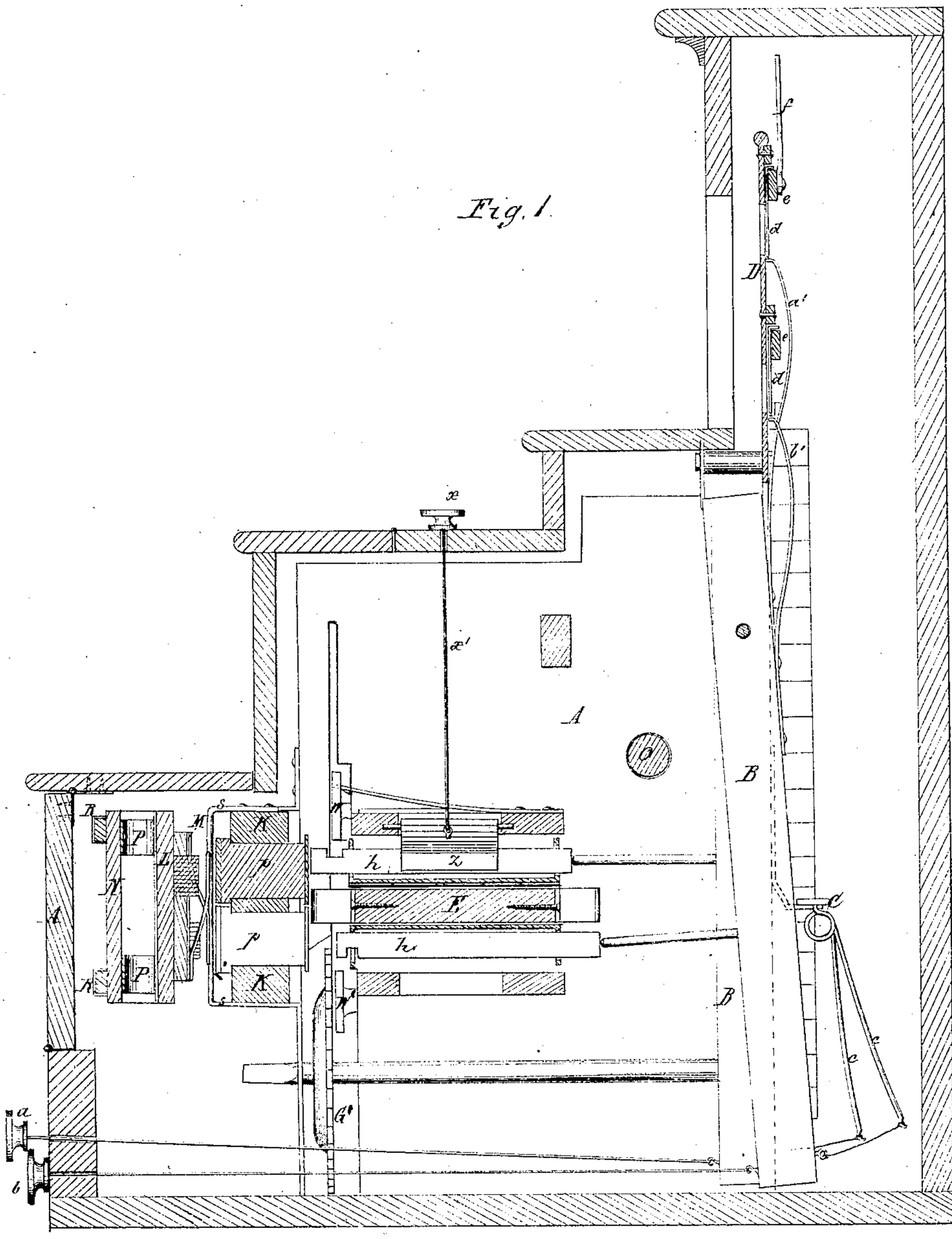
5 Sheets—Sheet 1.

A. WESTON.

VOTE RECORDING MACHINE.

No. 113,376. Patented Apr. 4, 1871.

Fig. 1.



Witnesses:

Thos. D. Quinard

C. A. Pettit

Inventor:

Dr. Adam Weston

Per Munn & Co

Attorneys.

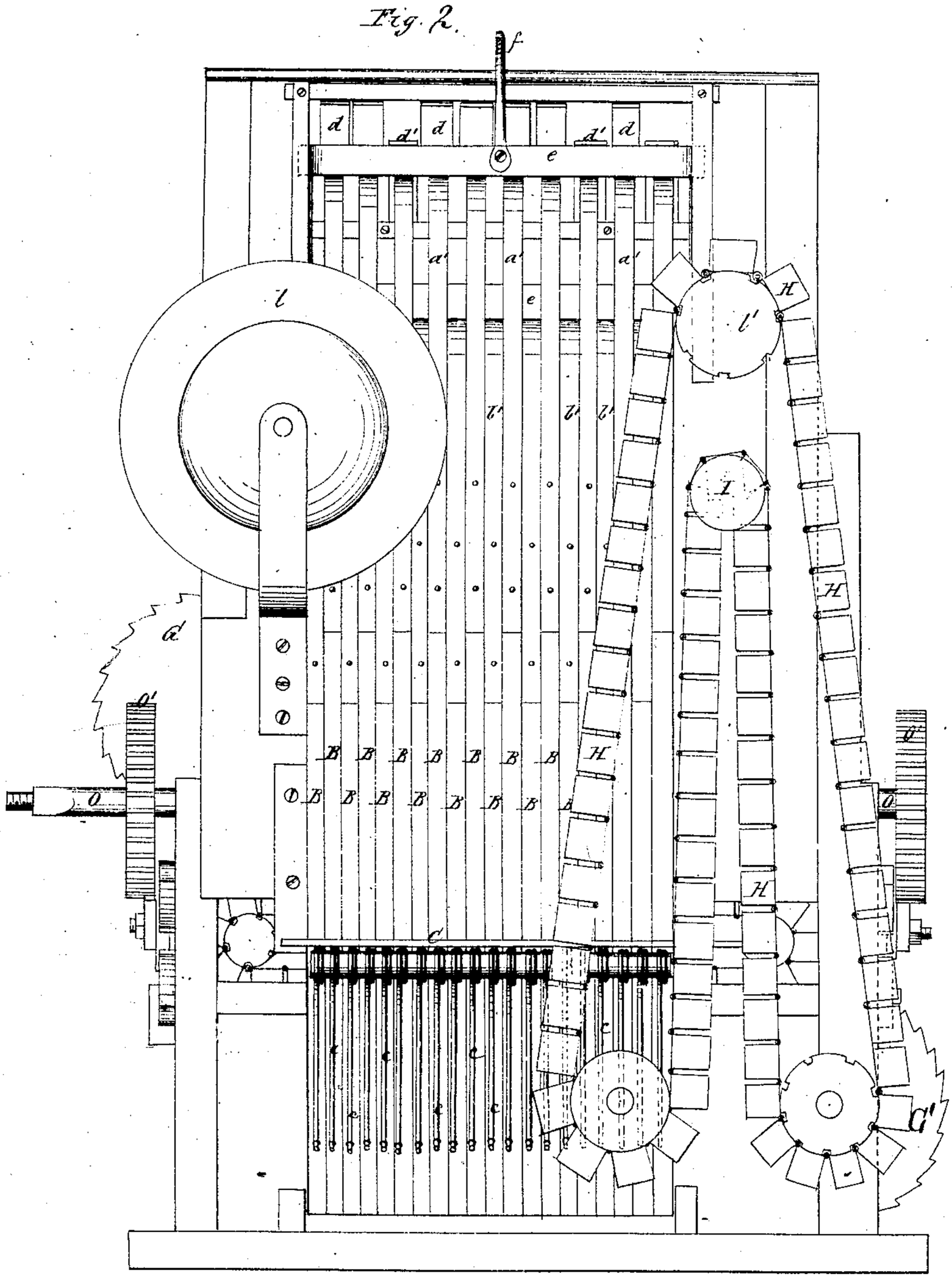
5 Sheets—Sheet 2.

A. WESTON.

VOTE RECORDING MACHINE.

No. 113,376. Patented Apr. 4, 1871.

Fig. 2.



Witnesses:

Thos. D. Quinn

C. A. Pettit

Inventor:

Dr. Adam Weston

Per Munn & Co

Attorneys.

5 Sheets—Sheet 3.

A. WESTON.

VOTE RECORDING MACHINE.

No. 113,376. Patented Apr. 4, 1871.

Fig. 3.

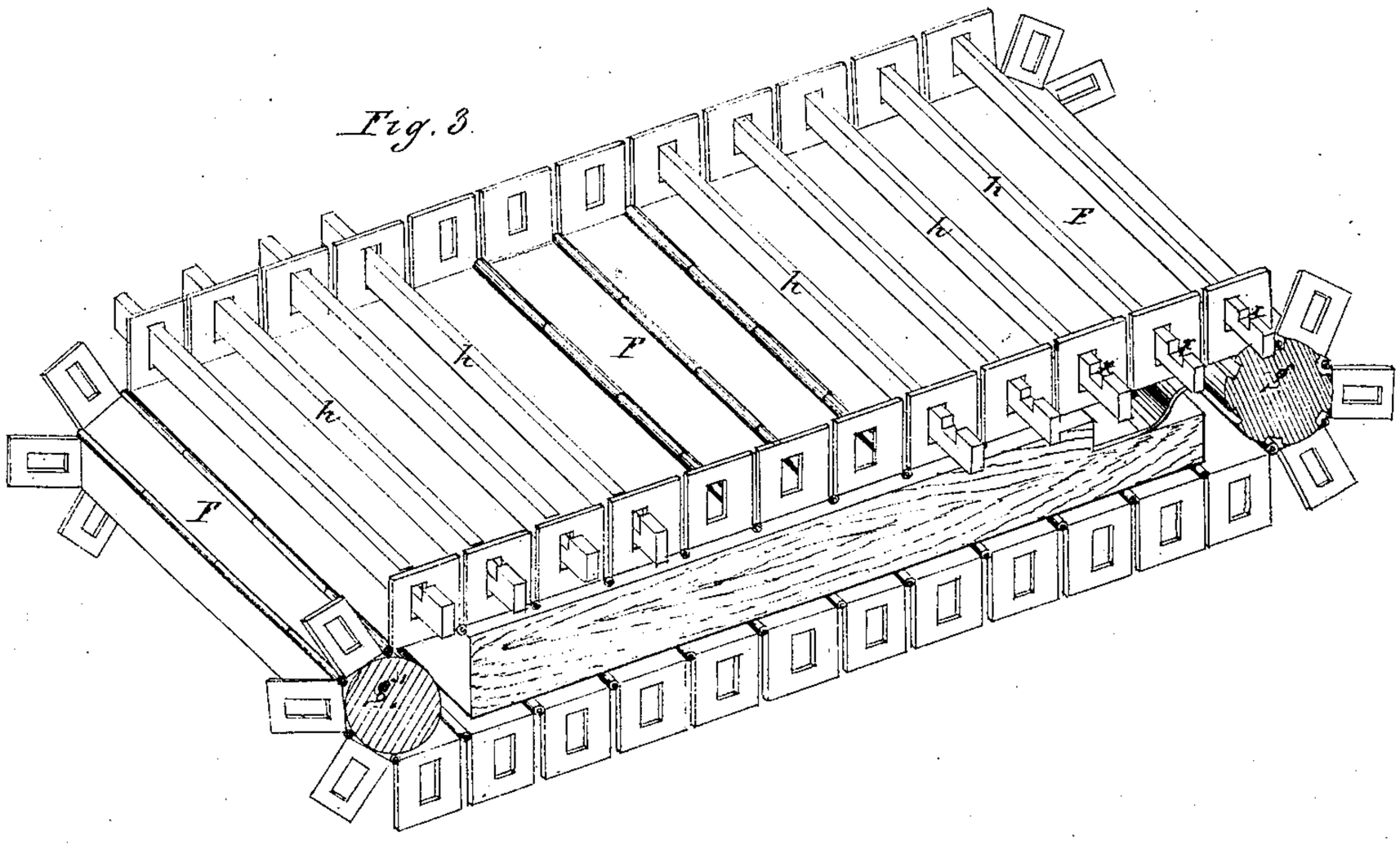
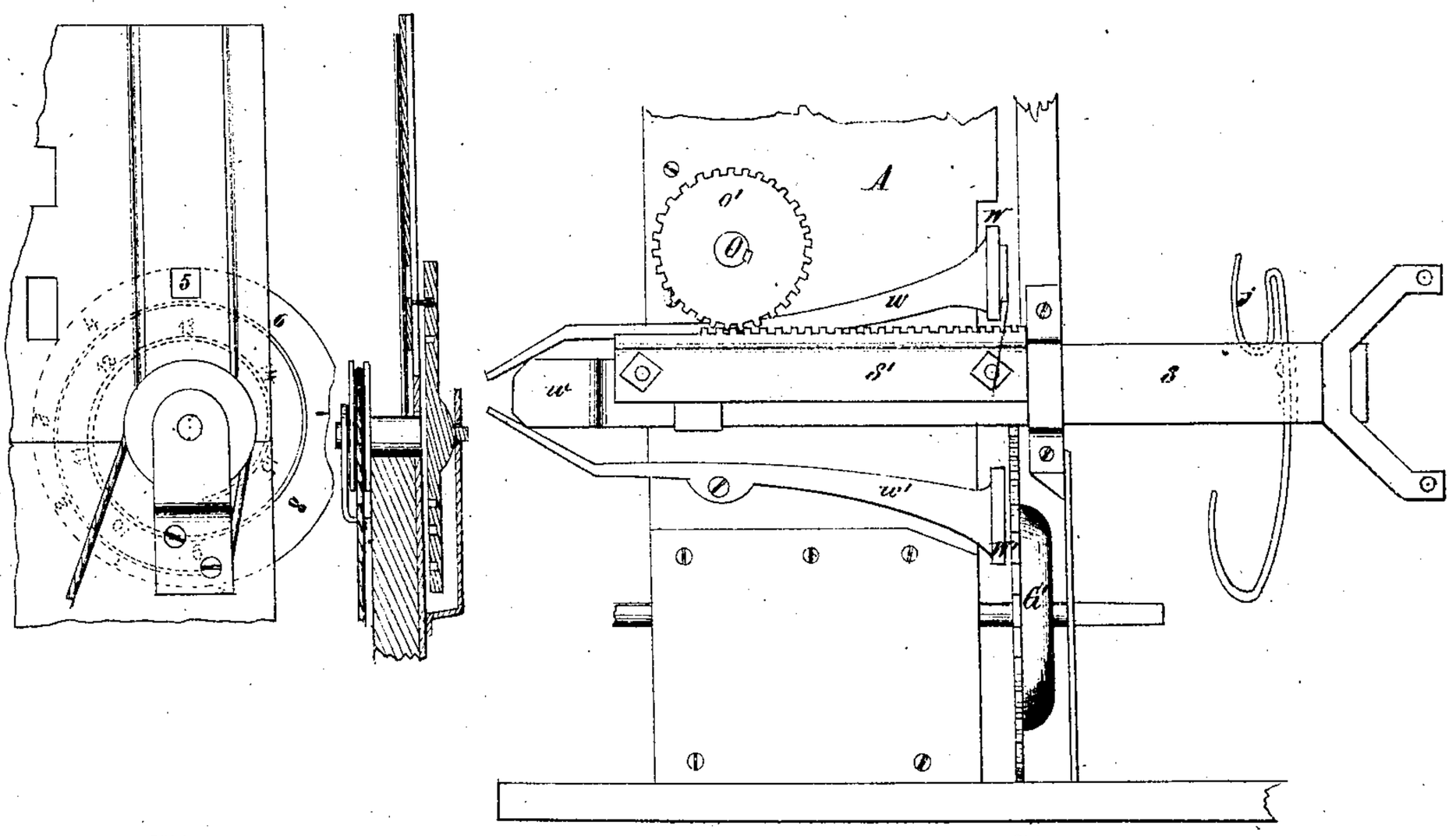


Fig 4.



Witnesses:

Thos. D. O'Sullivan

C. A. Perkins

Inventor:

Dr. Adam Weston

Per Munn & Co

Attorneys.

5 Sheets—Sheet 4.

A. WESTON.

VOTE RECORDING MACHINE.

No. 113,376. Patented Apr. 4, 1871.

Fig. 5

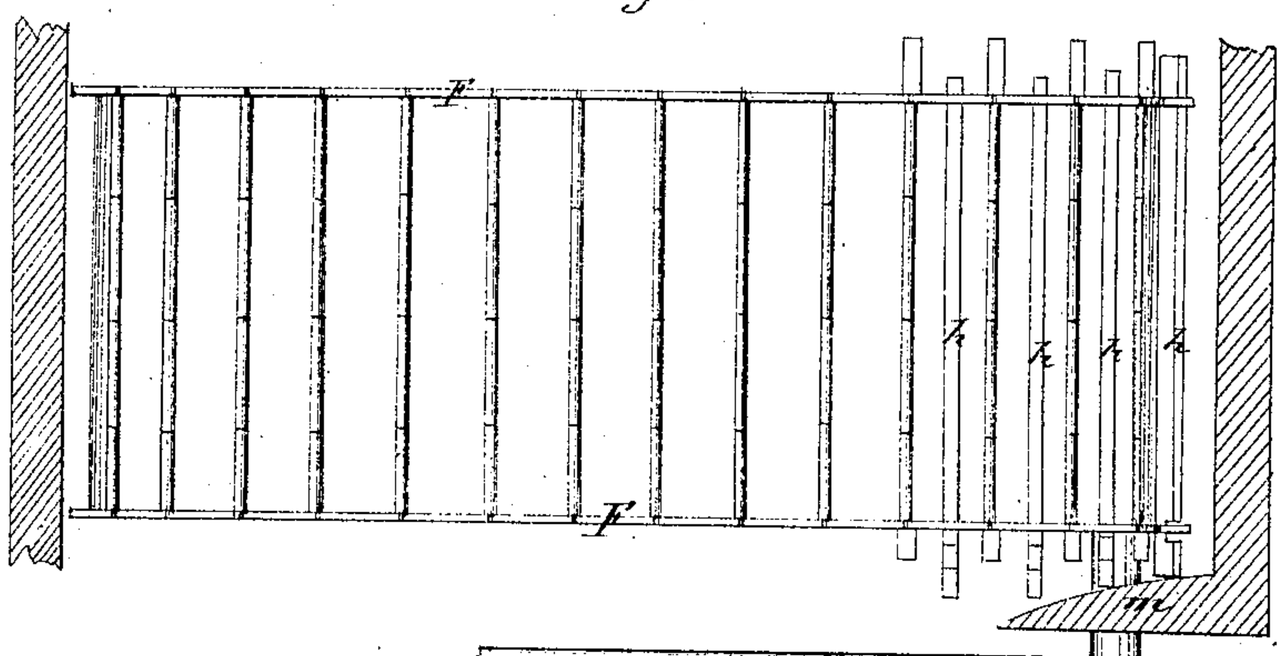
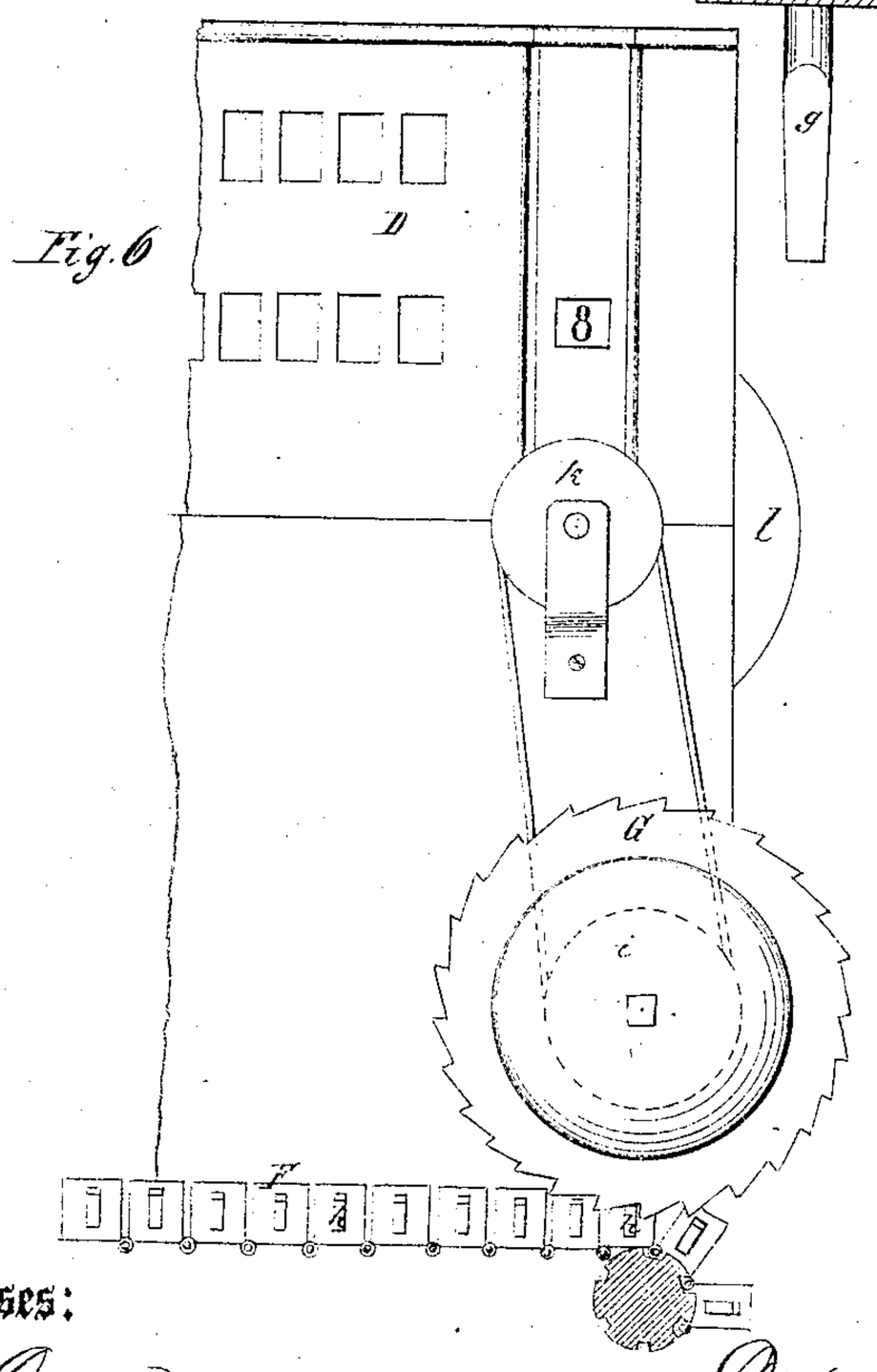


Fig. 6



Witnesses:

Thos. D. L. Durand

E. A. Pettis

Inventor:

Dr. Adam Weston

PER

Attorneys.

5 Sheets—Sheet 5.

A. WESTON.

VOTE RECORDING MACHINE.

No. 113,376. Patented Apr. 4, 1871.

Fig 7.

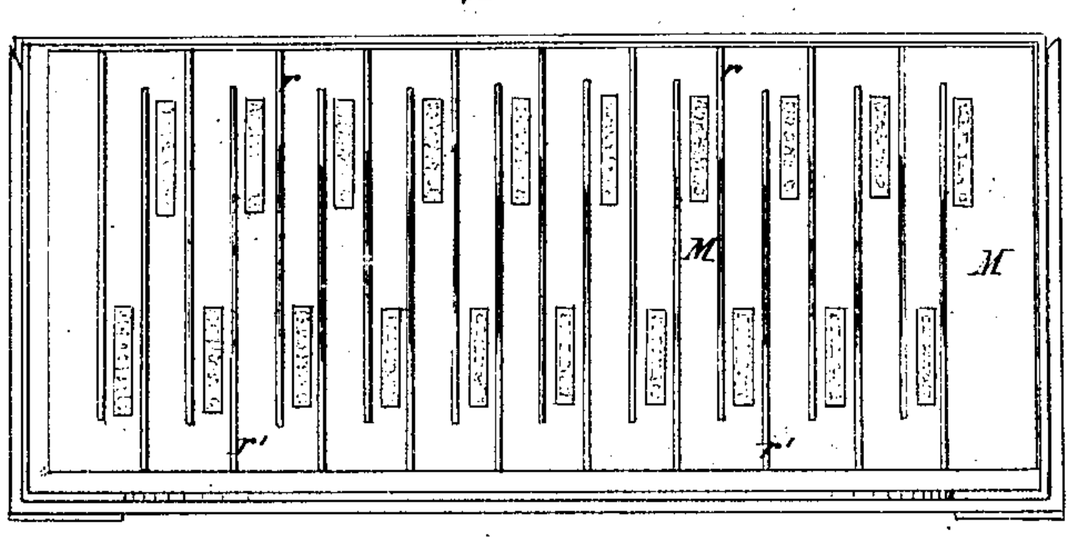


Fig 12

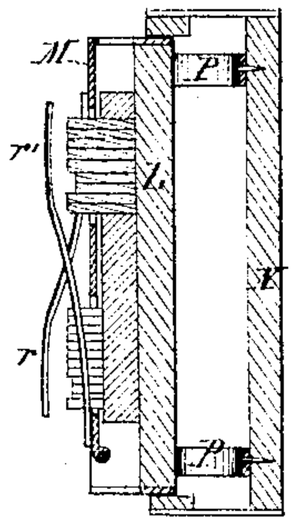


Fig. 8.

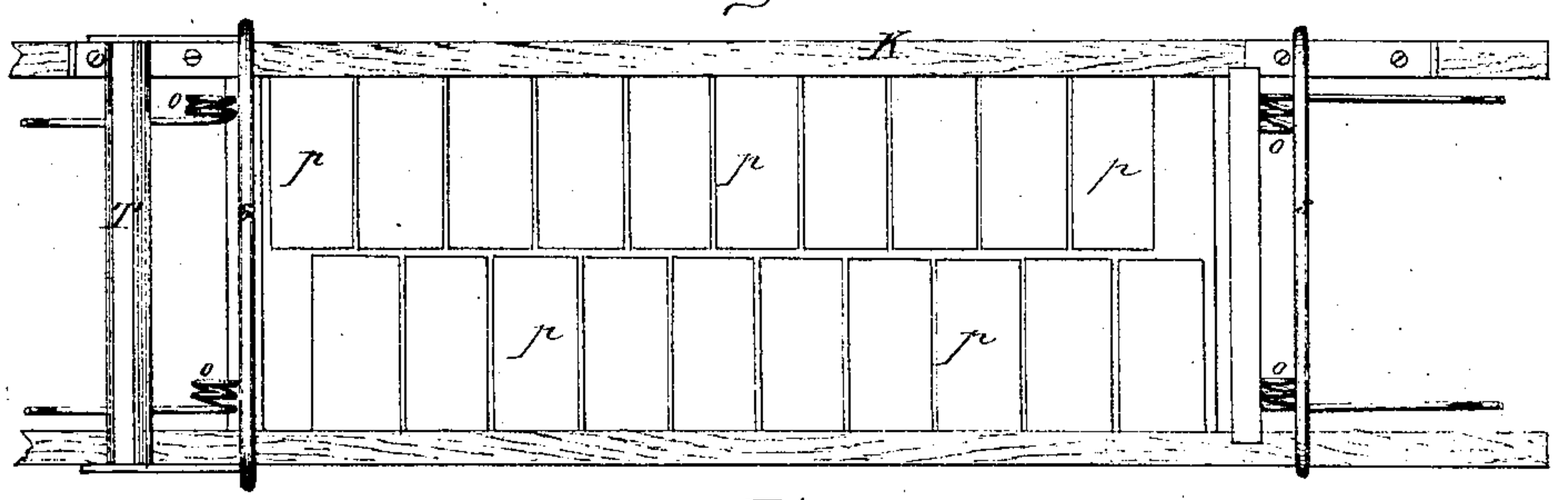


Fig. 9.

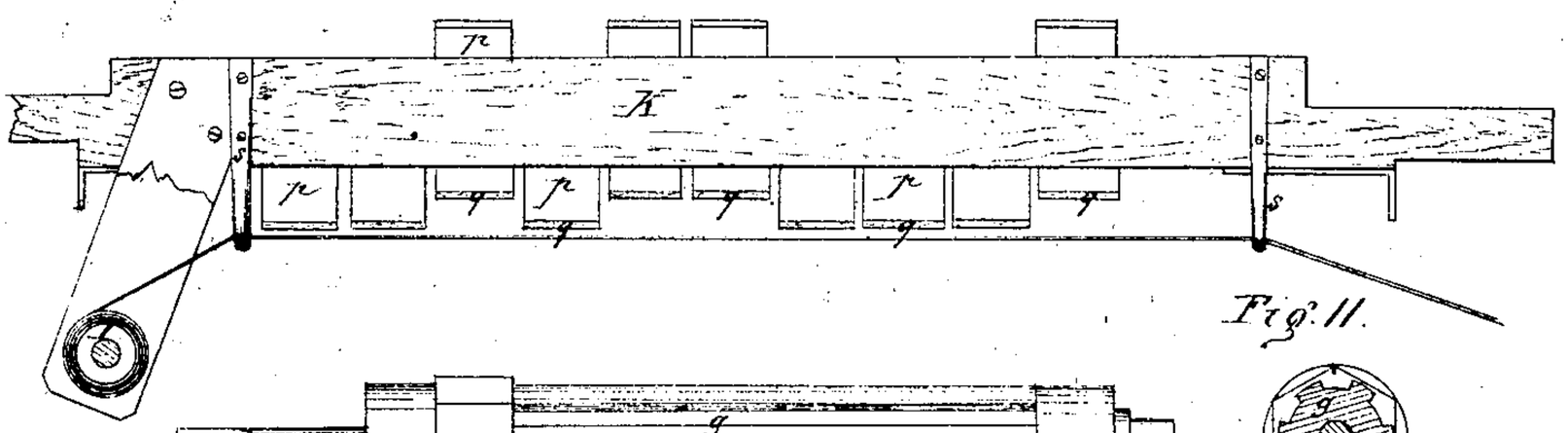


Fig. 11.

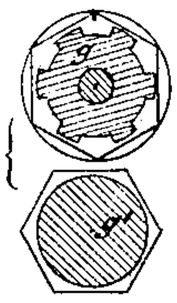
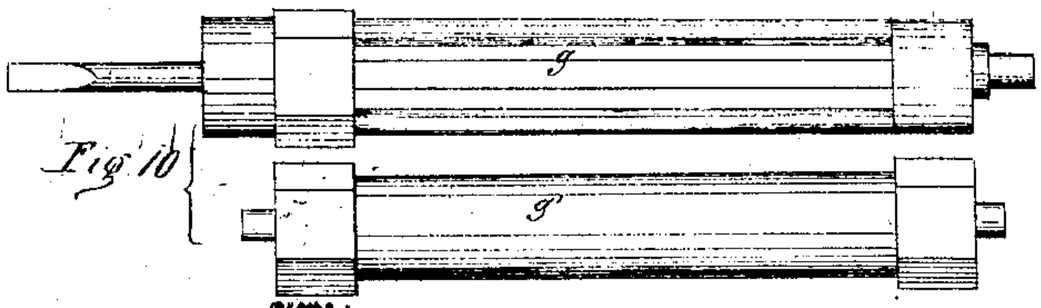


Fig. 10



Witnesses:

Thos. D. D. Renaud

C. A. Pelletier

Inventor:

Dr. Adam Weston

Per Munn & Co

Attorneys.

United States Patent Office.

ADAN WESTON, OF KEESEVILLE, NEW YORK.

Letters Patent No. 113,376, dated April 4, 1871.

IMPROVEMENT IN VOTE-RECORDING MACHINES.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, Dr. ADAN WESTON, of Keeseville, in the county of Essex and State of New York, have invented a new and improved Legislative Teller and Recorder; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawing making a part of this specification, in which—

Figure 1 is a transverse sectional elevation;

Figure 2 is a rear elevation;

Figure 3 is a view in perspective of the endless chain that carries the voting-pins;

Figure 4 is a partial end elevation showing the mechanism by which the printing-press is brought up to the cushions, and the holding-bars thrown into lock with the voting-pins;

Figure 5 is a plan view of the endless chain with some of the voting-pins, and a horizontal section of the inclined surface that throws the voting-pins back;

Figure 6 is a partial longitudinal vertical section showing the voting-pins in the act of turning the toothed wheel that causes the rotation of the footing-up chain;

Figure 7 is a front elevation of the printing-press;

Figure 8 is a front elevation of the double rows of blocks and the frame that holds them;

Figure 9 is a plan view of the same;

Figure 10 includes plan views of the two rollers that carry the endless chain;

Figure 11 includes transverse sectional elevations of the same; and

Figure 12 is a transverse vertical section of the printing-press.

This invention relates to a machine intended specially for use in legislative bodies, and which enables each member, by pulling one knob when he intends to vote yes, and another knob when he intends to vote no, to display the number of his seat, either in the yes or no column, in a conspicuous manner on a plate elevated in full view from all parts of the hall; and also, to cause a pin, either in a yes or no series, to project from one side of an endless chain; after which an operator, by putting the endless chain in motion, causes the projecting parts of said pins of the yes series to each strike one of the teeth of a serrated wheel and turn the same, which wheel effects and displays conspicuously the footing up of the whole number of yeas, and also causes the projecting parts of the pins of the no series to turn the wheel that foots up and displays the whole number of noes. Said operator by turning a crank also draws a printing-press forward against blocks that are sustained by the ends of the said projecting pins, and effects the simultaneous printing of two separate and complete lists of yeas and noes, whereupon, finally, the apparatus is put in order for the next registering of the seats, footing up of the votes, and printing of the list.

Referring to the drawing—

A is the front of the case that incloses the apparatus; and

a b are knobs projecting from the front of the case, and arranged in two parallel rows, one for ayes and the other for noes, the number of knobs in each row equaling the whole number of the members of the legislative body for whose use the machine is intended.

Each knob is connected by a wire with the lower end of a vertical lever, B. The vertical levers B are all placed side by side in a row at the back of the case A, their common fulcrum being a horizontal rod running through the levers, near their upper ends, from one side of the case to the other.

A horizontal plate, C, suitably attached at its extremities to the case A, in rear of the levers B, bears spring-bars *c*, one to each lever, the lower ends of which bars are connected with the levers, near the lower extremities of the latter, by wires, and, consequently, tend to keep the levers drawn back against a shoulder formed on the bottom of the case A.

The levers B that are connected with the yea-knobs *a* alternate with those that are connected with the no-knobs *b*.

To the upper parts of the yea-levers are fastened the lower portions of spring-plates *a'*, and to the upper parts of the no-levers are fastened the lower portions of spring-plates *b'*.

Both sets of plates are bent inward near their upper extremities, which are in contact with the rear side of the display-plate D, that is elevated in a position where all may see its front side.

The display-plate contains two or more horizontal rows of orifices, one above the other, the number of orifices in each division being equal to the number of members; and on its rear side a guide-way is formed back of each orifice, in which guide-way is placed a horizontal sliding plate, *d*, which is of such length as to keep the orifice always closed whether the plate is raised or lowered in the guide-way.

On the upper halves of the front sides of the plates *d* of each row is inscribed the same series of numbers which is inscribed on the seats of the members, one number to each plate, while the lower halves of the plates *d* are blank.

The lower extremities of the plates *d* of the upper or yea-row rest, when fully drawn up, on the turned-in ends of the spring-plates *a'*, and the lower extremities of the lower or no-row of plates *d* rest, when fully drawn up, on the turned-in ends of the spring-plates *b'*. When a member, in order to vote, pulls his knob in either series, he draws inward the lower extremity of that one of the levers B which is connected with

the knob pulled, thus causing the upper extremity of the same lever to move outward away from the back of the case A, and to withdraw the spring-plate that is attached to said lever from beneath the plate *d* which rests upon it. Its support being thus withdrawn, the plate *d* drops in its guide-way until it is arrested by the striking of its turned-down end *d'* upon the upper end of the guide-way. Prior to falling the plate *d* showed a blank through the orifice in the display-plate, but, having fallen, it shows through said orifice the number of the seat of the member who pulled the knob, and this either in the yea or no series, according as the member may have pulled the yea or no-knob. Thus, as soon as all the members have voted, the numbers of their seats and the nature of their votes may be seen from any part of the hall. On letting go the knob the spring-bar *c* at once draws the lever B back to its former position.

Between the turned-out ends of each series of plates *d* and the turned-in ends of the series of spring-plates that support them when drawn up, there is a horizontal bar, *e*, outside the guide-ways of the plates *d*, the bars *e* both sliding in the same guide-way in the back of the case A, and being connected so as to move together.

From the upper bar *e* a handle, *f*, extends upward, by which the bars may both be raised at the same time.

The bars *e* as they rise catch the turned-out ends of the plates *d* and draw said plates upward until they are clear of the spring-plates *a' b'*, which thereupon slip under and hold them. The bars *e* should then be lowered till they rest on the top of the spring-plates *a' b'*.

In front of the levers B, and at a point about halfway from the fulcrum of said levers to their lower ends, is a horizontal frame, E, supported at its ends in the sides of the case A.

At the extremities of the frame E are two transverse horizontal cylinders *g g'*, suitably supported so as to be rotatory. The central portion of the exterior of the cylinder *g* is grooved longitudinally.

The cylinders *g g'* carry an endless chain, F, the rivets between whose links form cogs, which, entering the grooves of the cylinder *g*, impart the movement of the same, when it is rotated, to the chain F.

The links of the chain F are flat plates, which, at their ends, are turned at right angles to the bodies of the plates, so as to project upward from the upper part of the chain, and downward from its lower part.

These bent portions of the chain-plates are all similarly slotted, and in the slots of each plate lies a pin, *h*, placed crosswise of the chain. When the chain is at rest the extremities of those pins *h* that are above the frame E are opposite, say, the yea-levers B, and the extremities of the pins that are below the frame E are opposite the nay-levers B, and the extremities of all the pins are so near the levers that, when the latter are drawn outward in the act of voting, they strike the pins opposite and move them outward, also, so that they project further from the outer side of the chain F than before the knobs were pulled. Of course not all the pins *h* are thus moved, but only those that are opposite such of the yea and nay-levers B as are drawn outward, the remaining pins *h* remaining stationary. The moving of the pins takes place at the same time as the dropping of the plates *d*, and, like that, is the work of the members who pull the knobs in voting. These two results are all that the members personally accomplish, the remainder of the operation being performed by an attendant.

Directly in front of the chain F is an oblong frame, K, supported at its ends in brackets that project from the fronts of the standards where, in the previously-explained mechanism, are supported the brackets *n*, being large enough to give the frame K some play.

Springs, *o*, fastened to the frame K and pressing against the said standards, tend to keep the frame always at an interval from the standards. The interior of the frame K is divided by a central bar into two horizontal spaces, and each of these spaces is divided by vertical partition-plates into a series of chambers, the number of chambers in each series being equal to the aggregate of the members—the chambers of the upper series being opposite the yea-pins *h*, and the chambers of the lower series being opposite the nay-pins *h*, when the chain F is set for voting.

In each of the said chambers there is a block, *p*, of a length somewhat greater than the width of the frame.

The said blocks are provided with shoulders that prevent them from being forced out of the chambers in either direction, and that are far enough apart to allow the blocks the requisite freedom of motion.

On the front ends of the blocks *p* are convex cushions, *q*.

Directly in front of the cushioned blocks is a printing-press, consisting of a solid oblong block, L, in the rear side of which are firmly imbedded two horizontal columns of types, the sections of each column being formed of those letters which, set in the proper order, make up the individual members' names, each column containing the names of all the members; the sections of type in the upper column being opposite the blocks *p* of the yea-series, and the sections in the lower column being opposite the blocks *p* of the nay-series.

A plate, M, hinged at one side to the upper side of the block L, and provided with two columns of slots for the sections of type to pass through, lies against the rear side of the block. The sections of type in each column are placed opposite the interval between the sections of the other column.

Elastic fingers, *r*, secured at one end to the outside of the plate M, near its upper edge, each finger by the side of one of the sections of type, extend downward, and are inclined away from the plate, so that their lower parts stand outside of the sections of the lower column of type.

A similar set of fingers, *r'*, secured at their lower ends to the lower side of the plate M, one at the side of each section of type in the lower column, extend upward, and are inclined so that their upper parts stand outside of the sections of the upper columns, the two sets of fingers extending past each other.

The block L is sustained in an oblong frame, N, in such a manner as to be easily removed, the frame N being provided with spring-plates, P, that tend to keep the block L always pressed out to the rear side of the frame.

The frame N is attached to two horizontal bars, R, one at its upper and the other at its lower side, which bars project outward from each end of the frame, and have journals at their extremities, which journals are inserted in holes near the ends of the forks of two horizontal bifurcated bars, S, fig. 4, placed at right angles to the bars R, and sliding in sockets affixed to the outer sides of the standards A A. The upper forks of the bifurcated bars may be sprung outward far enough to clear the journals on the ends of the bars R, and thus admit of the turning down of the printing-press for the purpose of running an inking-roller over the types, after which the press is turned up again and the bars R once more connected with the bars S.

A vertical roller, T, fig. 9, is sustained in arms that extend outward from the frame K beyong one end of the block L.

Around this roller a strip of paper is wound, which

strip is drawn across the face of the blocks *p* through guides, *s*, that project from the frame K.

To the sides of the bars S racks, S′, are secured, outside the standards A.

A shaft, O, passes through the standards A in front of and parallel with the row of levers B, and on the shaft O pinions O′ are secured, outside the standards A, and gearing with the racks S′. On one end of the shaft O side-faces are formed, which furnish a bearing for the key by which the attendant turns the shaft. The turning of the shaft draws the bars S and the printing-press inward together.

To the outer side of each standard A, beneath the pinions O′, two nearly horizontal levers, *w*, are jointed one above the other, below the bar S. The rear ends of each pair of the levers *w* are inclined toward each other to such an extent as to lie in the path of the bars S as the latter are moved rearward by the rotation of the shaft O. Each bar S accordingly strikes the inclined ends of the levers between which it lies and forces the rear end of the upper lever upward, and the rear end of the lower lever downward. This movement of the lever *w* takes place at the same time with each pair. Its effect is to draw the front ends of the upper levers downward together, and the front ends of the lower levers upward together.

The front ends of the upper levers *w* are connected by a horizontal bar, W, that passes through slots in the standards A, just in rear of the serrated wheel G, and just above the front ends of the voting-pins *h* of the yea-series.

The front ends of the lower levers *w* are connected, by a similar horizontal bar, W′, that is just in rear of the serrated wheel G′, and just beneath the ends of the voting-pins of the nay-series.

Notches, *x*, are formed in the voting-pins, outside the chain F, in such position that the notches of the voted pins of the yea-series are immediately beneath the bar W, and the notches of the voted pins of the nay-series are immediately above the bar W′, while the notches of such of the pins *h* as have not been voted or thrust forward lie back of the bars W and W′.

The above-mentioned descent of the front ends of the upper levers *w*, and ascent of the lowers levers *w′* carry the bars W and W′ into the notches *x* of the voted pins *h*, and hold the same firmly. The same movement of the shaft O that accomplishes this result brings the sections of type in the printing-press into contact with the strip of paper that lies against the cushioned ends of the block *p*, and also brings the spring plates *j* that are attached to the inner sides of the bars S, into contact with the ends of the frame K that sustains said blocks *p*.

The continuation of the rotation of the shaft O causes the plates *j* to overcome the resistance of the springs that press the frame K forward, and to force said frame backward, carrying the blocks *p* with it. A very slight backward movement of the frame K suffices to bring the rear ends of the blocks *p* into contact with the front ends of those pins *h* in each series that have been thrust forward by the pulling of the knobs *a b*. As these pins are held fast by the bars W W′ they stop such of the blocks *p* as strikes them, while the remaining blocks continue to move rearward with the frame R. The stopping of some of the blocks *p* brings them at once under a pressure from the sections of type opposite them more or less powerful, according to the force applied; after that to the shaft O; and this pressure causes the types to strike off the names they bear upon the strip of paper, the fingers *r* and *r′* being forced forward by such of the blocks *p* as stand out past the faces of the types that bear against those blocks, and the remaining fingers serving to bend the paper backward in front of those blocks *p* that do not stand out, and thus prevent the types opposite such cushions from printing upon the paper. In this way those members who pull out the voting-pins, whether of the yea or no-series, effect the printing of their names, while the names of such members as do not vote escape being printed. In less than a minute's time the attendant can produce the printed list of the names of those who voted upon either side of the question.

The printing having been completed, the attendant reverses the movement of the shaft O and moves the press forward to its original place. The springs connected with the frame K and bars W W′ throw these parts into the positions they occupied prior to the printing operation, and the machine is ready for the next operation, which is that of footing up the number of votes cast on each side. The printing having been accomplished, the attendant applies a key to the projecting stud of the cylinder *g* and turns the same from left to right. This imparts rotation to the chain F, and the chain carries the pins *h* along with it.

The number of pins that project more than the others from the chain F is equal to the number of members who have voted. The yea-series of pins moves in one direction and the nay-series in the opposite. The projecting ends of the voted pins of the yea-series strike, one at a time, as the chain F moves along the teeth of a serrated wheel, G, which is mounted vertically in the side of the case A outside of the path in which the ends of the pins travel when not moved out, but directly in the path of the ends of such of the pins as are moved out. The consequence is that each one of the moved or voted pins *h* rotates the wheel G by the space of one tooth.

On the opposite end of the shaft of the wheel G is a drum, which is connected by a cord or band with a drum, *k*, fig. 6, that is fixed on the end of a shaft above, which passes through the back of the case A. On the rear end of this shaft is another large drum, *l*, that bears the upper part of an endless chain, H, constructed of flat pieces with turned-out ends like the chain F.

The turned-out ends of the plates of the chain H are parallel with the rear side of the case A, and on them is inscribed, in a regular series, all the whole numbers of the Arabic notation from 1 to the symbols denoting the aggregate of the members. The surfaces on which these numbers are inscribed should of course be large enough to be seen from any part of the hall, and the chain H is made sufficiently long to answer this requirement, and is supported upon a second smaller drum, I, below the drum H.

The turning of the wheel G′ one tooth brings one of the plates of the chain H opposite a large orifice in the display-plate, and shows through the orifice the figures denoting the number of pins *h* that have struck the wheel G′, or, in other words, foots up the whole number of nay votes. The projecting pins *h* of the yea-series in like manner strike the teeth of a serrated wheel, G, that is mounted in the opposite side of the case A from the wheel G′ and below the chain F; and the whole number of yea votes is footed up by the chain of the drum *l* placed at the opposite side of the case A from the drum *l′*, the mechanism that connects the wheel G and drum *l* being like that which connects the wheel G′ and drum *l′*, and the figures on the chain of the drum *l′* showing through an orifice in the display-plate.

A horizontal block, *m*, fig. 5, is secured to the side of the case A beneath the wheel G, the inner side of which block is inclined inward, the block being placed in such position that the projecting ends of the voted pins *h* of the yea-series strike its inclined side after having turned the wheel G, and are, by such incline, thrust back into their original position, so as to be

within reach of the levers B when once more drawn forward in the voting process. A similar block is placed above the wheel G′ in a position where it operates to thrust the pins *h* of the nay-series back as they pass it.

By the above-described mechanism the attendant is enabled, within a very few moments, to display to the assembly the sum of the votes cast on both sides of the question. Resting on the top of the case A above the chain F is a knob, *x*, fig. 1, which is connected by a wire, *x′*, with a detent, *z*, which a spring presses downward upon the chain. Before beginning to rotate the chain the attendant raises the detent. On stopping the chain the detent holds it fast until raised again.

Having thus described my invention,

What I claim as new, and desire to secure by Letters Patent, is—

1. The combination of the levers B with the pins *h* and the voting-knobs *a* or *b* in such a manner as to enable the voter when he pulls the knob to thrust forward the pin either in the yea or nay-series, substantially as described.

2. The combination of the pins *h* with the endless chain F in such manner that the pins, when thrust out by the pulling of the knobs *a* or *b*, become cogs in the chain for the turning of the serrated wheels G or G′, substantially as described.

3. The combination of the endless chain F, the sliding pins, the wheels G or G′, and the endless chains H in such manner as to enable the operator, by rotating the chain F, to cause the chains H to display the footings-up of the votes on both sides of the question, substantially as described.

4. The combination of the chain F, pins *h*, and inclined blocks *m*, in the manner and for the purpose specified.

5. The pins *h*, provided with recesses *x*, and confined with the bar W or W′, the lever *w* or *w′*, and the bars *s*, in the manner and for the purpose specified.

6. The combination of the pins *h*, bar W or W′, block *p*, and block L, provided with columns of type, the sections of which bear the names of the several voters, substantially as described.

7. The combination of the printing-press L, frame N, sliding bars *s*, and shaft O provided with pinions O′, in the manner and for the purpose specified.

8. The combination of the sliding bars *s*, spring-plates *j*, and frame K, in the manner and for the purpose specified.

9. The combination of the block L, hinged plate M, and fingers *r r′*, in the manner and for the purpose specified.

10. The combination of the chain F, detent *z*, knob *x*, and wire *x′*, in the manner and for the purpose specified.

DR. ADAN WESTON.

Witnesses:

JNO. S. SMITH,

O. D. PEABODY.