

W. H. HORNUM.
FARE-REGISTER.

No. 171,133.

Patented Dec. 14, 1875.

Fig. 1.

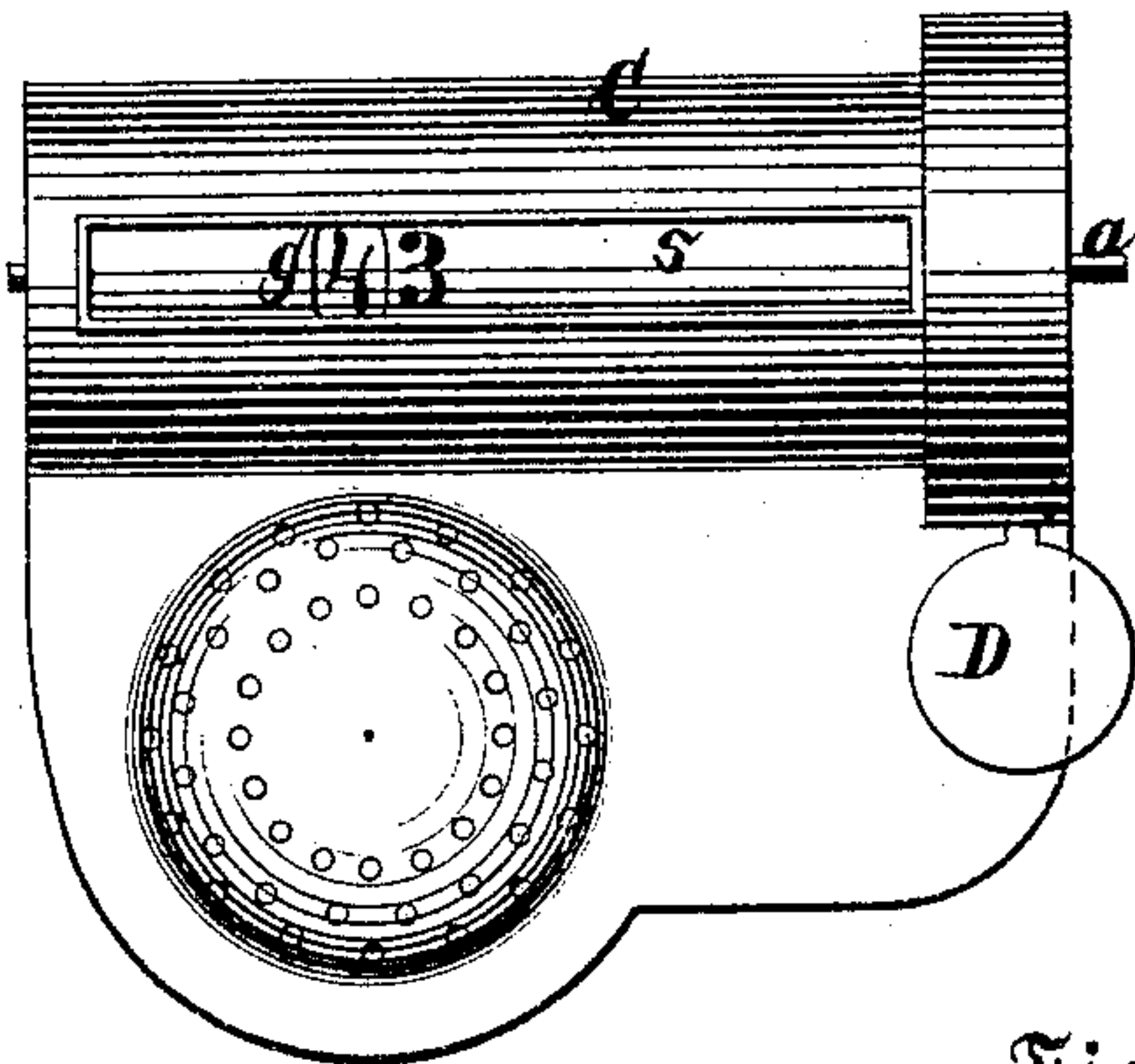


Fig. 2.

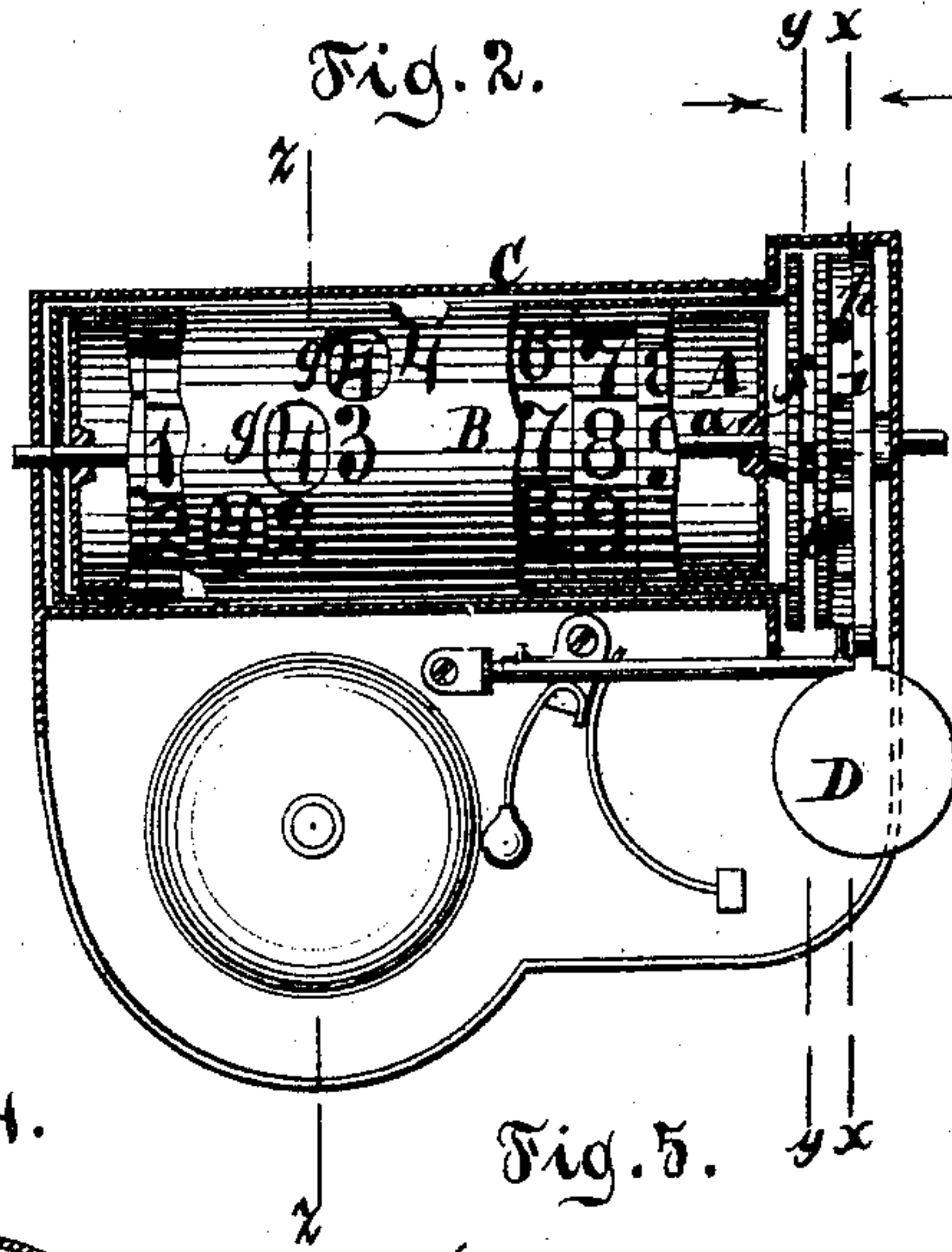


Fig. 3.

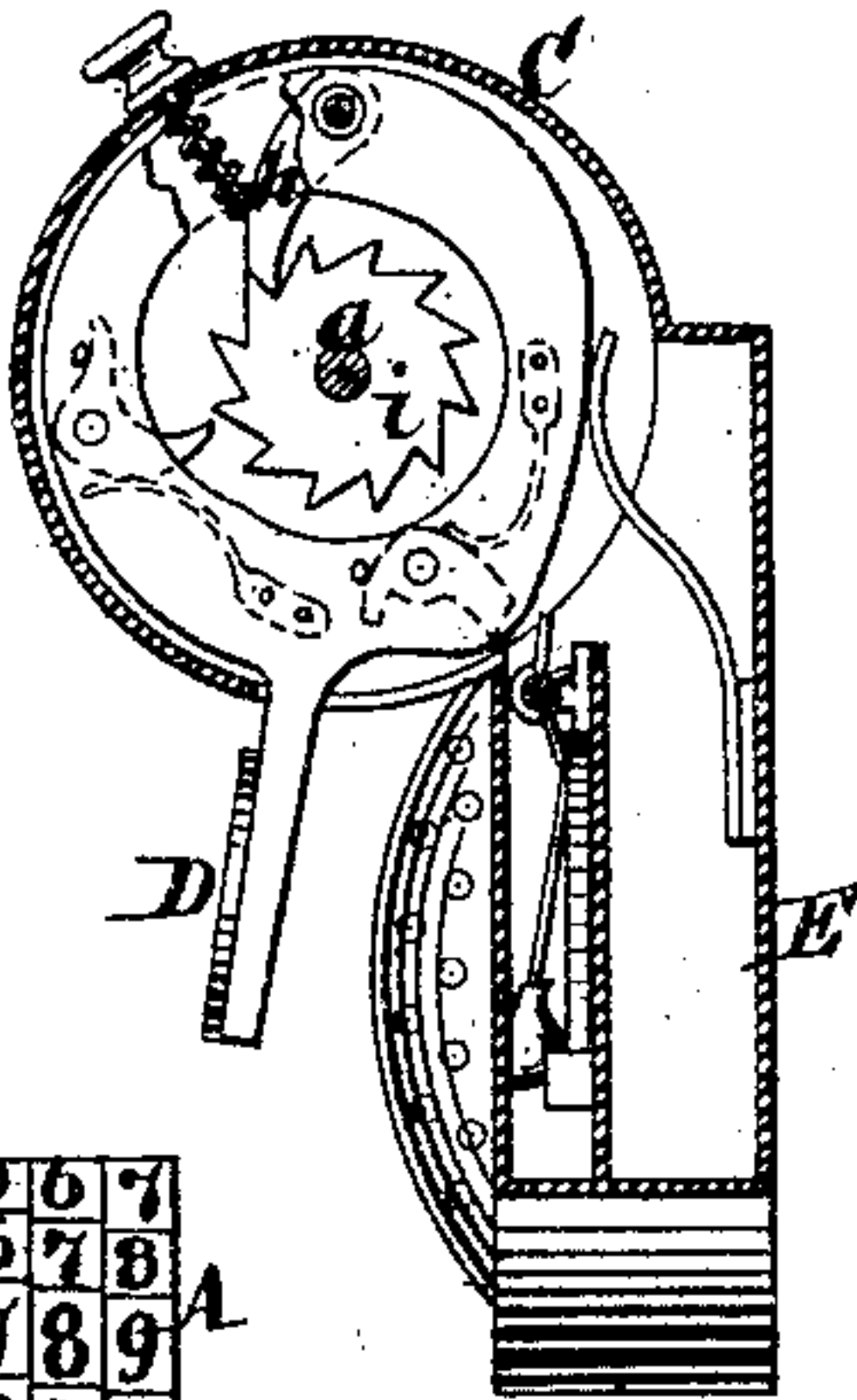


Fig. 4.

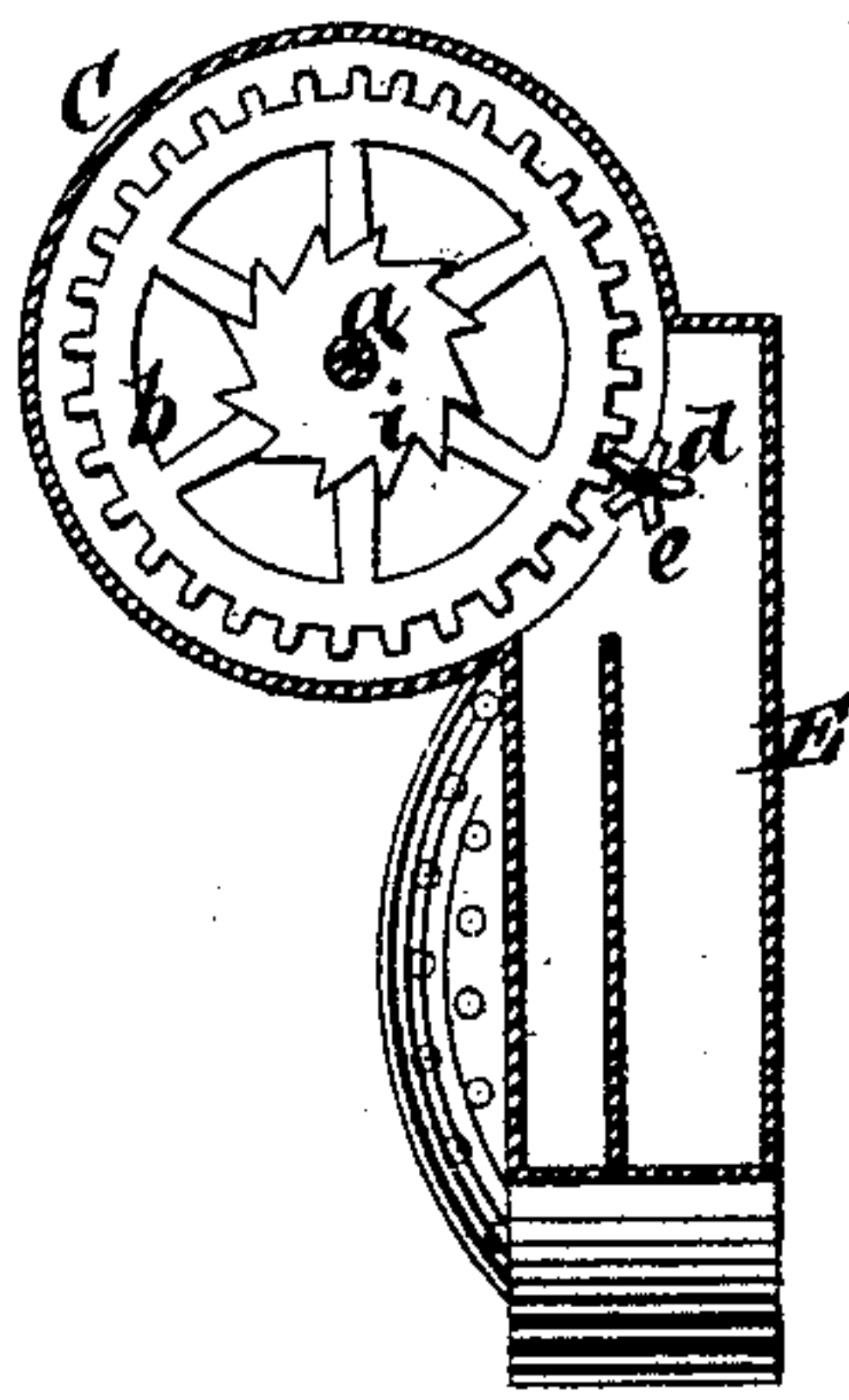


Fig. 5.

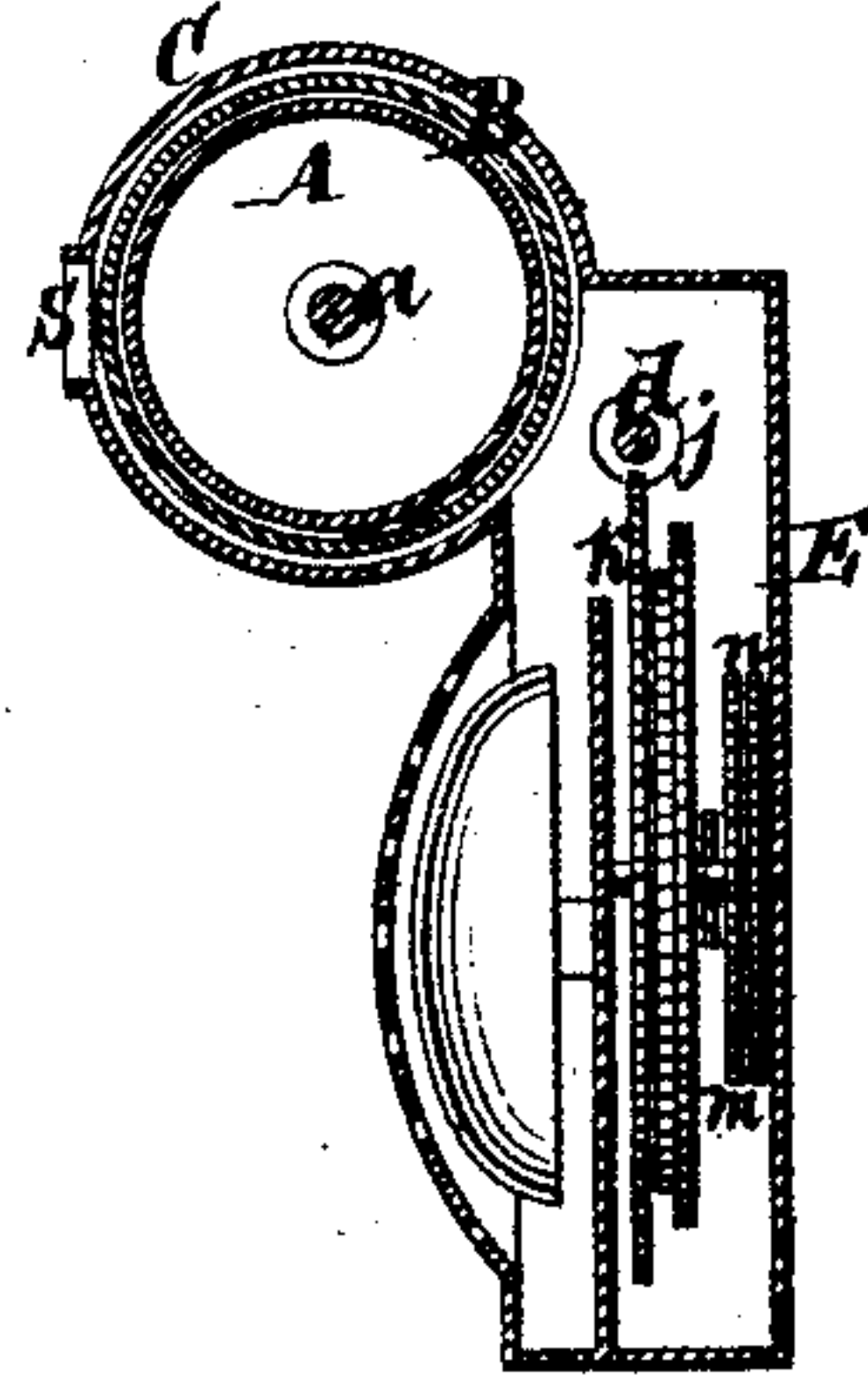


Fig. 8.

0	1	2	3	4	5	6	7
1	2	3	4	5	6	7	8
1	2	3	4	5	6	7	8
2	2	4	5	6	7	8	9

Fig. 6.

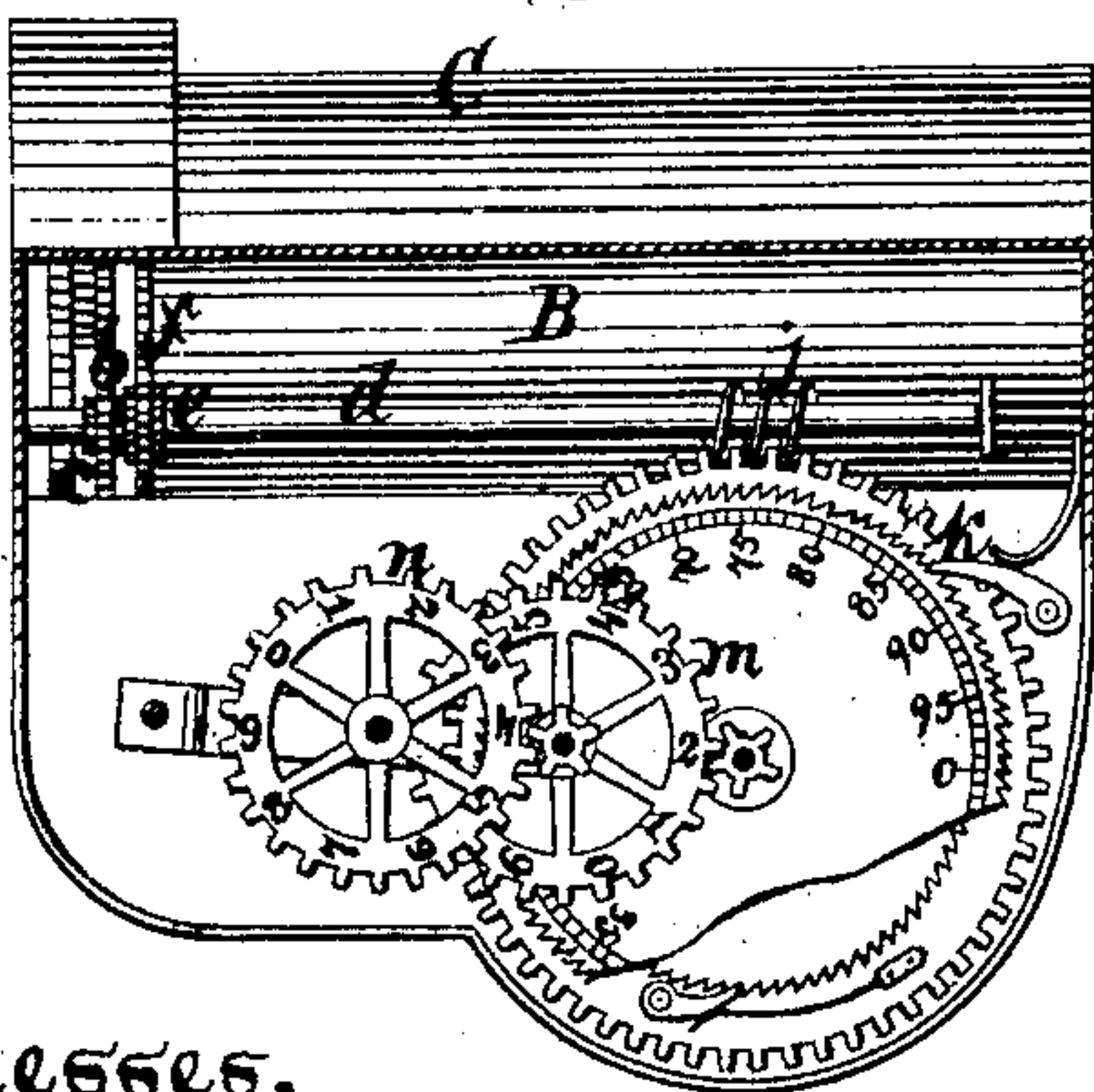
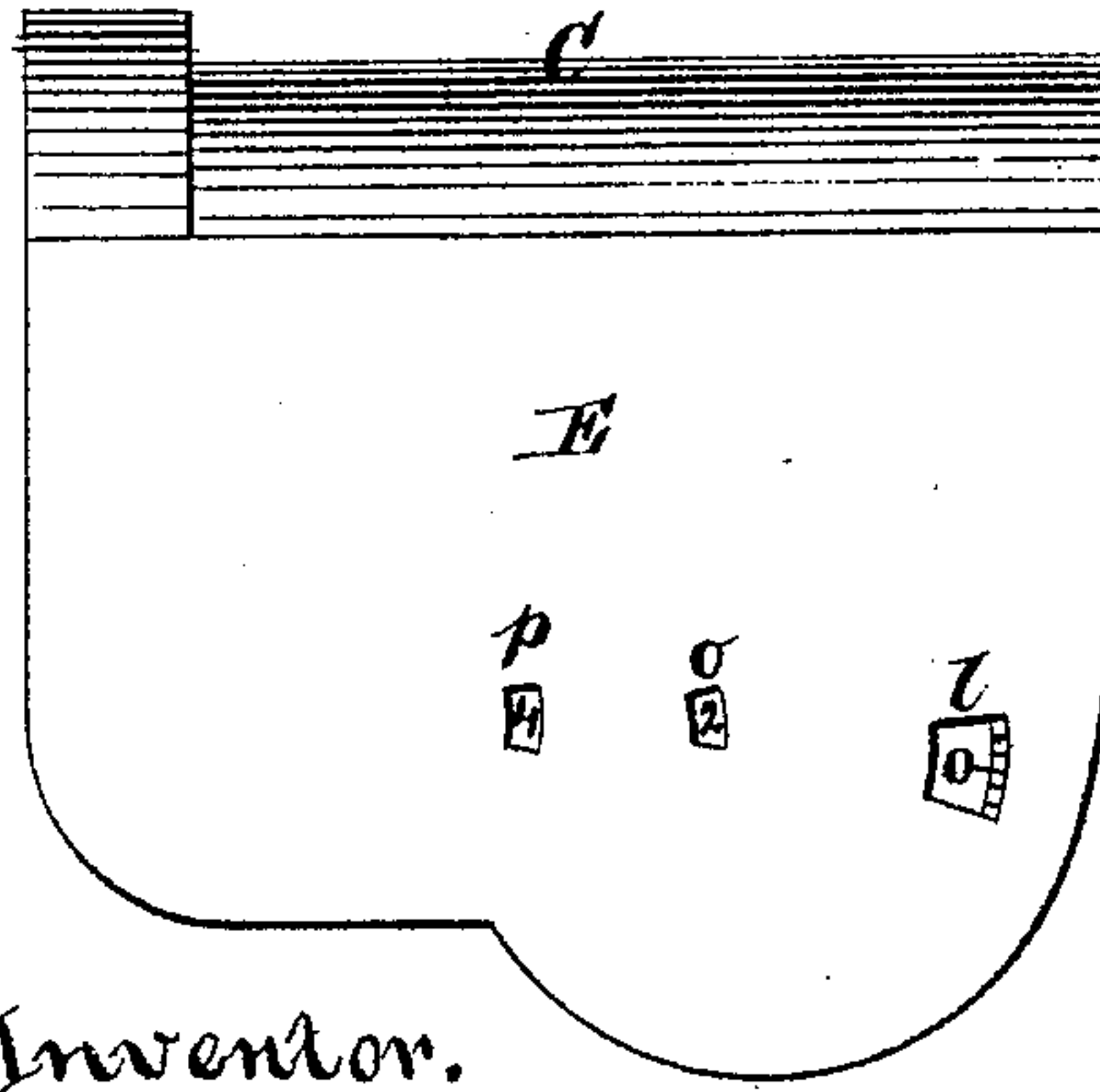


Fig. 7.



Witnesses.

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IMPROVEMENT IN FARE-REGISTERS.

Specification forming part of Letters Patent No. **171,133**, dated December 14, 1875; application filed November 27, 1875.

To all whom it may concern:

Be it known that I, WILLIAM H. HORNUM, of the city, county, and State of New York, have invented a new and Improved Registering Apparatus for Car-Fares and other purposes, which invention is fully set forth in the following specification, reference being had to the accompanying drawing, in which—

Figure 1 represents a plan view of the apparatus complete. Fig. 2 is a sectional plan of the same. Fig. 3 is a transverse section in the plane *x x*, Fig. 2. Fig. 4 is a similar section in the plane *y y*, Fig. 2. Fig. 5 is a similar section in the plane *z z*, Fig. 2. Fig. 6 is a plan view, showing the supplemental registering-wheels situated above the back plate. Fig. 7 is an inverted plan. Fig. 8 is a detached view of the inner cylinder.

Similar letters indicate corresponding parts.

This invention consists in the combination of two cylinders, one working inside of the other, said cylinders being made to revolve step by step, both in the same direction, but with different velocities, in the interior of a cylindrical case with a rectilinear slot, the surface of the inner cylinder being divided off into one hundred spaces, forming ten rows of ten spaces each, which extend in slightly oblique directions from end to end of said cylinder, and nine of which contain the figures from 1 to 9, one space in each row being left blank, while the outer cylinder is marked with the figures from 0 to 9, arranged in a spiral line extending all round the surface of said cylinder, on the sides of openings also arranged in a spiral running parallel to the spiral of the figures, so that by imparting to the two cylinders the required step-by-step motion the figures from 0 to 99 are successively brought opposite the slot in the rectilinear case. The inner cylinder is moved by a pawl and ratchet, and is geared together with the outer cylinder by cog-wheels and pinions of the proper proportion. The pinions are mounted on a shaft, from which motion is transmitted to a supplemental registering mechanism arranged to register hundreds, thousands, and so on.

In the drawing, the letters A B designate two cylinders, which work one inside the other in the interior of a cylindrical case, C, which is provided with a rectilinear slot, *s*, extend-

ing nearly throughout its whole length. (See Fig. 1.) The inner cylinder A is firmly mounted on an arbor, *a*, which has its bearings in the heads of the case C, and on which the outer cylinder B revolves loosely. On the shaft *a* is firmly secured a cog-wheel, *b*, which gears in a pinion, *c*, Fig. 6, mounted on a shaft, *d*, on which is fastened a second pinion, *e*, which gears in a cog-wheel, *f*, secured to the end of the outer cylinder B, the proportion between the cog-wheels *b f* and pinions *c e* being such that when the inner cylinder is turned the outer cylinder is caused to move at a different speed from that of the inner one. The surface of the inner cylinder is divided off in one hundred spaces, arranged in ten rows, which extend in slightly oblique directions from one end of the cylinder to the other, or nearly so. Each row contains ten spaces, and the figures from 1 to 9, one space in each row being left blank. (See Fig. 8.) The outer cylinder is marked with the figures from 0 to 9, which are arranged on a spiral line extending all round said cylinder on the sides of openings *g*, Fig. 3, which are also arranged on a spiral line running parallel to the line of the figures.

It will be readily seen, from this description, that the two cylinders can be turned to such a position that one of the blank spaces of the inner cylinder comes under the opening alongside the 0 on the outer cylinder, and in line with the slot *s* in the case. If the inner cylinder is then turned so as to bring successively its blank spaces in line with the slot *s*, while the outer cylinder is turned to bring successively the figures 1, 2, 3, &c., in line with said slot, the apparatus will indicate the figures 0 to 9. As the motion continues the spaces of the inner cylinder containing the figures 1 are successively brought in line with the slot *s*, and at the same time the figures 0 to 9 on the outer cylinder come in line with said slot, and the apparatus registers the numbers 10 to 19, and so on.

It is obvious that the motion of the two cylinders can be easily regulated by the cog-wheels *b f* and pinions *c e*, so as to produce the desired result, according to the manner in which the figures are placed on the inner and outer cylinders, which may be changed in various ways.

In the example shown in the drawing, the motion of the inner cylinder is produced by a finger-lever, D, which carries a pawl, *h*, that engages with a ratchet-wheel, *i*, secured to the cog-wheel *b*. On the shaft *d* is mounted a worm, *j*, Fig. 6, which engages with a wheel, *k*, situated close to the back plate E of the apparatus. On the under side of this cog-wheel, or on a disk secured on its arbor, are one hundred marks, which show through an aperture, *l*, in the back plate, and said wheel is geared together with additional registering-wheels *m* *n*, the figures marked on which show through apertures *o* *p* in the back plate. (See Fig. 7.) By these means a supplemental registering mechanism is connected with the two cylinders A B, to register hundreds, thousands, ten thousands, and so on.

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

1. In a registering apparatus, the combination of two cylinders, A B, one working inside

the other, and geared together to move at different velocities in a cylindrical case, C, with a slot, *s*, the inner cylinder A being divided off in hundred spaces containing figures, as shown, while the outer cylinder B is marked with the figures from 0 to 9, arranged on a spiral line alongside of apertures *g*, all constructed and operating substantially as shown and described.

2. The combination, in a registering apparatus, of the two cylinders A B, one working inside the other, with the supplemental registering mechanism composed of a worm, *j*, and wheels *k* *m* *n*, substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand and seal this 23d day of November, 1875.

WILLIAM H. HORNUM. [L. S.]

Witnesses:

W. HAUFF,

E. F. KASTENHUBER.