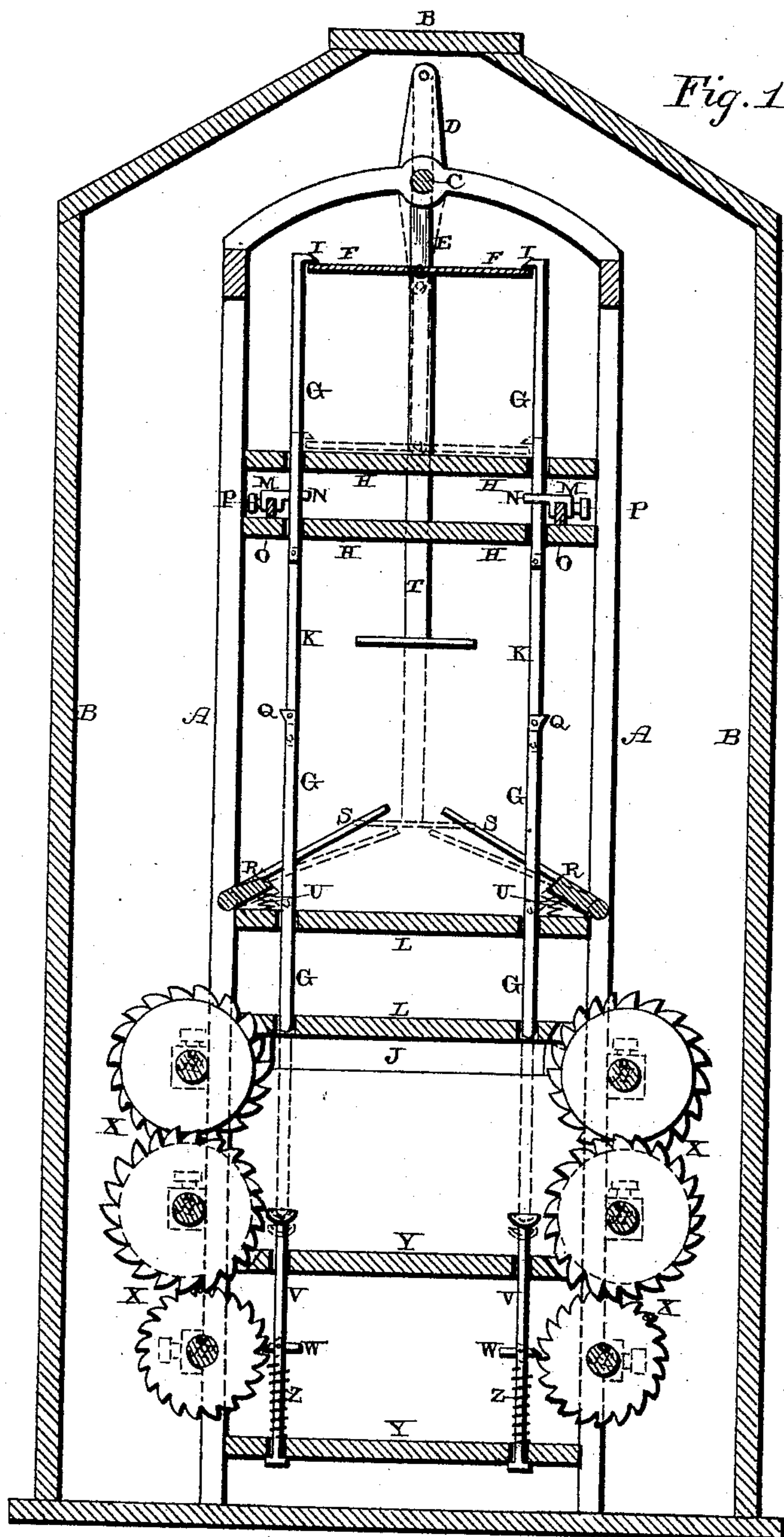


Fig. 1.

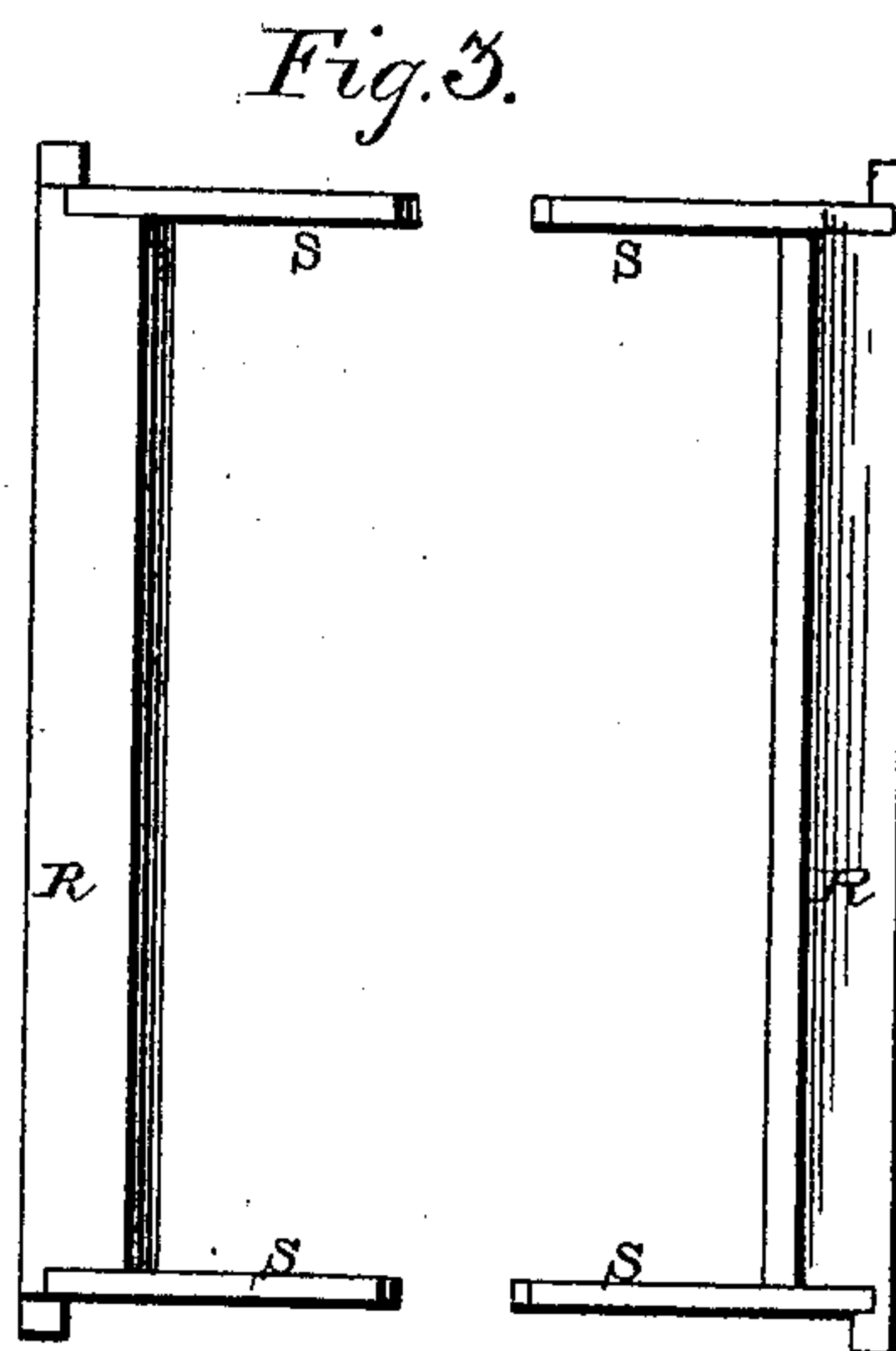


Fig. 3.

Witnesses:

E. P. Ellis,  
B. I. Brockett,

Inventor:

Kennedy Dougan,  
per  
J. A. Lehmann, atty.

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Fig. 2.

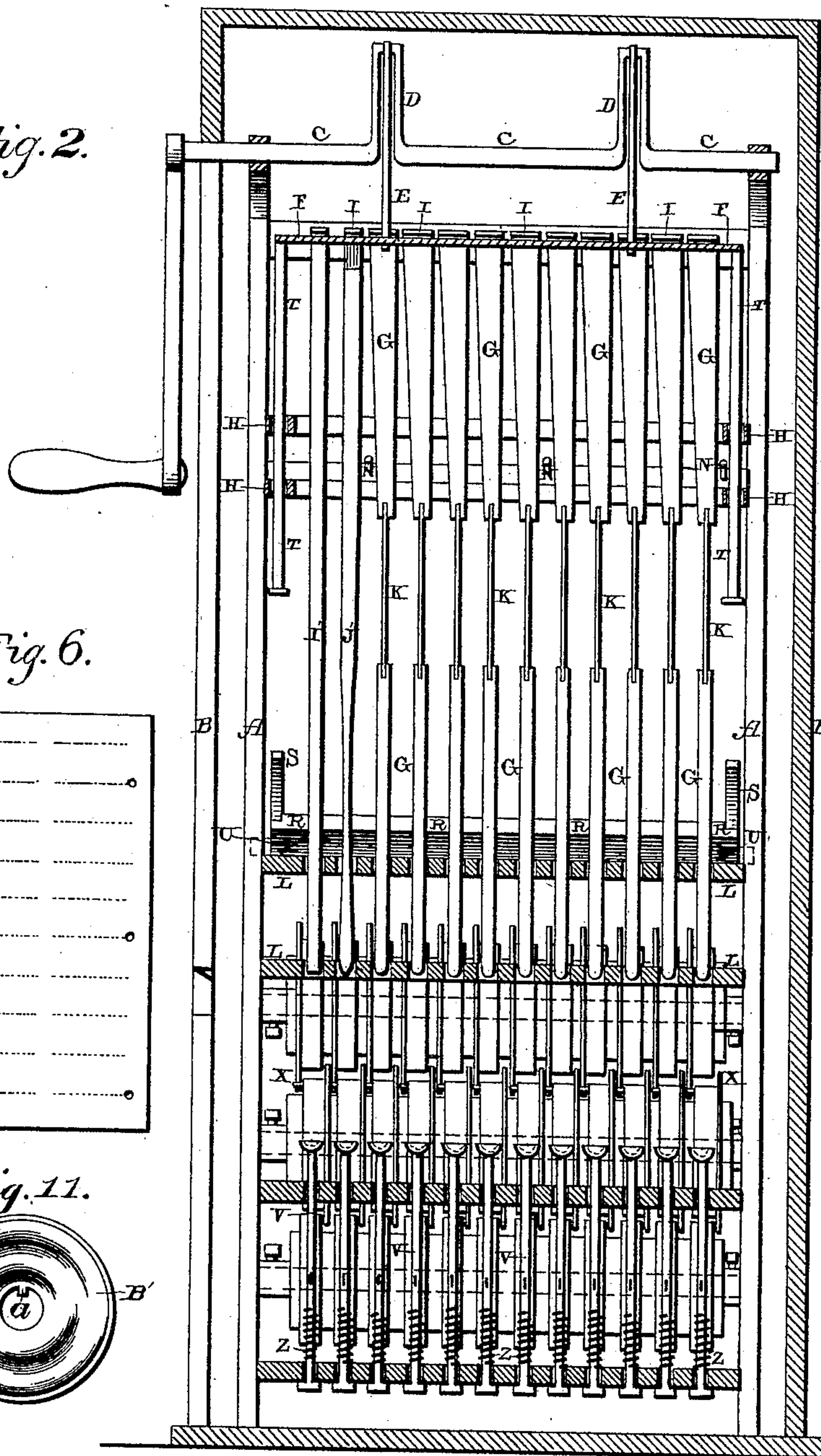


Fig. 6.

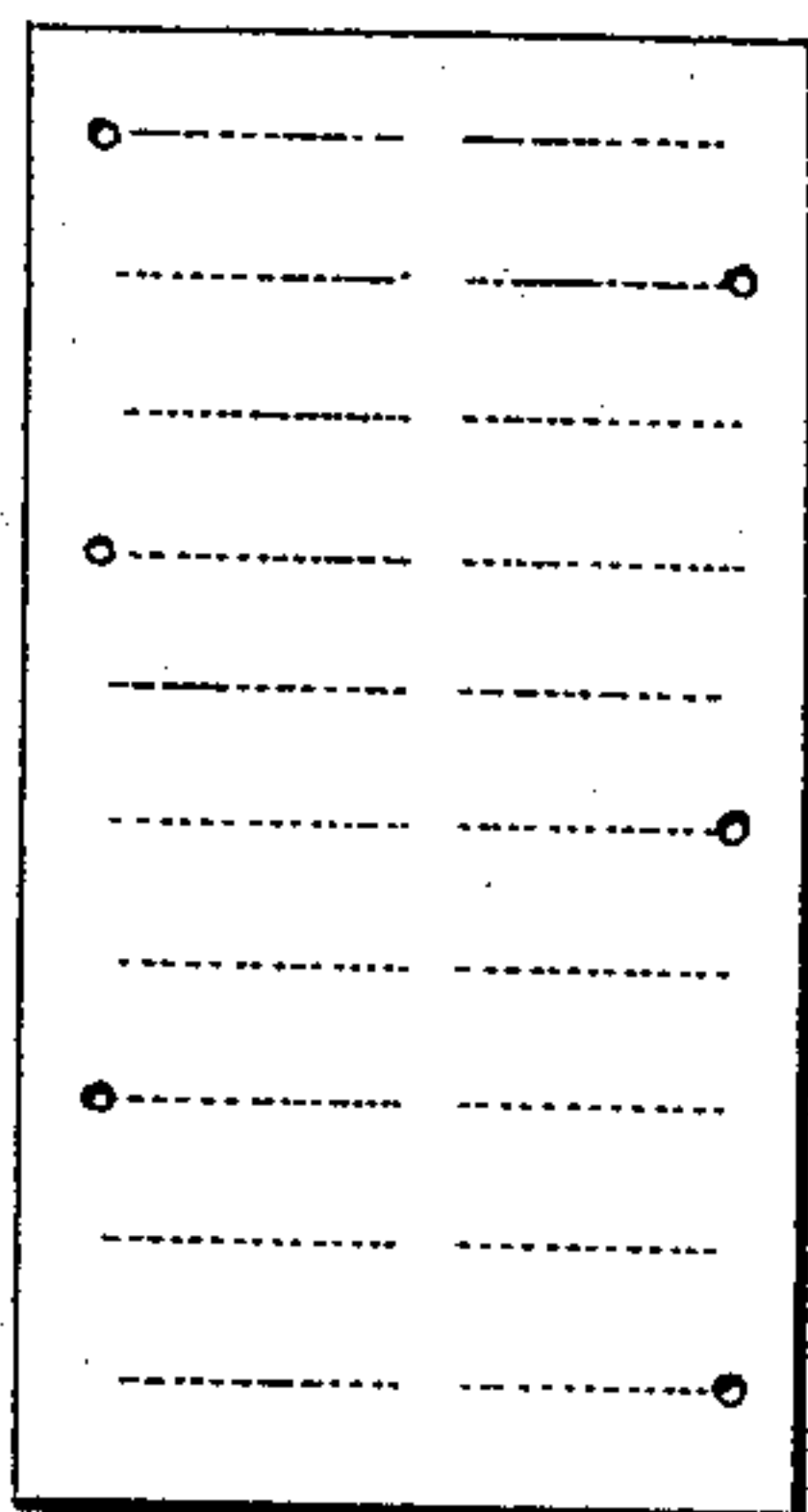


Fig. 11.

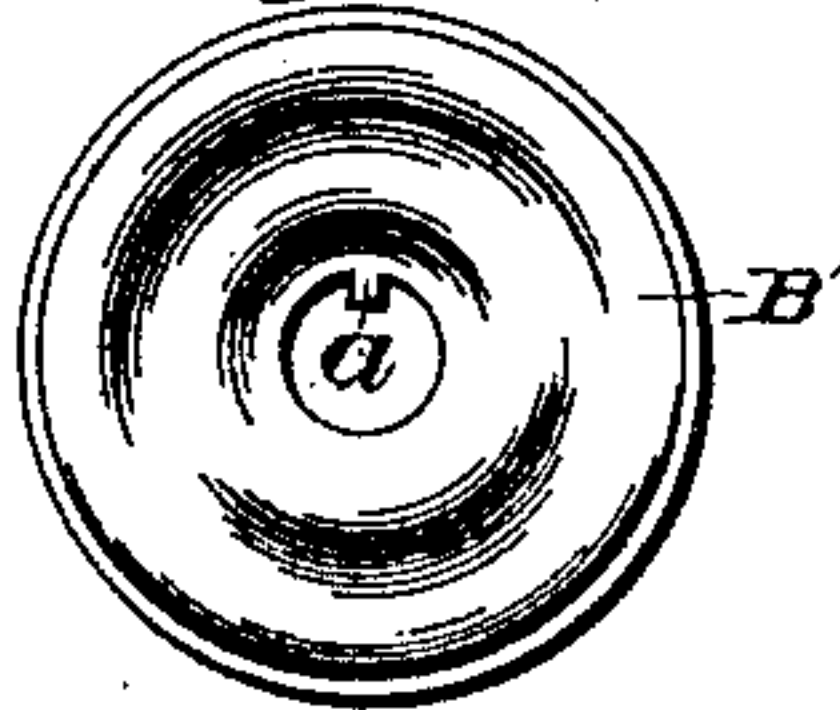


Fig. 4.

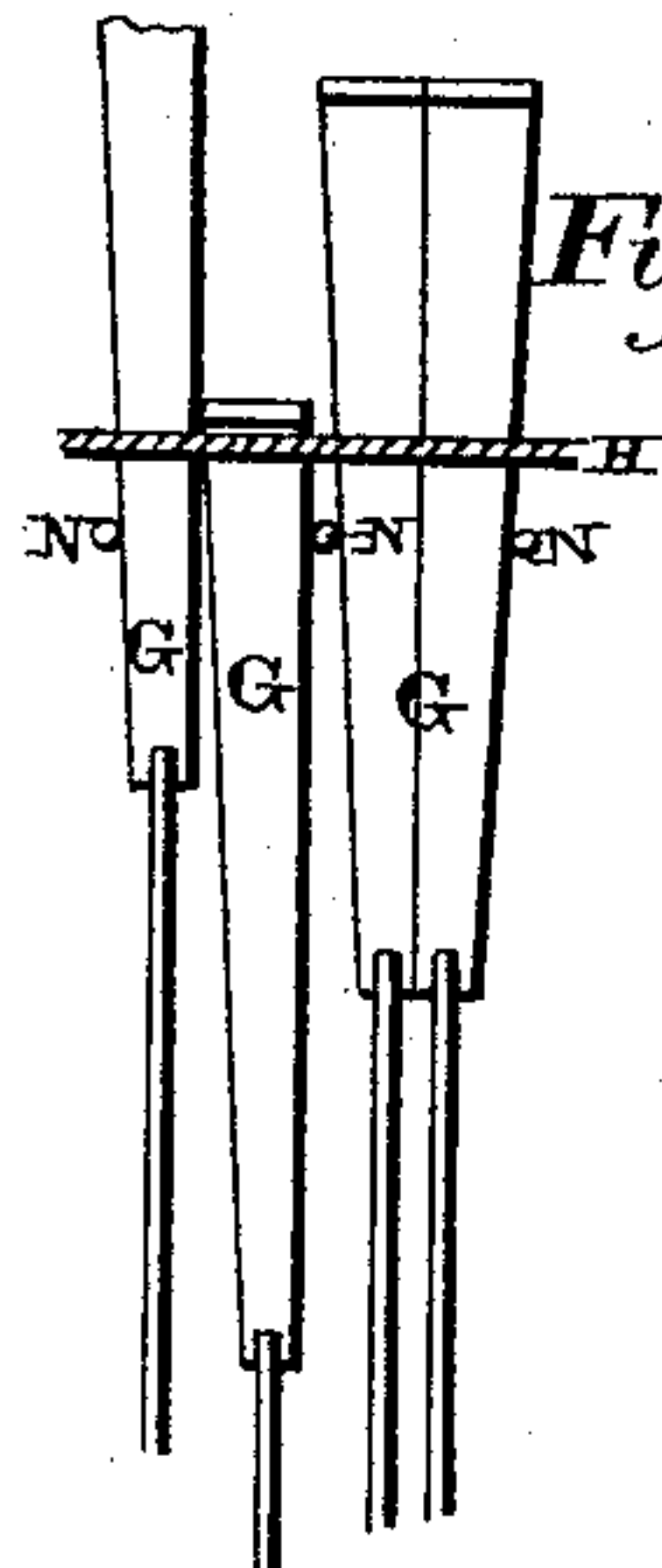
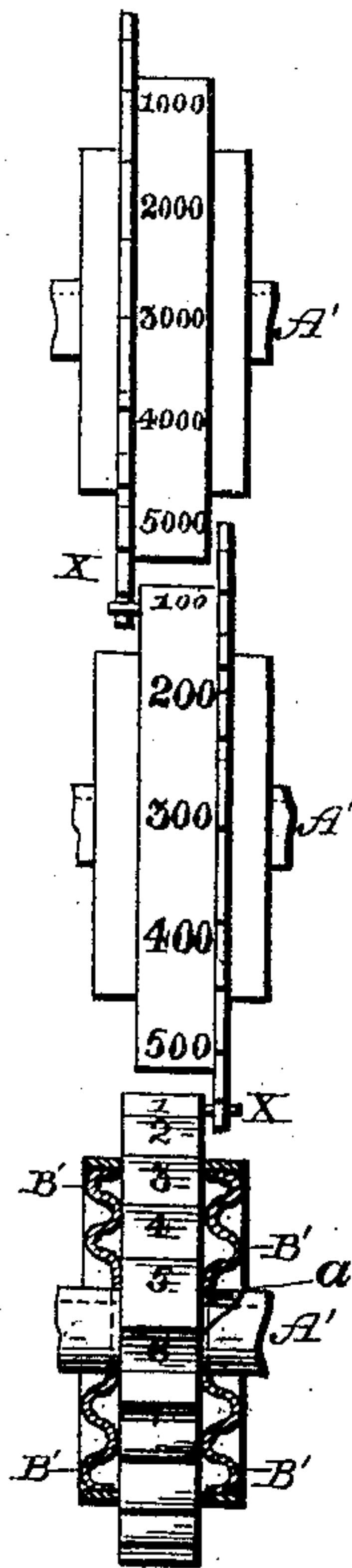
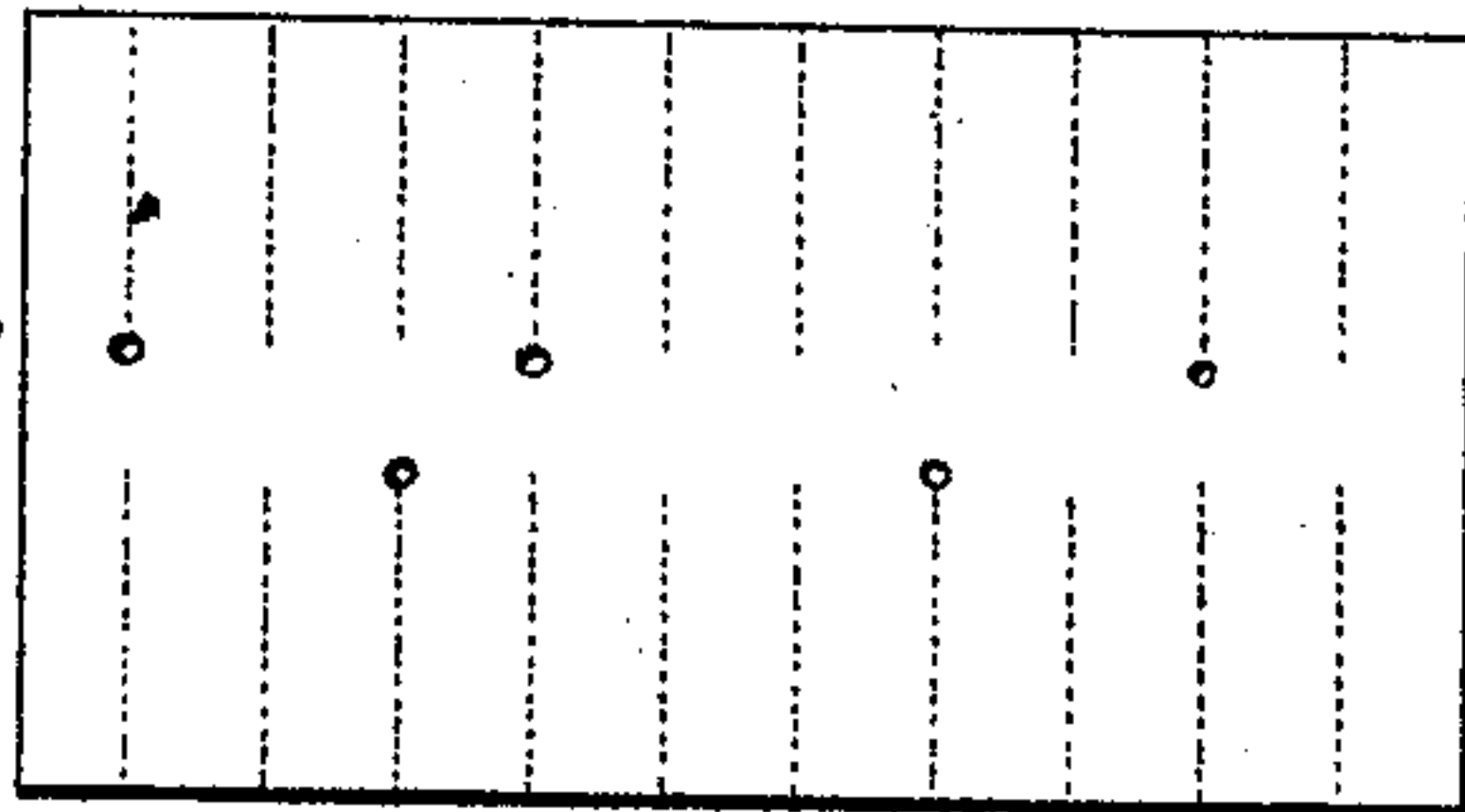


Fig. 5.



Witnesses:

E. P. Ellis, Fig. 7.  
B. Brocken



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(No Model.)

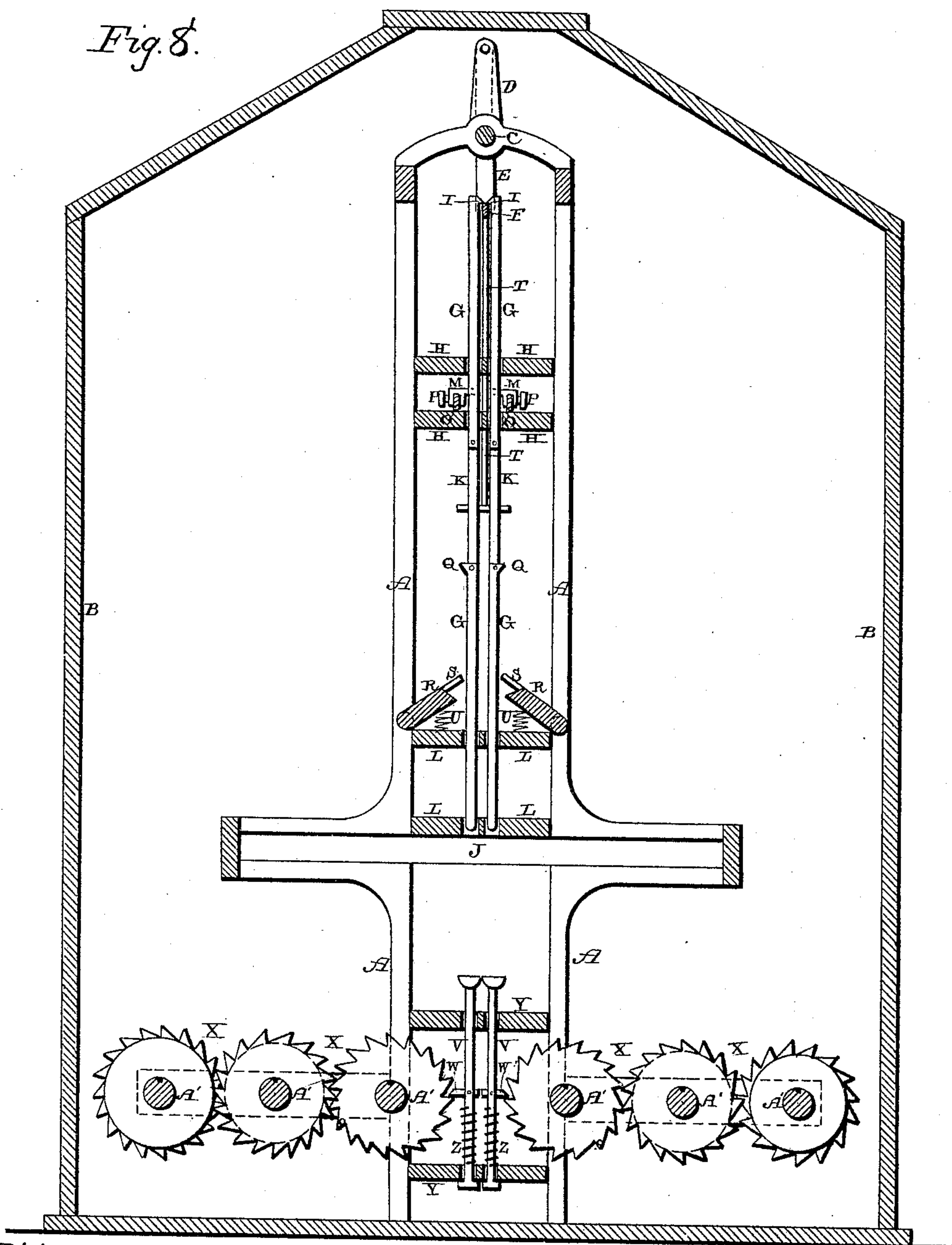
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Fig. 8.



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(No Model.)

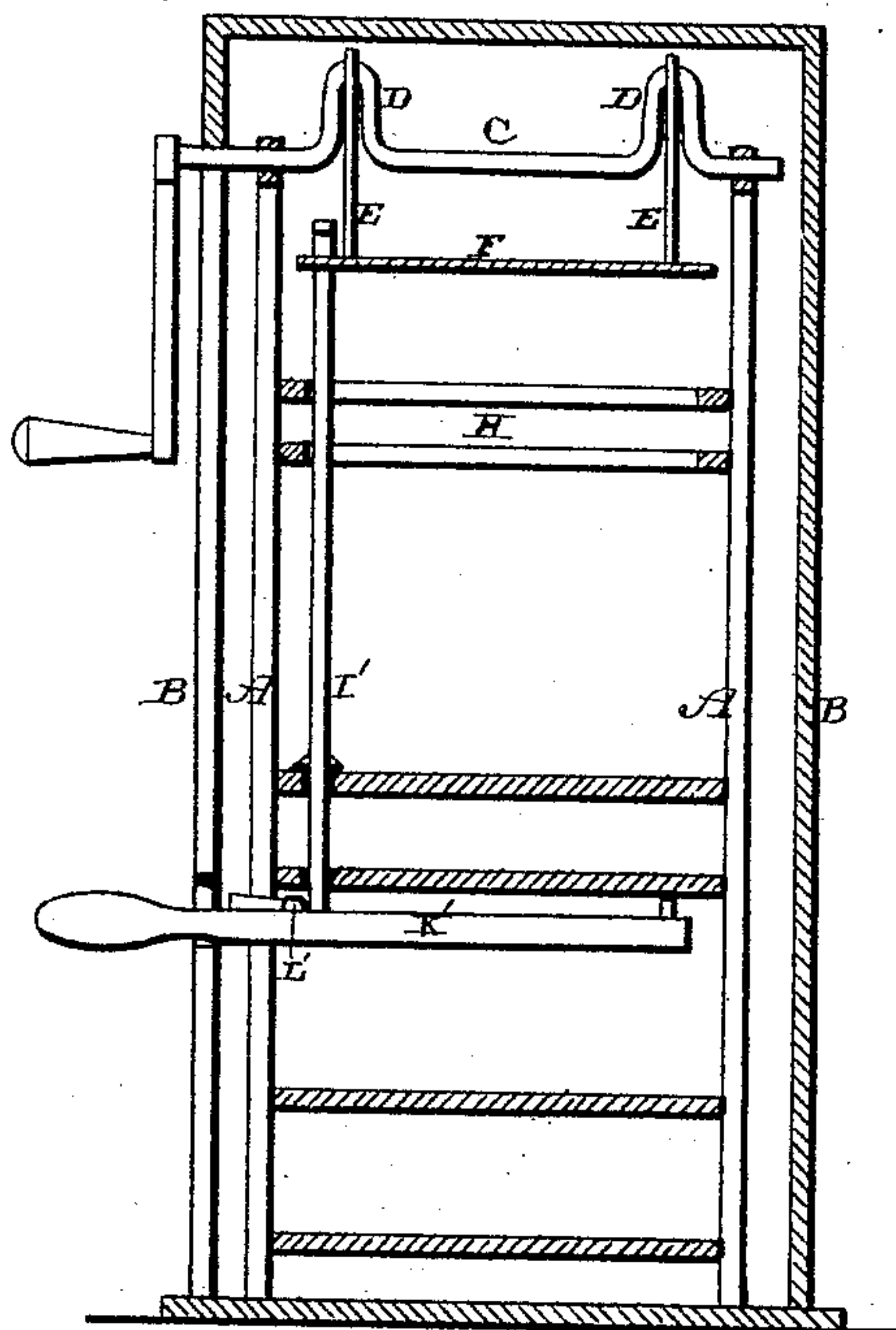
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K. DOUGAN.  
VOTE REGISTERING MACHINE.

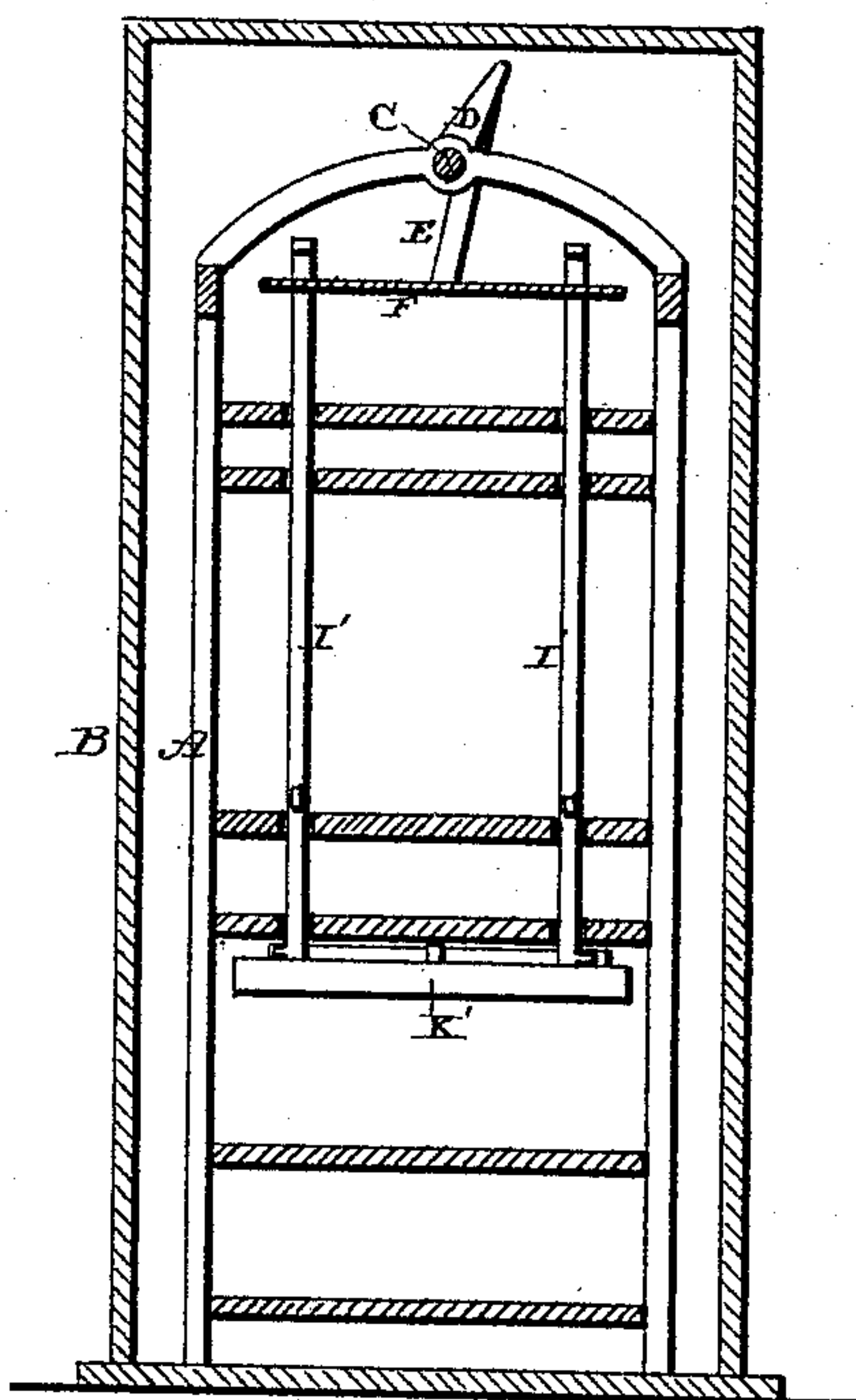
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*Fig. 9.*



*Fig. 10.*



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# UNITED STATES PATENT OFFICE.

KENNEDY DOUGAN, OF MISSOULA, MONTANA.

## VOTE-REGISTERING MACHINE.

SPECIFICATION forming part of Letters Patent No. 440,546, dated November 11, 1890.

Application filed January 9, 1890. Serial No. 336,371. (No model.)

*To all whom it may concern:*

Be it known that I, KENNEDY DOUGAN, of Missoula, in the county of Missoula and State of Montana, have invented certain new and  
5 useful Improvements in Vote-Registering Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled  
10 in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to an improvement in vote-registering machines; and my object is to produce a machine which will register not  
15 only the number of ballots cast, but separately register the ballots cast for each separate candidate either from a mechanical ballot, a perforated blank sheet of paper, or from a perforated printed ballot, as may be desired.

20 Figures 1 and 2 are vertical sections of a voting-machine which embodies my invention, taken at right angles to each other. Fig. 3 is a detached view of the depressing-levers. Fig. 4 is a detached view of the vertically-  
25 moving rods. Fig. 5 is a detached view of one of the registering mechanisms. Figs. 6 and 7 show ballots. Fig. 8 shows a slightly-modified form of the machine. Figs. 9 and 10 show the machine in connection with the  
30 ballot. Fig. 11 is a detached view of one of the washers B'.

A represents the casing or frame of my voting-machine, and which will be given any desired shape, size, or construction that may be  
35 preferred. In order to prevent any possibility of the machine being tampered with, it is inclosed in an outside box or casing B, through which nothing projects except the operating-crank, and which box B has a slot through its  
40 side to allow the ballot to be inserted. This box B is to be opened after the polls have been closed, for the purpose of allowing the registering mechanism to be consulted. Until  
45 this box B is opened nothing whatever can be told in regard to the number of ballots cast or the candidates for whom the ballots were cast.

50 Journaled in or upon the top of the frame A is the shaft C, which has an operating-handle secured to one end and a suitable number of cranks D formed upon or secured to it inside of the box. Connected to these cranks

D are a corresponding number of connecting-rods E, which have pivoted to their lower ends the elevating plate or device F between  
55 the upper ends of the vertically-moving rods G. Each of the rods G extends vertically through suitable guides H, placed inside of the upper end of the frame A, and each of the rods has an inwardly-projecting flange or  
60 head I upon its upper end. The plate F catches under these heads or flanges I and raises the rods G until their lower ends come just above the upper edges of the slot J,  
65 formed through the side of the frame, and into or through which slot the mechanical ballot or ballot-holder is passed for the purpose of being operated upon by the rods G  
70 as they are depressed. The plate F serves both to raise the rods after they have been depressed, and through the medium of the rods T and levers R to force those rods G,  
75 which are allowed to pass through the ballot, downward far enough to operate their corresponding registering mechanisms.

Of the rods G there will be any desired number, and they are preferably arranged in parallel rows, as shown in Figs. 1 and 2; but I  
80 do not limit my invention to any particular arrangement or number of the rods, for they may be varied indefinitely without departing from the spirit of my invention. As each of the rods is to have a lateral movement, they  
85 are either formed of a number of sections, which are loosely jointed together, or they are provided with springs K at or near their centers, so as to allow their upper ends to have  
90 a free lateral movement. The lower ends of the rods are made sufficiently small to pass through either the mechanical ballot or the perforated or notched blank or printed ballot, which is used. These lower ends of the  
95 rods G have only a vertical play and not a lateral movement, and hence they are passed through the guides L, as shown. Each of the rods G has its upper end formed perfectly  
100 straight along its edges for a suitable distance, and then the edges are tapered or beveled down to the point where the rods are jointed or are connected to the springs K, or the rods may be beveled from their upper ends down  
to the joint or springs, just as may be preferred. These rods G are divided at their upper ends into groups. Each group consists



of a number of rods, which corresponds to the number of candidates to be voted for for any one office. This division into groups is effected by means of adjustable castings M, which are provided on their inner sides with fingers or projections N, which extend in between the rods for the purpose of separating them into groups, and which castings are fastened in any desired position upon the bar O by means of the set-screw P. This bar O extends along upon the top of the lower guide H, next to the rod. This bar O may be placed in any desired position, instead of the one hereshown. The rods G are tapered, as shown, so that when the castings M are set far enough apart to allow a given number of rods G to descend only that number can descend, so as to be depressed by the levers R for the purpose of operating the registering mechanisms. The fingers or projections N by projecting in between the tapering portions of the rods G allow or cause the upper portions of the rods a lateral movement as they descend, for the purpose of passing through the mechanical ballot or the perforated blank or printed ballot contained in a ballot-holder. The space between the projections or fingers N and the spaces between the upper ends of the rods are just sufficient to allow one-half of the rods to descend and operate their corresponding registering mechanisms, and thus a person is prevented from voting for more than one-half of the candidates for any one office, and which candidates are represented by the rods between any two of the fingers or projections. If there are only two candidates for any one office, the fingers or projections N are arranged in such relation to each other that there is only room enough for one of the rods G to drop at a time.

If a voter votes for only one candidate, the rod corresponding to this candidate's name will freely drop through the mechanical ballot or the perforated blank or printed ballot; but should a voter vote for both candidates at the same time, or for more than one-half of the candidates, the rods are dropped together, and their inclined edges will cause them to simply wedge between the fingers or projections N, and thus prevent them from dropping sufficiently far to operate their corresponding registering mechanisms. If there are three candidates for the same office, the fingers or projections N are regulated in such relation to each other that only one of the three rods can drop, and hence if the voter votes for two of the three candidates the two corresponding rods G will drop just far enough to wedge between their fingers or projections, and thus prevent either of them from operating their registering mechanisms. If a voter votes for only the right number of candidates for any one office, the corresponding rods drop and register the votes for those candidates; but if the voter votes for more than one candidate for the same office the rods are simply forced together by the fin-

gers or projections, so that no vote is registered for either one of them, and all such duplicated votes are only thrown away. In those States—as, for instance, in Silver Bow county, Montana—there are eleven members elected from that county to the State Legislature, and hence there are always at least twenty-two candidates for these eleven offices. If a voter votes for only eleven of this number, or for a less number than eleven, the votes are all recorded; but if he votes for more than eleven then the rods G simply drop far enough between the fingers or projections N to bind the rods together, and thus prevent them from passing through the mechanical ballot or the perforated blank or printed ballot far enough to operate their corresponding registering mechanisms, and hence this vote is thrown away.

In case it should be the law in any one state that every vote cast must be counted, then the fingers or projections must be moved far enough apart to allow all the rods to drop enough to operate their corresponding registering mechanisms.

For the purpose of depressing the rods G to cause them to operate their corresponding registering mechanisms there is formed upon each rod at any suitable point a shoulder or projection Q, against which the operating-levers R are made to strike. These levers R are pivoted at each end inside of the frame A, and connected to each of the levers R at one end. Either out or inside of the frame A are the arms S, which project toward and which are operated by the vertically-moving rod T, which is provided with a plate or enlargement of any kind upon its lower end. When this rod T is depressed by the movement of the crank, the arms S are forced downward, and the downward movement of the levers R, acting upon the lugs Q, causes all of the rods G which are to operate their corresponding registering mechanisms to be depressed to the required distance. Placed under the levers R and upon the top of the guide L are the springs U, which cause the levers R to stand at such an angle as not to interfere with the movements of any of the rods G, either in descending or in being raised by the plate F. All of those rods G which descend sufficiently to engage the registering mechanisms will be forced downward by the levers R when these levers are operated by the arms S and the vertically-moving rod T. All of those rods G which do not descend sufficiently far to operate their corresponding registering mechanisms will not be touched by the levers R when they are depressed, and hence only those rods which are to register a vote will be operated upon by the levers R.

For each rod G there is a corresponding vertically-moving rod V, provided with a pivoted pawl W, and a registering mechanism X, consisting of any desired number of wheels, which are connected together in any well-known manner for registering hundreds,



thousands, and tens of thousands. These rods V are passed through suitable guides Y, placed in the lower part of the frame A, and placed around the lower end of each rod V is a spring Z for the purpose of returning it to position after it has been depressed. When each rod V is depressed by its corresponding rod G, the pivoted pawl W engages with one of the wheels of the registering mechanisms and moves this wheel one tooth, and then as the rod V is returned to position by the spring Z the pawl W turns upon its pivot, so as to pass by the next tooth of the wheel with which it engages, and thus be ready to operate the wheel again when the rod V is again returned to position.

The wheels of each registering mechanism are placed loosely upon the stationary grooved rods A', which may be arranged in any desired relation to each other, and between the wheels are placed suitable washers B', which may be made of corrugated sheet metal or any other suitable material, each washer being provided with a projection *a* to catch in the groove of its corresponding rod A'. These washers serve to hold the wheels in position by frictional contact, and thus prevent any possibility of their being moved accidentally, but allows them to be moved when direct force is applied to them. These wheels indicate the number of ballots cast for each candidate, and after an election each wheel can be moved back to zero.

The object of the above-described machine is to mechanically register the votes which have been cast for any desired number of candidates for different offices, and to do so by means of either a mechanical ballot or a perforated blank or printed ballot which is held in a ballot-holder, through which perforations or openings have been formed, so as to correspond to the number of candidates to be voted for, and which openings in the mechanical or paper ballot will be made so as to correspond to the positions of the rods G in the machine.

If a mechanical ballot is to be used, it will simply have the names of the different candidates written, printed, or marked in any suitable manner upon its face, and the voter will form a perforation or opening in the ballot just opposite the name of each candidate for whom he wishes to vote. If a paper ballot is used, blank sheets or pieces of paper will be placed in the ballot-holder which has the names of the candidates upon its face, and then the voter makes a perforation through the paper opposite the name of each candidate for whom he wishes to vote, and then the holder containing this perforated ballot is passed through the slot J into the frame and the shaft C is operated by means of its handle for the purpose of depressing the plate F and allowing the rods G to descend. All of those rods which have their ends to pass through the perforations in the mechanical or

paper ballots will, unless an improper vote has been made, descend far enough to allow their shoulders Q to be operated upon by the levers R when the rod T is depressed. All of those rods which do not have their lower ends to pass through the perforations in the mechanical or paper ballot remain in a raised position, and hence are not operated upon by the levers R. When the ballot-holder is used, blank pieces of paper may be used, and thus save all the expense of printing the ballot; but in case it is desired to vote a printed ticket the perforations are formed in the ballot opposite the names of the candidates who are to be voted for. It is immaterial whether blank or printed paper ballots or mechanical ballots are used. The machine above described will operate equally well with either or all three, and will register the number of votes cast for each candidate and register them, ready to be seen at a glance as soon as the inclosing-box B is unlocked and moved from around the machine.

In Figs. 6 and 7 are shown paper ballots which have been punched or perforated while in the ballot-holder, or which may be perforated independently of the ballot-holder. If the ballots are to be perforated without the use of a ballot-holder, each voter will have a common punch, and opposite the name of each candidate to be voted for he punches a hole, and these holes may be punched along down the middle of the ballot in single or double rows; or the perforations may be punched or cut along the edges of the ballot, as may be preferred. If these ballots are to be prepared independently of a ballot-holder upon which is marked in any suitable manner the names of the candidates to be voted for, the ballots may be printed. After these ballots have been perforated, as indicated, they can be passed into the machine through the slot J, and then be acted upon by the rods G, as already described.

In case it is not desired to use a ballot-holder, a ballot of stiff heavy paper or pasteboard may be used, the voter indicating his choice of candidates by the use of a conductor's punch, and thus dispense with a ballot-holder. This pasteboard being sufficiently strong to answer all purposes, can be inserted directly into the machine, and then the rods G will act the same as upon the mechanical ballot-holder.

In Figs. 6 and 7 are shown samples of the ballots either after they have been taken out of the ballot-holder or when made of pasteboard or heavy paper and ready to be inserted into the machine direct. In Fig. 6 the perforations are made opposite the candidates' names along the edges of the ballot, and in Fig. 7 the perforations are made along the center of the ballot. The ballot in Fig. 7 will be used in a machine constructed as shown in Fig. 8, and in which the rods are placed close together instead of as is shown



in Fig. 1. Whether the perforations shall be made along the edges or the centers of the ballots is a mere matter of choice.

After the mechanical ballot or the ballot-holder K' containing the ballot has been inserted into the vote-registering machine, as shown in Figs. 9 and 10, a pair of rods I', which are placed in the same line with the other rods, but which have a much shorter movement, are allowed to descend upon the ballot-holder for the purpose of engaging with the stops or projections L' upon the top of the ballot-holder. These rods I' serve to operate concealing-slides placed against the upper and lower sides of the ballot-holder K' and to uncover the perforations which have been made in the mechanical ballot or the paper or pasteboard ballot which is used. These rods I' not being intended to pass through the mechanical ballot or ballot-holder have but a very short movement as compared with the rods G J' and are not affected by the depressing-levers R.

Preferably placed next to the rods I' are the two rigid vertically-moving sharp-pointed rods J', which are loosely connected at their upper ends to the elevating-plate F. When this plate is forced downward by the cranks and the connecting-rods E, the sharp points of the rods J' are forced through the paper or pasteboard ballots for the purpose of forming starting-holes to be used in counting the ballots, in case it should be necessary to count the ballots at any time for the purpose of verifying the count of the machine for any reason. When these rods J' are forced through the ballot, their lower ends strike against corresponding spring-actuated rods V, which operate registering mechanisms which record the whole number of ballots cast. These rods J' are connected to the plate F for the reason that they are to be forced through the ballot for the purposes above stated, whereas the rods G will only descend from their own gravity, and that where perforations have been prepared for them.

In case the accuracy of the machine should ever be questioned or it should be desired to compare the ballots with the record of the machine it will only be necessary to place the unprinted ballot upon the ballot-holder, and in the same relation to the names of the candidates that it held when in the ballot-holder and the perforations were made.

No claim is made in this application to a mechanical ballot or ballot-holder, for these have been made a subject of another application; but a ballot-holder or a mechanical ballot is not to be confounded with the ballot shown in Figs. 6 and 7, for these are the blank and printed ballots formed from paper, pasteboard, or other material, and which can be used independently of a ballot-holder for the purpose of recording the votes cast.

Each one of the vertically-moving rods G is given a number, in order to correspond with the names of the candidates to be voted for,

and after the election is over and the outer inclosing-case B is removed a single glance at the different registering mechanisms will show the number of votes cast for each ballot.

Two or more of the machines can be used at each voting-place and each ballot registered in each machine, and if after the election is over both of the machines tally it will be known that the count is correct. If there is any variance between the machines, the result of the election can be arrived at by counting the ballots in the ballot-box. As each ballot is registered by this machine it is placed in a ballot-box for future reference, if desired. The rods J' must be larger at their lower than at their upper ends, so that when the lower ends are forced through the paper ballot the rods will not be held up by frictional contact with the paper.

Having thus described my invention, I claim—

1. In a ballot-registering machine adapted to receive a perforated ballot, the combination of a series of independent vertically-moving rods, a vertically-moving plate which is loosely connected with the upper ends of the said rods, whereby it has a downward movement independent thereof for the purpose described, and a depressing-lever separate from the plate, which engages those rods which have passed through the ballot and forces them downward for operating a registering mechanism, and a registering mechanism placed below the said ballot, substantially as described.

2. In a vote-registering machine adapted to receive a perforated ballot, the combination of an operating mechanism, a series of endwise-moving rods provided with lugs between their ends, and depressing-levers operated by the said operating mechanism, and which engage the lugs of those rods which pass through the said ballot and force them down, and a registering mechanism engaged by the said rods, substantially as described.

3. In a vote-registering machine, the combination of a registering mechanism, an operating mechanism, a series of independent endwise and laterally moving rods which operate the registering mechanism, and a pin or projection which engages the said rods for moving them laterally, and thus forming them into groups, for the purpose described.

4. In a vote-registering machine, the combination of a series of endwise-moving rods, a mechanism for moving them away from the ballot, depressing-levers for forcing the rods on down through the ballot where perforations have been formed, and a corresponding registering mechanism for each rod, each of the rods being flexible between its ends, substantially as set forth.

5. In a vote-registering machine, the combination of an operating mechanism, a series of independent endwise and laterally moving rods having tapering portions, and a pin or projection for engaging the said portions, and



thereby dividing the rods into groups, substantially as shown.

5 6. In a vote-registering machine, the combination of an operating crank-shaft, a plate connected thereto, a series of endwise-moving rods which are moved away from the ballot by means of the plate, the rods T, connected to the plate, the depressing-levers R, which are operated by the rods T, and the registering mechanism for the different rods, substantially as described.

15 7. The combination of the endwise-moving rods, which are made flexible at a point or points between their ends, and which are provided with tapering sides, with the adjustable castings provided with fingers or projections for separating the rods into groups, substantially as set forth.

20 8. The combination of the endwise-moving rods G, the vertically-moving spring-actuated rods V, provided with pawls W, and the registering mechanisms X for each rod V, substantially as specified.

25 9. The combination of the wheels of each registering mechanism, the grooved shaft, upon which they are loosely placed, and the corrugated washers placed between the wheels and provided with projections to catch in the grooves of the shafts, substantially as shown.

10. The combination of the cranked operating-shaft, the plate F, loosely connected thereto, and the perforating-rods J', loosely attached to the plate for the purpose of being forced down through the ballot, substantially as shown.

35 11. In a vote-registering machine adapted to receive a ballot or ballot-holder having concealing-slides, the combination of the operating-shaft, the plate F, loosely connected thereto, and the rods I', which have but a limited downward movement, and which engage the said ballot or ballot-holder for the purpose of operating the slides, substantially as shown and described.

45 12. The combination, with a vote-registering machine having a series of movable rods, of a ballot-holder having a series of perforations, the relative positions of which correspond with the relative positions of the said rods, whereby the rods register with the said perforations, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

K. DOUGAN.

Witnesses:

F. A. LEHMANN,  
J. M. NESBIT.