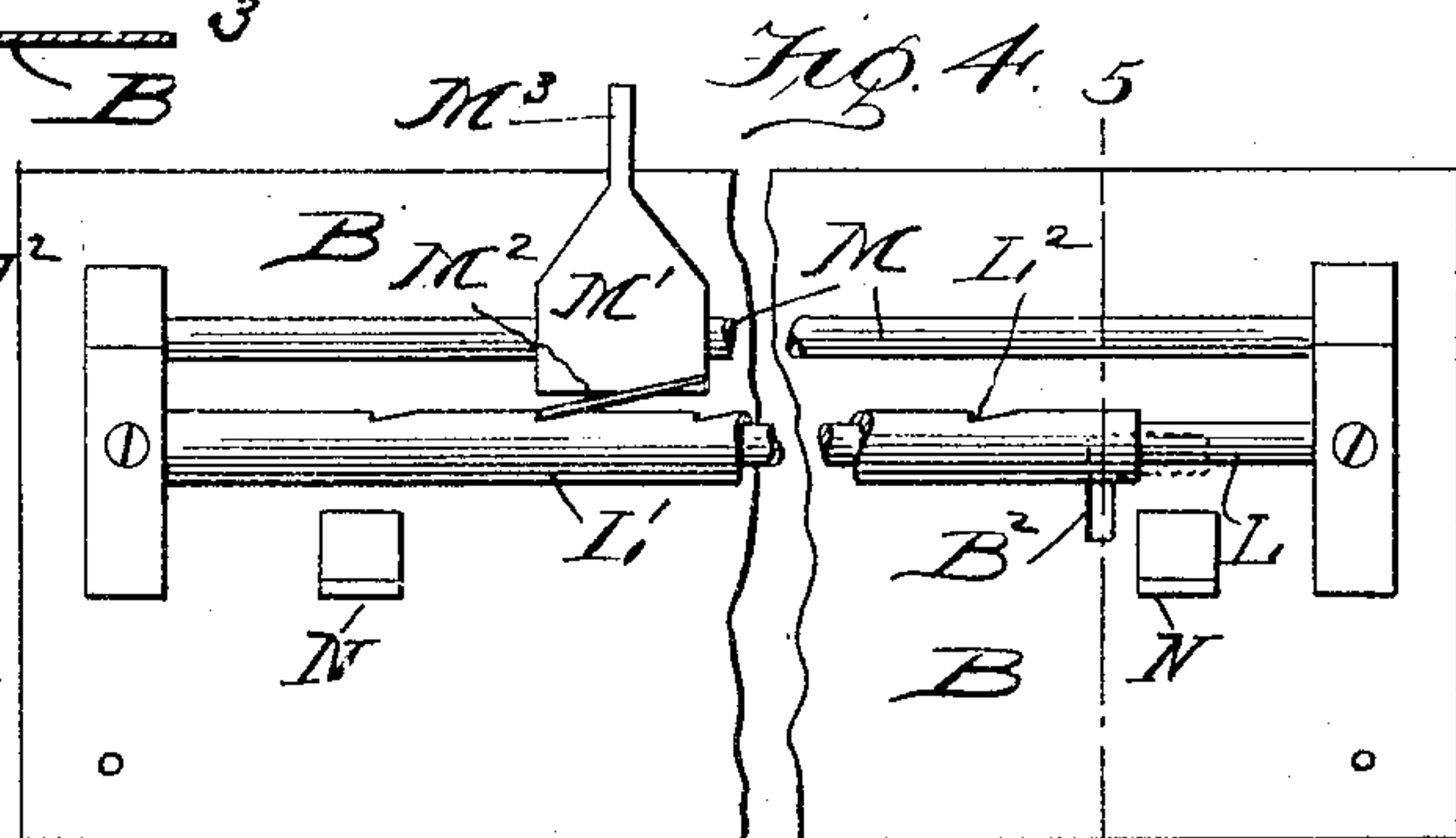
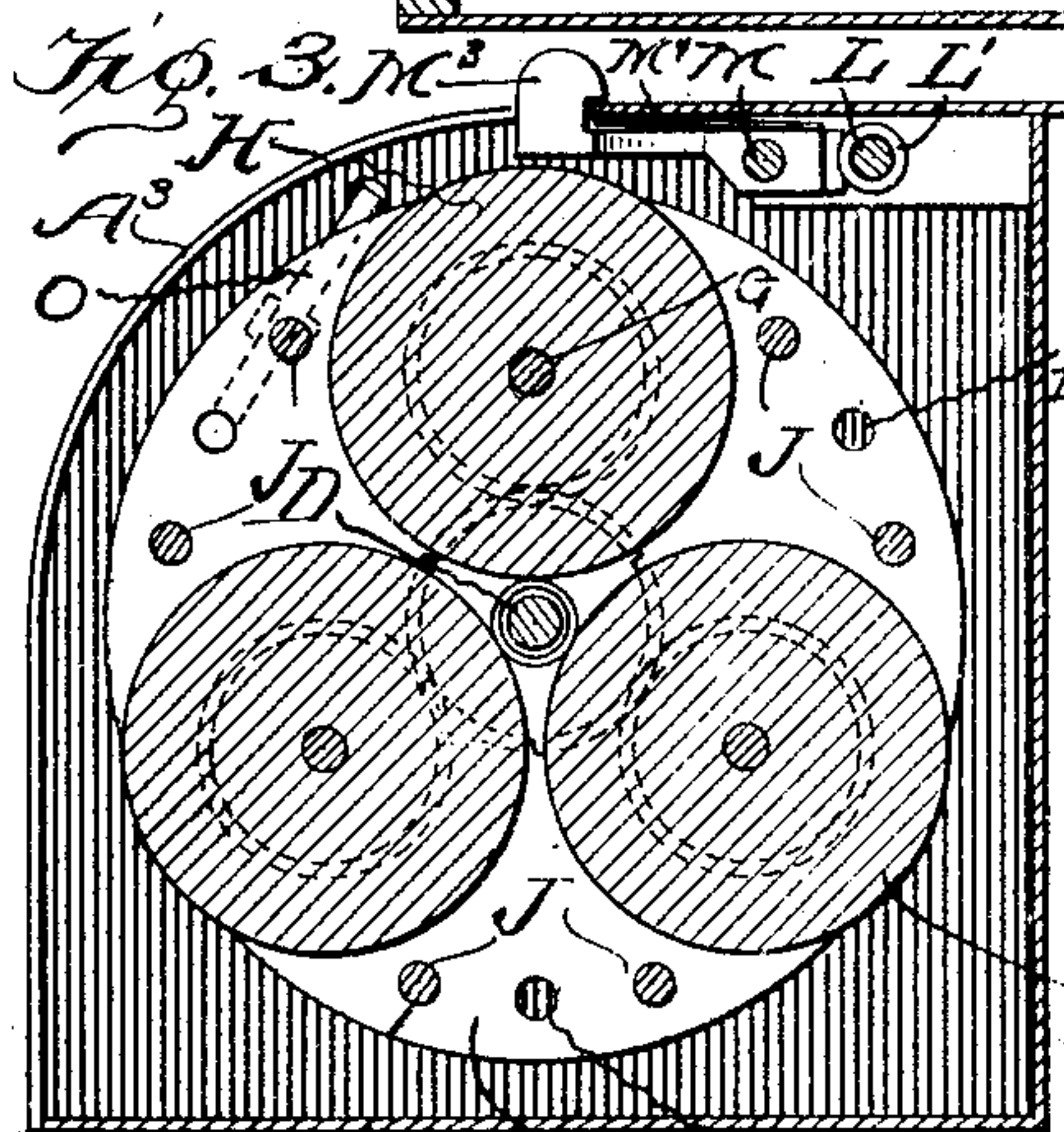
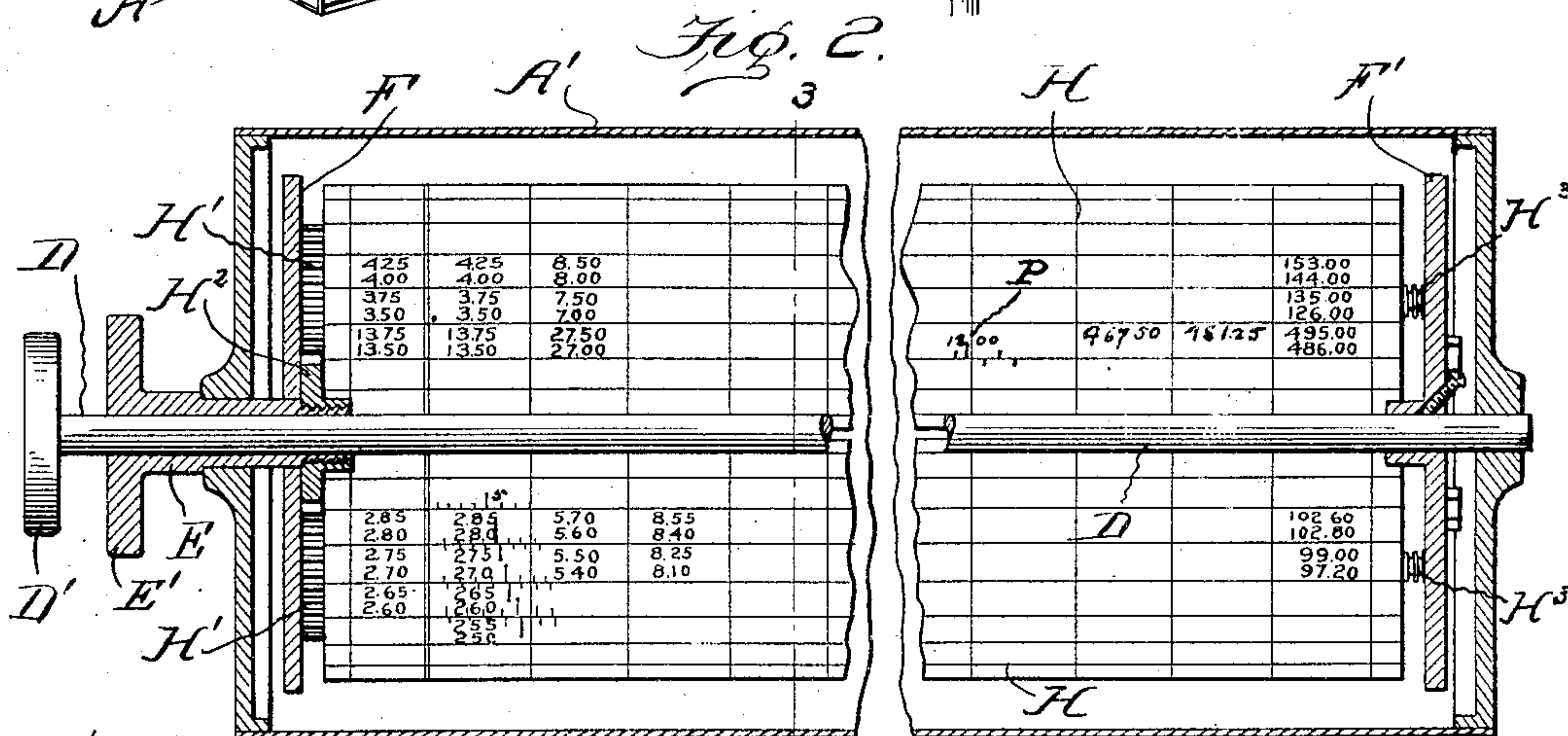
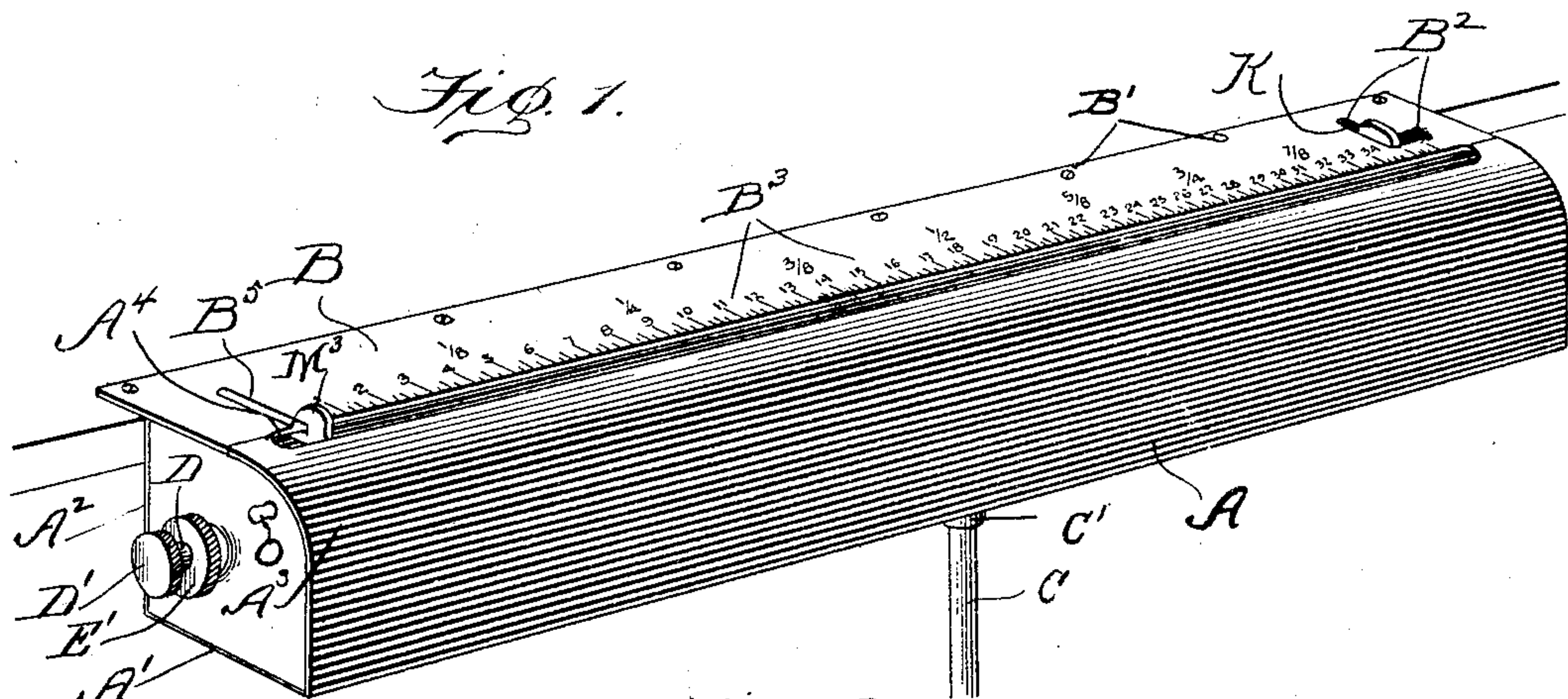


A. D. DE GENERES.  
AUTOMATIC COMPUTING MACHINE.  
APPLICATION FILED JULY 5, 1904.



*Fig. 5.*

Witnesses A' F' F'²

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# UNITED STATES PATENT OFFICE.

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## AUTOMATIC COMPUTING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 786,281, dated April 4, 1905.

Application filed July 5, 1904. Serial No. 215,308.

*To all whom it may concern:*

Be it known that I, ALBERT D. DE GENERES, a citizen of the United States, residing at Crowley, in the parish of Acadia and State of Louisiana, have invented an Improvement in Automatic Computing-Machines, of which the following is a specification.

The object of this invention is a computing device designed especially for dry-goods houses in the sale of cut goods, though the device can be used in any establishment where material of any nature is sold by lengths. The device can also be adapted for use in factories in computing time and wage accounts, as the imprinted figures and divisional marks employed may be given any arbitrary meaning necessary to adapt the device for use in any special occupation.

A further object of the invention is a device of this character which will readily indicate the total cost of a piece of goods at a fixed price per yard for any given length or which will indicate the required length for any given sum; and a still further object is to indicate step by step upon the machine the number of yards or inches measured off and the price of same as the goods are measured, so that should a clerk be interrupted while measuring goods he will not lose the count of the yards or fractions of a yard thereof already measured off.

My invention also consists in the novel features of construction and combination of parts hereinafter set forth, particularly pointed out in the claims, and shown in the accompanying drawings, in which—

Figure 1 is a perspective view of my device. Fig. 2 is a longitudinal section through the casing, one of the rollers being removed and the others being shown in plan, the central portion of the casing and rollers being broken out. Fig. 3 is a transverse section on the line 3 3 of Fig. 2. Fig. 4 is an inverted plan view of the removable top plate of the casing, the central portion being broken out, and Fig. 5 is a transverse section on the line 5 5 of Fig. 4.

In constructing my device I employ a casing A of any desired shape, but preferably having the flat bottom A' and a vertical rear side A<sup>2</sup>. The front of the casing is closed by a detachable curved front plate A<sup>3</sup>, cut away

along its upper edge, as shown at A<sup>4</sup>, intermediate its ends. The top B of the casing extends beyond or to the rear of the vertical side wall A<sup>2</sup>, so that it will overlap the edge of a counter, and is formed with a plurality of apertures B', through which screws may be passed to secure the casing to the counter. The casing may be further supported by a standard C, extending from the floor and having its upper end seated in a socket C', carried by the bottom plate A' adjacent its outer edge, which, it will be understood, is the edge on the side opposite from the counter.

Extending centrally and longitudinally through the casing A is a shaft D, projecting from the casing at the left-hand end and carrying at its outer end a milled disk D'. A sleeve E fits over the shaft D where it passes through the end of the casing A, the sleeve extending both within and without the casing, and at the outer end of the sleeve is formed a milled head E'. Loosely carried by the inner portion of the sleeve E is a disk F, and at the opposite end of the casing the shaft A carries a similar disk, F', fixed to the shaft by a set-screw. Shafts G, preferably three in number, have their ends fixed in the disks F and F', the shafts being parallel to each other and equidistant apart. Rotatable rollers are mounted on these shafts, the rollers H extending substantially the length of the casing, and at the right-hand end each roller carries a gear H', which meshes with a central gear H<sup>2</sup>, carried by the sleeve E, and I prefer to thread the sleeve E into the hub portion of the gear H<sup>2</sup>, so that by turning the head E' left-handedly the sleeve can be removed from the casing, the shaft D being first removed by taking out the set-screw securing it to the disk F'. The parts are further braced by means of the rods J extending between the disks F and F'. Between the disk F' and the rollers H a coil-spring H<sup>3</sup> is carried by each shaft G, these springs bearing against the ends of the rollers.

It is obvious that by reason of the cutting away of the marginal portion of the curved front plate A<sup>3</sup> at A<sup>4</sup> a slot or opening will be formed between the upper edge of that plate and the front straight edge of the top plate B, through which a portion of one of the roll-



ers will be visible. Along this straight edge of the top plate B is laid off two parallel scales, one in inches or yards, the divisional lines representing both lengths and the other in fractional parts of a yard. Adjacent the left-hand edge or end of the top plate B is formed a transverse rib B<sup>5</sup>, adapted for use as a line from which to measure and being raised is readily detected by the touch even when covered by the cloth to be measured. At the opposite end of the top B and adjacent the end is an angled slot B<sup>2</sup>, the distance between the end of this slot and the rib B<sup>5</sup> being substantially one yard plus the thickness of a lever K, which is adapted to work through the transversely-arranged portion of the slot B<sup>2</sup> and to slide in the longitudinal portion of the slot. Under the top B and carried by lugs carried by the top B is arranged a rod L, on which slides a tube or sleeve L', which is almost the length of the top plate B. The lever K is rigidly secured to this sleeve adjacent an end of the sleeve, and by means of the lever the sleeve is both partially rotated and also moved along the rod L, the distance of such movement being limited by the longitudinal length of the slot B<sup>2</sup> in which the lever K slides. On one side of the sleeve L' is formed a plurality of rack-teeth L<sup>2</sup>, and arranged adjacent and parallel with the sleeve is a bar M, having slidably arranged thereon a block M', which carries on its inner side a leaf-spring M<sup>2</sup>, adapted to be engaged by the teeth L<sup>2</sup> of the sleeve L'. The block M also carries on the opposite or outer side an angled arm, which projects above the edge of the plate B and is recessed to slide on the edge of the plate B, and this arm forms a pointer M<sup>3</sup>, made flat and smooth, so that it can be conveniently moved along the edge of the plate B, adjacent the scales heretofore referred to and shown at B<sup>3</sup>. A flat spring M<sup>4</sup> is carried by the block M and bears against the under side of the top plate B, making a frictional contact sufficient to hold the block in its adjusted position. A plurality of lugs N are carried by the under side of the top plate, through which screws are passed to connect it to the rear side A<sup>2</sup>. The disk F has formed therein three perforations F<sup>2</sup> midway the rollers H, and the adjacent end of the casing A has also formed therein a perforation. An angled spring-pressed locking-pawl O is pivoted intermediate its ends between the end of the casing and the face of the disk F and is adapted at its inner end to engage the perforations F<sup>2</sup> and lock the disks F and F', and consequently the shaft D, against rotation. The outer end of the pawl F<sup>2</sup> projects through the perforation in the end of the casing, and by pressing the same inwardly the inner end of the pawl F<sup>2</sup> is released from engagement with one of the slots, and the shaft and disks may be rotated by the milled head D', thus bringing a new roller into alinement with the slot.

The operation of the device is as follows: The rollers provide a movable surface adapted to be moved across the slot formed in the casing and are laid off into spaces by means of transverse and longitudinal lines. In the first series of spaces are arranged a plurality of figures—as, for example, “4.25”—which indicates the price per yard of the cloth to be measured and cut. These figures may indicate cloth at four and a quarter cents per yard or at four dollars and twenty-five cents per yard. The transverse lines aline with the inch-marks formed on the scale carried by the top B and adjacent the margin of the slot in the casing. These “inch-marks” (so termed because they are actually one inch in length) are also readable as yards. The figures in the other spaces corresponding to that space in which the figures “4.25” are placed and visible through the slots simultaneously with the figures “4.25” are multiples of that figure, the first space to the right of the price-space being also “4.25” and showing the price of one yard and the second space having the figures “8.50,” showing that two yards would be worth eight and one-half cents or eight dollars and fifty cents. Short divisional marks are placed on the longitudinal lines between the transverse lines and are read the shorter ones in cents and the longer ones in multiples of five cents. The cloth is measured on the top B, starting from the ridge B<sup>5</sup>, the pointer M<sup>3</sup> being also adjacent the rib B<sup>5</sup>. The clerk grasping an end of the cloth in the right hand draws the cloth across the top plate B until the lever K is reached, which is moved by him into the position shown in dotted lines in Fig. 5. This rotates partially the sleeve L' and brings the teeth L<sup>2</sup> into position to engage the spring M<sup>2</sup> of the block M', and further movement of the lever along the longitudinal portion of the slot moves or slides the sleeve L' along the rod L, and this moves the block one step, or, to be exact, one inch along the longitudinal slot of the casing. The lever and sleeve L' is returned to its normal position and the measuring of a second yard again moves the block M' and the pointer M<sup>3</sup> another step or inch and it will show on the scale of the casing that two yards have been measured, and if the cost of the cloth is two dollars and seventy-five cents per yard and the roller is rotated by the sleeve-head E' so that this price is visible through the slot the roller will show that the price of the two yards is five dollars and fifty cents, the pointer M<sup>3</sup> indicating this fact, as well as the length of the piece measured. Suppose, however, that a customer asks for thirty-three inches of cloth at thirteen and one-half dollars per yard. The clerk in measuring the cloth would move the block or pointer with the hand, the same not being engaged by the teeth of the rotatable sleeve to the thirty-third inch and the small divisional mark would give the price—viz., twelve dollars—or if the cloth was worth



thirteen and one-half cents per yard the piece thirty-three inches in length would cost twelve cents, though it will be noted that twelve cents' worth of cloth would in reality stop a very slight fraction of an inch short of the divisional line indicating thirty-three full inches. If, therefore, a person asked for twelve dollars' worth of a piece of cloth costing thirteen and one-half dollars per yard, the clerk would move the pointer to this divisional line (indicated at P in the drawings) and would cut off the piece as indicated by the scale on the top plate B instead of cutting off the full thirty-three inches.

When a clerk is measuring off, say, twenty-six yards of cloth, the pointer is engaged and moved step by step by means of the toothed sleeve and lever K and indicates at any point in the measuring exactly how many yards have been measured and the price of the cloth so measured at any price per yard. The clerk cannot therefore make an error and measure off twenty-five or twenty-seven yards instead of the twenty-six desired without the pointer M<sup>3</sup> showing the error. The device can be used, therefore, when a certain number of yards at a fixed price are to be measured off, accurately showing the number measured and the cost of the total amount so measured, when a piece of an unknown length is to be cut off and sold at a fixed price per yard for a specified amount and when a certain fraction of a yard, as twenty-three inches, is to be sold and the price per yard only is given. In all of these cases the device will measure the length of the cloth sold, both in yards and inches, and give the total price for the length in cents or dollars and fractions of a dollar.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination with a stationary scale, of a rotatable roller having imprinted matter thereon arranged adjacent and parallel to the scale, the block adapted to slide along the scale, and means for moving the block step by step.

2. The combination with a slotted casing having a scale arranged along the margin of the slot, a slidable sleeve carried by the casing, means for moving the sleeve, a block adapted to be engaged by the sleeve and move step by step along the scale, and a rotatable roller having imprinted matter thereon, arranged adjacent the scale.

3. The combination with a casing having a longitudinal slot formed therein, and having a scale arranged upon the marginal portion of the slot, of a rotatable roller carried by the casing and visible through the said slot, a slidable block carrying a pointer adapted to travel along the scale, a slidable toothed sleeve adapted to engage the block and move the same in one direction, and means for alternately moving the sleeve in opposite directions.

4. A device of the kind described comprising a casing having a longitudinal slot formed therein, and having a scale arranged along the marginal portion of the slot, the top of said casing having an angled slot formed therein, a rod carried by the casing adjacent the slot, a toothed sleeve movable and rotatable on the said rod, a lever secured to the sleeve and adapted to work in the angled slot, a bar arranged adjacent the sleeve, a block adapted to slide on the bar and carrying a pointer adapted to move along the edge of the scale, a spring carried by the block adapted to be engaged by the teeth on the sleeve, and a movable surface arranged within the casing and visible through the slot, said surface having imprinted matter thereon, and means for moving the said surface transversely with reference to the slot.

5. A device of the kind described comprising a slotted casing, the marginal portions of the said slot having scale divisions arranged thereon, a plurality of rollers rotatably mounted in the casing and having matter imprinted thereon, means for successively bringing the said rollers into alinement with the said slot, a slidable block carrying a pointer adapted to be moved step by step along the scale, and means for moving the block.

6. A computing device comprising a stationary scale, a rod arranged below the scale, a tubular sleeve slidable on the said rod and toothed along one side, a bar parallel to the sleeve, a slidable block carried by the bar and adapted to be engaged and moved step by step by the toothed sleeve, a pointer carried by the block adapted to travel along the scale, and a lever connected to the sleeve and adapted to partially rotate the same and to slide the sleeve longitudinally in opposite directions on the rod, as and for the purpose set forth.

7. A device of the kind described comprising a casing having a longitudinal slot formed therein and having scale divisions formed on the margin of the slot, the top of said casing having an angled slot formed therein adjacent the said scale, a rod carried by the under side of the casing-top, a toothed sleeve adapted to slide and rotate on the said rod, a lever connected to the sleeve and projecting through and working in the said angled slot, a bar parallel to the rod, a block slidable on the bar and adapted to be engaged by the toothed sleeve, and a movable surface arranged within the casing, the said surface bearing imprinted matter adapted to be brought into alinement with the said slot.

8. A computing device comprising a casing having a longitudinal slot, a scale arranged adjacent the said slot, a shaft arranged longitudinally in the casing, and projecting from one end thereof, means for rotating the shaft, a sleeve arranged rotatably upon the shaft and extending within and without the casing, means for rotating the sleeve independent of rotation of the shaft, a disk carried by the



sleeve within and adjacent one end of the casing, a disk fixed to the shaft within and adjacent the opposite end of the casing, means for locking the shaft against rotation, shafts  
 5 carried by the disks, rollers mounted on said last-mentioned shafts, gears carried by the rollers, an intermeshing gear carried by the sleeve, a slidable block carried by the casing and having a pointer projecting through the  
 10 slot, and imprinted matter arranged upon the rollers and adapted to be brought into alignment with the slot, as and for the purpose set forth.

9. The combination with a longitudinally-slotted casing carrying rollers bearing imprinted matter adapted to be alined with the slot, of a slidable block carried by the casing, a pointer carried by the block and adapted to project into the slot, a movable toothed sleeve  
 20 carried by the casing and arranged parallel to the slot, means for partially rotating the sleeve and for sliding the same alternately in opposite directions, and a spring carried by the block and adapted to be engaged by the sleeve  
 25 on movement of the sleeve in one direction.

10. A device of the kind described comprising a casing having detachable top and side plates, the side plate having its upper edge portion cut away intermediate the ends of the  
 30 plate, and the top having a scale arranged along the edge adjacent the side plate, a rib formed on the top plate adjacent one end of the scale and at right angles thereto, the said top plate being angularly slotted adjacent the

opposite end, a slidable block having a pointer 35 adapted to move along the scale, a slidable sleeve toothed on one side and adapted for rotation, a lever secured to the sleeve and adapted to slide the sleeve when moved in one portion of the angular slot and to rotate the sleeve 40 when moved in the other portion, and a spring carried by the block and adapted to be engaged by the teeth of the sleeve when the toothed side is rotated toward the block, and when the sleeve is moved in one direction. 45

11. A device of the kind described comprising a casing, said casing having a slot formed therein, a slidable block carried by the casing and having a pointer adapted to project through the slot, said casing having a scale 50 formed on a marginal portion of the slot, a shaft in the casing, said shaft projecting therefrom, means for rotating the shaft, means for locking the shaft against rotation, a sleeve on the shaft, extending within and without the 55 casing and having its inner end portion threaded, a gear-wheel having a threaded hub portion adapted to fit on the threaded portion of the sleeve, a disk loosely mounted on the sleeve, a disk fixed on the shaft, rollers supported by and between the disks, and gear-wheels carried by the rollers and adapted to mesh with the gear-wheel threaded upon the sleeve, as and for the purpose set forth. 60

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