2 Sheets—Sheet 1.

T. E. BARROW.

Indicators for Time, Railways and other Purposes.

No. 198,483. **Patented Dec. 25, 1877.**

Fig. 1,

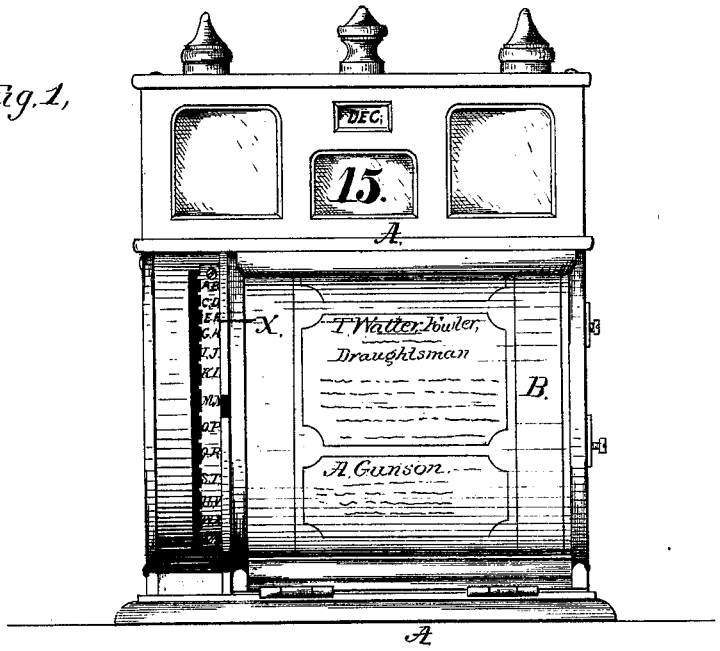
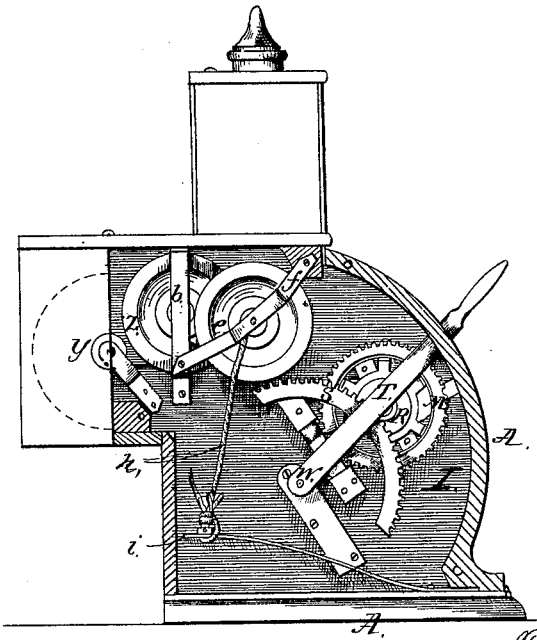


Fig. 2



WITNESSES;
T. Walter Fowler
Chas. G. Gill

INVENTOR
Thomas E. Barrow
By his attys.
Cox and Cox

2 Sheets—Sheet 2.

T. E. BARROW.

Indicators for Time, Railways and other Purposes.

No. 198,483. *Fig. 3.* **Patented Dec. 25, 1877.**

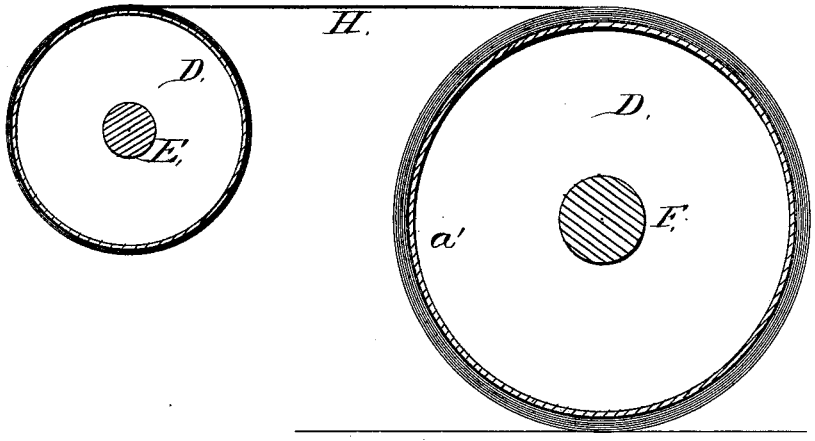


Fig. 4.

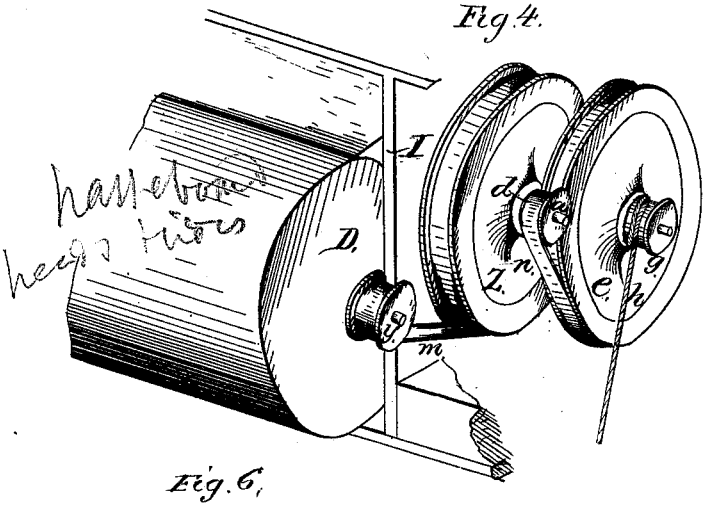


Fig. 6.

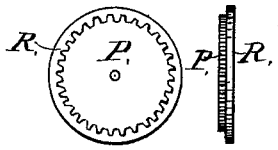
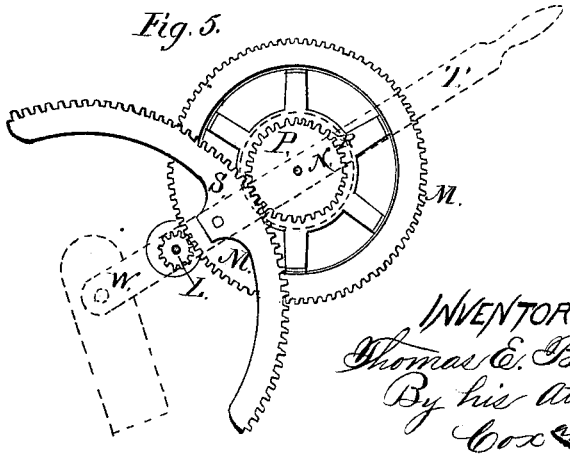


Fig. 5.



WITNESSES;
F. Walter Fowler
Chas. O'Gill

INVENTOR;
Thomas E. Barrow
By his Attys.
Cox and Cox

UNITED STATES PATENT OFFICE.

THOMAS E. BARROW, OF MANSFIELD, OHIO, ASSIGNOR OF ONE-HALF HIS RIGHT TO JACOB ETTINGER, OF SAME PLACE.

IMPROVEMENT IN INDICATORS FOR TIME, RAILWAYS, AND OTHER PURPOSES.

Specification forming part of Letters Patent No. **198,483**, dated December 25, 1877; application filed June 19, 1877.

To all whom it may concern:

Be it known that I, THOMAS E. BARROW, of Mansfield, in the county of Richland and State of Ohio, have invented a new and useful Improvement in Indexes, Registers, &c., of which the following is a specification, reference being had to the accompanying drawings.

The invention relates to an improvement in indexes, registers, &c.; and consists in the mechanism hereinafter specifically described, the object being to furnish a device that can be used effectively for a city or business directory and advertising-medium, a ledger-index, time-sheet, price-lists, or railroad-schedule.

Figure 1 is a front view of a device embodying the elements of the invention. Fig. 2 is a view of same with the side broken out, showing the driving mechanism. Fig. 3 is a central vertical transverse section of the rollers. Fig. 4 is a detached perspective view of the reels operating the rear roller, and Fig. 5 is a plan view of the gearing of the front roller.

In the accompanying drawings, A represents the casing of the device, provided on its front portion with the transparent concavo-convex face B, the frame of which is hinged at its lower edge to the front portion of the casing A, thus permitting the said face to be opened or closed at will.

In the present instance the upper surface of the casing A is furnished with the calendar; but this may be omitted, together with the advertisements which appear on either side thereof, without materially affecting the object of the invention.

The rollers D are transversely mounted in the casing A on axles E F, and are provided with, and connected by, the band or ribbon H, upon which advertisements, names, indexes, or other matter may be pasted, written, or printed, and any part of it be readily observed through the face B by revolving the said rollers and bringing the desired portions to the front of the device upon the roller of the axle F, the means of accomplishing which will be fully set forth hereinafter.

The end of the axle F protrudes through the inner partition I, and is furnished with the pinion L, which is engaged by the teeth of the cog-wheel M, secured upon the axle N, and provided on its side with the smaller cog-wheel P, which is riveted to the said wheel, and has secured on its side the disk R, for the purpose of preventing the segmental gearing S, which meshes with the wheel, from losing its position.

The segmental gearing S is rigidly affixed on the side of the lever T, which is pivoted at W, and has its front end extending through a slot in the casing A, in juxtaposition to the index or indicator X, which consists of a strip of metal provided on the side adjacent the lever T with notches, forming a rack, and on its face with the letters of the alphabet or other characters, divided in pairs in the present instance, one pair being opposite each notch; but any other suitable distribution of the letters may be used.

The end of the axle E also extends beyond the partition I, and has rigidly secured upon its extremity the reel Y, which is connected by a band, *m*, with the larger reel Z, mounted upon the axle *a* in the hanger *b*, and has the reel *d* rigidly formed upon its side. This reel is also connected with a larger reel by a band, *n*, as shown at *e*, which is journaled in the hanger *f*, and is provided on its side with the spool or reel *g*, which is furnished with a rope or chain, *h*, the lower end whereof is fastened to the rear portion of the spring *i*, the front part being firmly secured to the floor of the casing.

The purpose of the rollers D is to receive the band or ribbon H, and to transmit all or a portion of the same from one to the other.

The rollers D are constructed by securing end pieces of pasteboard on the axles E F, and connecting the same by a strip, *a'*, of the same material. Thus the roller can be large and at the same time light and effective.

Operation: The device being in its initial position, the front end of the lever T will be in the notch opposite the first two letters of the alphabet, and the names, advertisements, or other matter on the band H under the head A B should appear on the front roller D, immediately in rear of the transparent face B, so as to be discernible through the same.

While the above parts are in the positions set forth the main portion of the band H is on the rear roller D, and the like parts of the bands *m n*, respectively, on the reels Z *e*, the rear end of the spring *i* being elevated, and exerting a downward tension upon the rope or cord *h*.

Now, if it is desired to bring certain matter on the band H under some other head before the face B—say, for instance, under the letters O P—the front end of the lever T is moved downward and into the notch of the index X opposite those letters. This causes the segmental gearing S to revolve the cog-wheels M P, which communicate a corresponding movement to the pinion L, which, in turn, revolves the front roller D toward the front of the casing, thereby drawing that portion of the band H containing names, &c., under the head of any letter before O P from the rear roller, and winding it upon the said front roller. Thus the desired matter is brought to the view of the operator. When the band H is being drawn from the rear roller D by the action of the lever T, the axle E is revolved. This causes the reel Y to have a like movement, and draws the band *m* from the larger reel Z, thereby rotating the latter reel and the reel *d*, which unwinds the band or belt *n* from the reel *e*, revolving the same and the spool *g*, which wraps about itself the rope *h*, and draws the rear end of the spring *i* upward.

It is obvious that the tension of the spring *i* will be downward, and that it will have a tendency to reverse the movement above set forth and allow the mechanisms to return to their former respective positions; also, that when the lever T is freed from the rack of the index X the spring will cause the rear roller to regain the band H, and will move the said lever back to the notch opposite the letters A B. Or, if desired, in lieu of allowing the mechanisms to return to their initial positions, the lever could be placed in a notch of the index opposite some other heading, and the matter indicated by the same be brought before the glass face.

It is manifest that various uses of the invention will suggest themselves to the operator, and need not be specifically mentioned.

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

1. The front roller D, provided on its axle with pinion L, in combination with the cog-wheels M P, segmental gearing S, and lever T, substantially as set forth.

2. The rear roller D, furnished on its axle with the reel Y, in combination with the reels Z *d e*, bands *m n*, spool *g*, rope *h*, and spring *i*, substantially as set forth.

3. The combination of the rear roller D, provided with reels Y Z *d e*, bands *m n*, spool *g*, rope *h*, and spring *i*, in combination with the front roller D, furnished with cog-wheels M P, segmental gearing S, lever T, and with band H, substantially as set forth.

4. The combination, with the rollers D, of the band H, lever T, gear-wheels L P M, gearing S, and index X, substantially as set forth.

5. The casing A, provided with the hinged transparent face B, and indexical rack X, in combination with the hollow rollers D, and band H, substantially as specified.

In testimony that I claim the foregoing improvement in indexes, registers, &c., as above described, I have hereunto set my hand this 23d day of May, 1877.

THOMAS E. BARROW.

Witnesses:
JACOB ETTINGER,
ISRAEL S. DONNELL.