

No. 842,582.

PATENTED JAN. 29, 1907.

T. B. POWERS.
MOVING DISPLAY SIGN.
APPLICATION FILED AUG. 8, 1906.

2 SHEETS—SHEET 1

FIG. 1

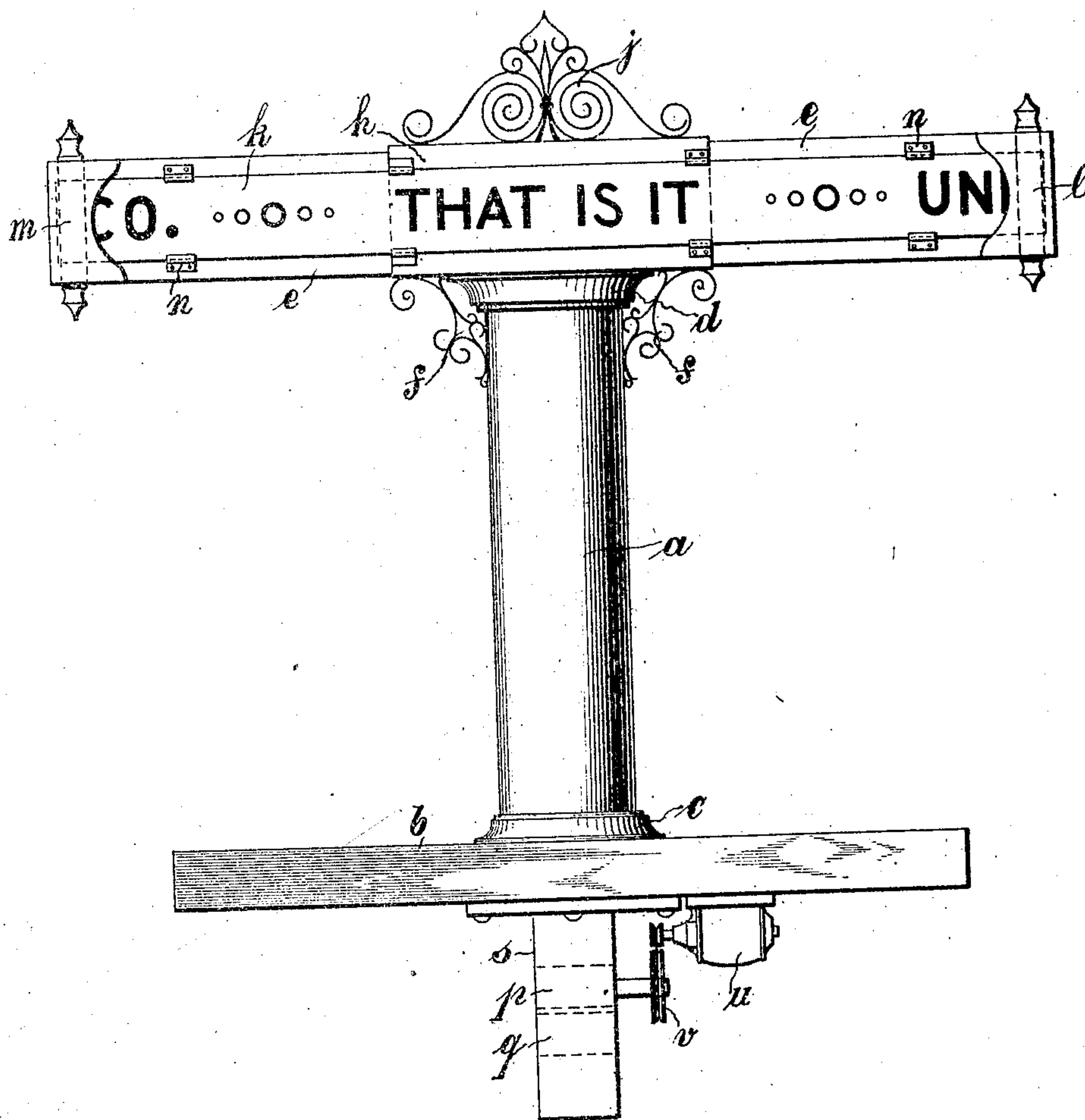
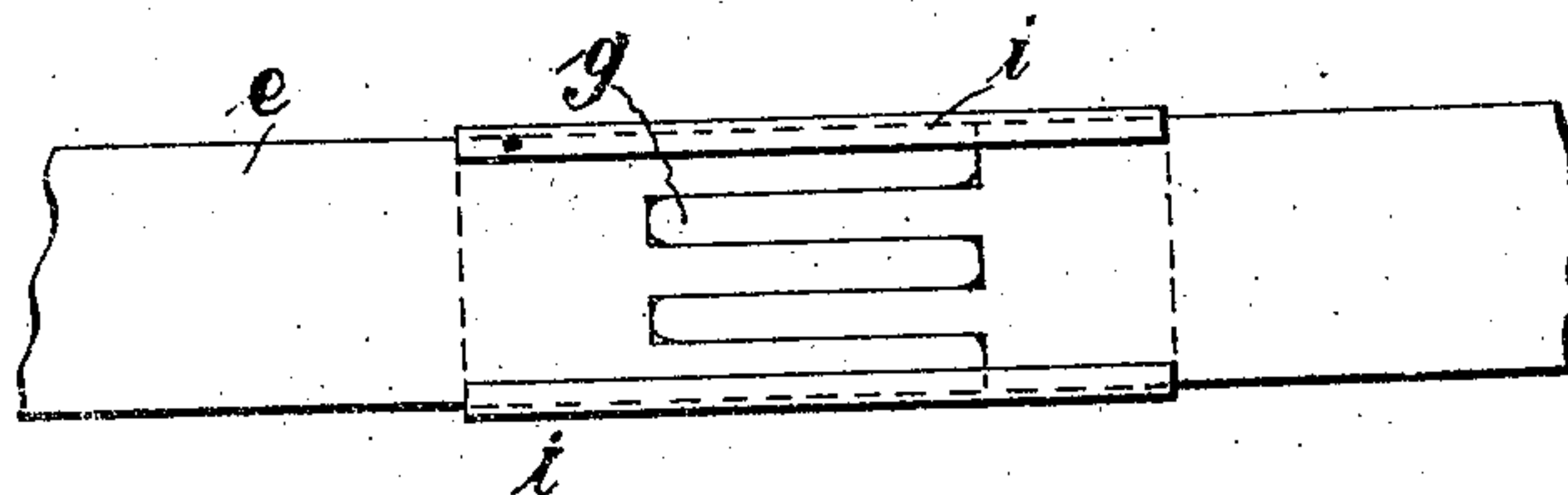


FIG. 2



WITNESSES
Max B. A. Doring
Catherine Manning

INVENTOR
Timothy B. Powers
BY L. H. Böhm
ATTORNEY.

No. 842,582.

PATENTED JAN. 29, 1907.

T. B. POWERS.
MOVING DISPLAY SIGN.
APPLICATION FILED AUG. 8, 1906.

2 SHEETS—SHEET 2.

FIG. 3

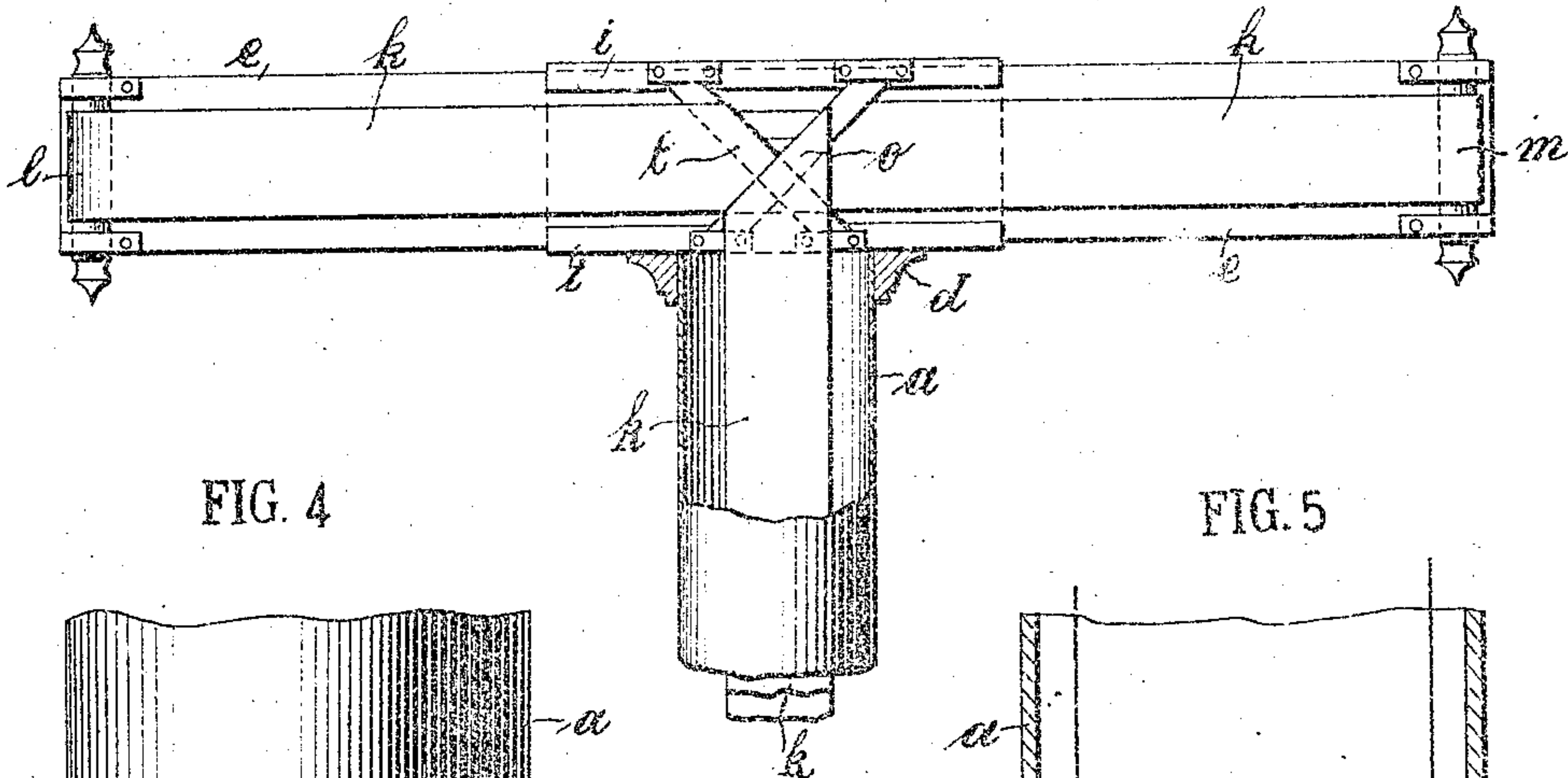


FIG. 4

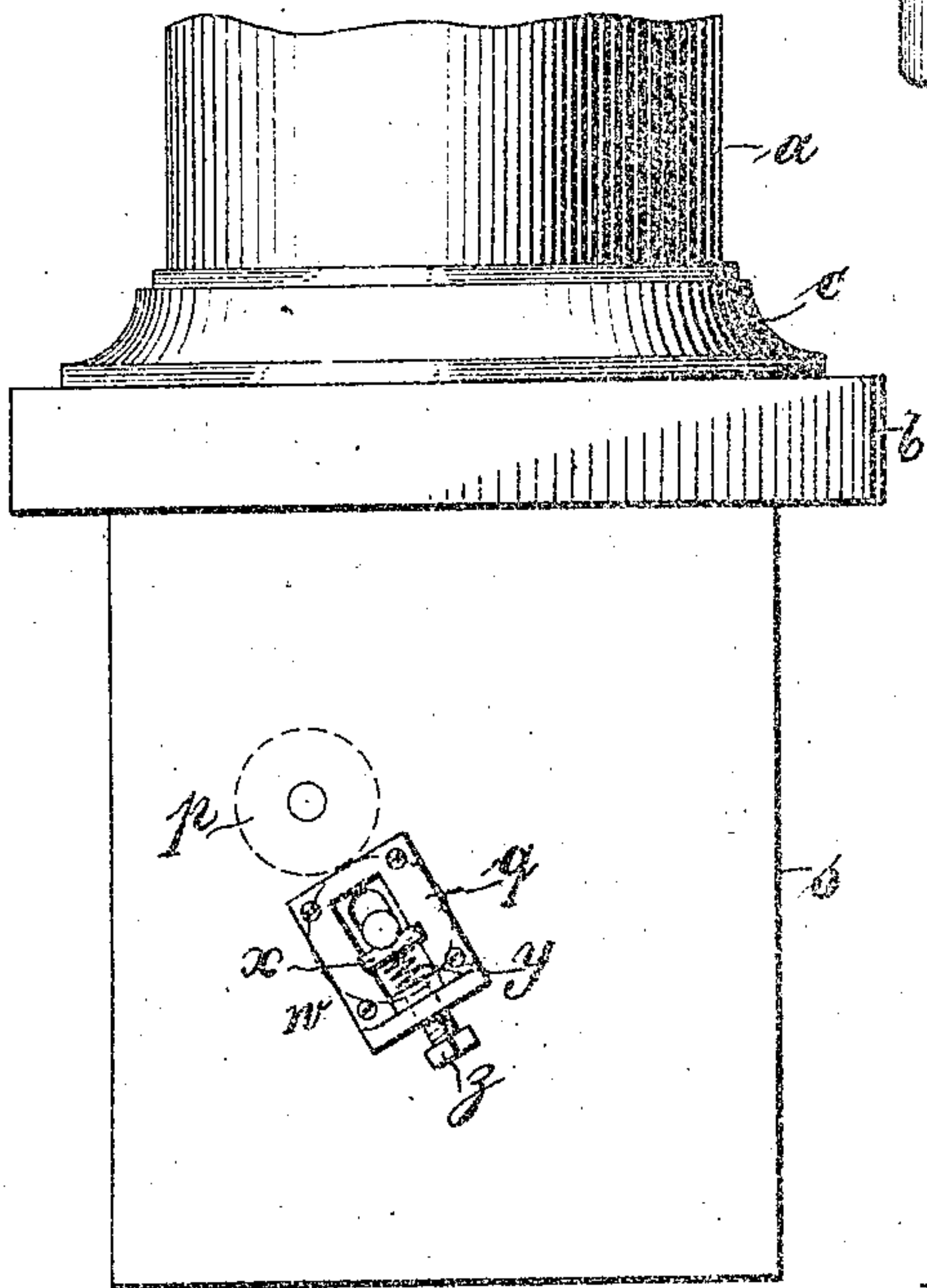


FIG. 5

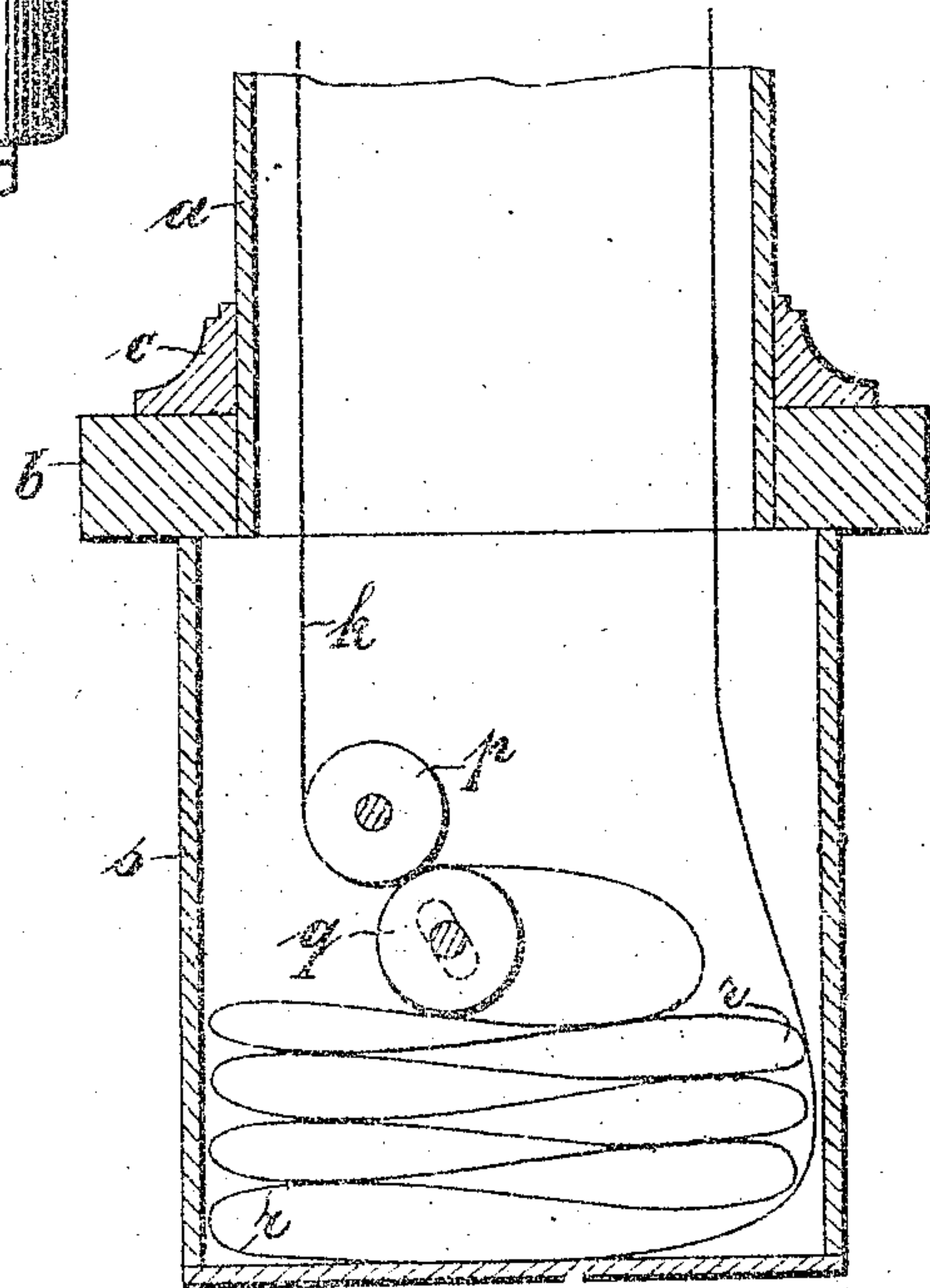
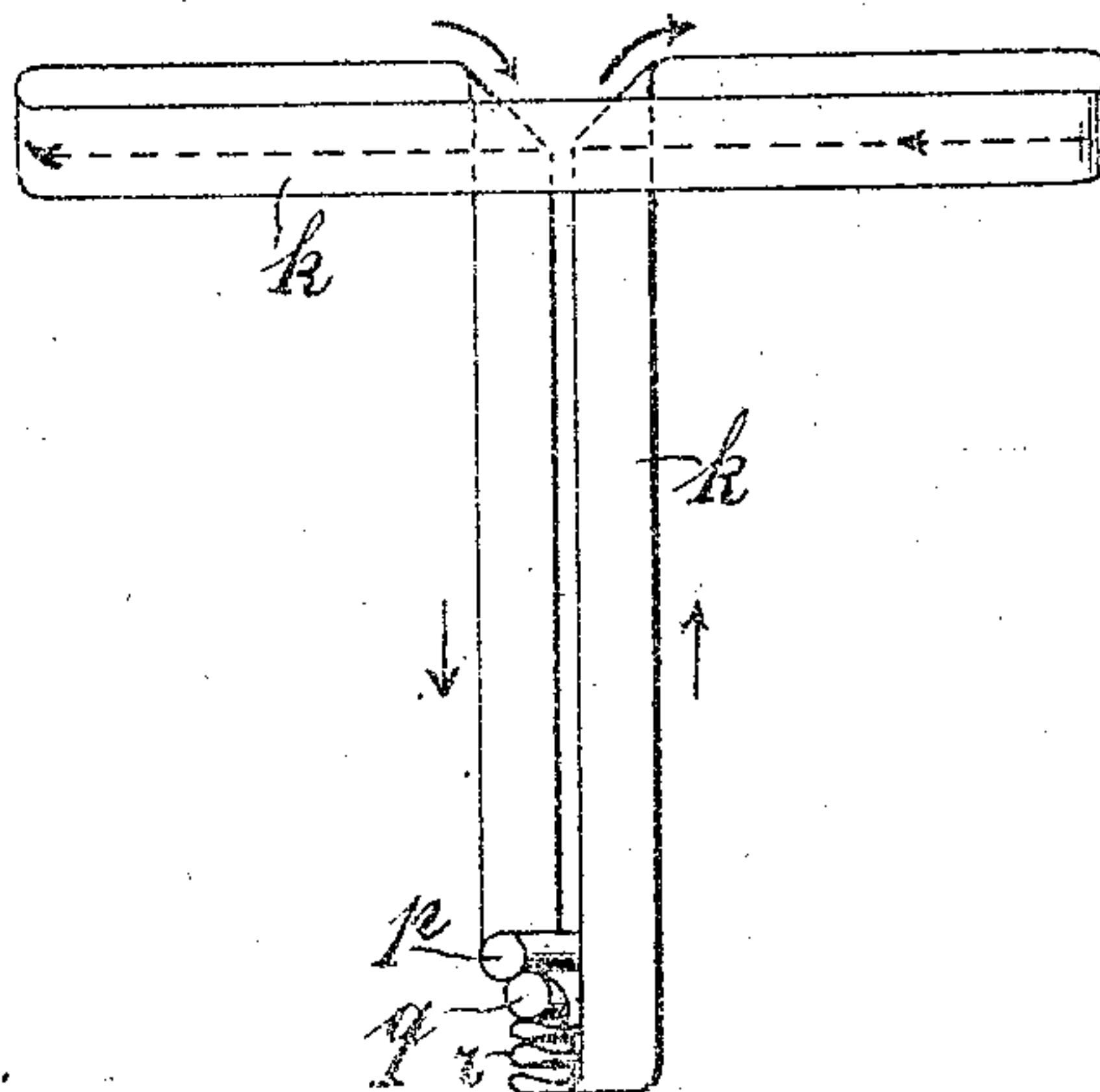


FIG. 6



WITNESSES
Max B. A. Doring
Catherine Manning.

INVENTOR
Timothy B. Powers
BY L. H. Böhm,
ATTORNEY.

UNITED STATES PATENT OFFICE.

TIMOTHY B. POWERS, OF NEW YORK, N. Y., ASSIGNOR TO KUTNOW
BROS., OF NEW YORK, N. Y.

MOVING DISPLAY-SIGN.

No. 842,582.

Specification of Letters Patent.

Patented Jan. 29, 1907.

Application filed August 8, 1906. Serial No. 329,705.

To all whom it may concern:

Be it known that I, TIMOTHY B. POWERS, a citizen of the United States of America, and a resident of New York, in the county and State of New York, have invented certain new and useful Improvements in Moving Display-Signs, of which the following is a specification.

This invention has reference to moving display-signs, and relates more particularly to moving display-signs of that type in which intelligible characters may be displayed in a variety of ways.

It is the special object of this invention to provide a moving display-sign which is very plain in construction, of highly-attractive appearance, and which requires little power to operate it.

The invention is illustrated in the accompanying drawings, which form part of this specification.

Figure 1 illustrates in front elevation a moving display-sign which embodies my invention. Fig. 2 is a rear view of the central top portion of a device enabling the user to adjust the horizontal width of the part on which the display is made. Fig. 3 is a rear view of the top portion of the display-sign, mostly in section. Fig. 4 is a side view of the lower central portion of the device. Fig. 5 shows in central section and side view the parts illustrated in Fig. 4; and Fig. 6 represents diagrammatically the movements of the tape on which the signs, characters, or figures are contained.

Similar characters of reference denote like parts in all the figures.

The novel display-sign consists, essentially, of the board or rack which is adjustable to its horizontal width, so that a certain size and style of apparatus may be used in show-windows of various widths. The tape on which the signs, intelligible characters, or figures are inscribed, imprinted, or otherwise produced moves along the said display-rack from the right to the left, which eases the reading of the imprint, &c., and enables the onlooker to read whole sentences or phrases. After passing the display-rack the tape disappears at the left and new portions of the tape and new inscriptions are continually displayed. From the outward appearance no one can tell where the tape comes from or

where it goes to, although the different inscriptions show that it is continually moving. This feature gives the device a rather mysterious and therefore highly-attractive appearance which fascinates and puzzles the onlooker, so that he reads the advertisement which is usually displayed by the device. However, the tape passes down and up within the hollow standard. It is moved by a small motor, preferably by a small electric motor, as will be fully described farther down.

In the drawings, *a* represents the hollow standard or post, which is secured to a base-board *b*. A strengthening ornamental ring *c* is provided at the bottom of the standard *a* and, like ring *d*, at the top of same. The display-rack *e* is substantially mounted on the standard *a* and rests on the top surface of the ornamental ring *d*. Between the rack *e* and the hollow standard scroll-like ornaments *ff* are secured, one on each side below the rack, to the standard in the same plane in which the rack is located. These ornaments enhance the appearance and aid in supporting the rack. For the purpose of adjusting the horizontal width of the display-rack same is made in several parts in any suitable manner. In Fig. 2 a joint is illustrated which permits of such adjustment. One end of each part of the rack is cut out, so as to form alternately rectangular incisions and like-shaped strips *g*. These end parts of the single members of the rack are covered on the front by a thin sheet of metal *h*, bent over in the rear, as shown at *i* in Fig. 2. By this arrangement the front surface of the rack remains uninterrupted when the rack is shortened or lengthened. To further enhance the attractive appearance of the device, an ornamental scroll *j* may be provided on the top part of the metal sheet *h* or the rack *e*.

The tape *k* may be made of any suitable material. In order to make both sides of the tape useful for display, the well-known half-turn twist is made before the ends are joined. Assuming that the tape has been placed in the device and is moved by a motor, it will pass, as diagrammatically indicated in Fig. 6, from right to left on the display-rack over the rollers *l m*. Tape-guiding devices *n* are provided on the rack, as shown in Fig. 1. After passing the roller *m* the tape glides along

on the rear surface of the rack, as shown in Fig. 3. In the center, right above the standard, the tape passes over a fixed guide *o*, mounted under an angle of forty-five degrees. Hereby the tape is turned downward and passes into the hollow interior of the standard, as shown in Fig. 3 and diagrammatically in Fig. 6. Now the tape passes between two rollers *p q*. (Illustrated in Figs. 1, 4, 5.) The axes of the rollers are mounted in two different vertical planes, as shown in Fig. 5. This gives the tape an almost horizontal direction, as shown in Fig. 5, and then it sinks by its own weight and forms loops within a long narrow box *s*. (Shown in Figs. 1, 4, 5.) From here the tape is drawn through the standard and passes the guide *t*, located above the standard and secured under an angle of forty-five degrees in the reverse direction, in which it glides over the guide *o*. By passing the guide *t* the tape changes the direction to a horizontal one and passes over the roller *l*, and so on. By means of the well-known half-turned twist, which during the operation of the device appears near the guides *o t*, both sides of the tape are utilized.

The tape-actuating motor *u* is shown in Fig. 1 as attached to the lower surface of the base-board *b*. It may, however, be placed in any suitable location. The motor drives a transmission-wheel *v*, attached to the shaft of the roller *p*. The roller *p* is preferably secured within the top portion of the box *s*, while the roller *q* is loosely secured below. For adjusting the pressure of the rollers on the tape the loose roller is provided on each side with an adjustable device bearing against its shaft. This device *w* comprises the small plate *x*, resting on the shaft, a spring *y*, and the set-screw *z*, whereby the spring may be pressed together or loosened, as desired. This device *w* is secured in any suitable manner. In Fig. 4 it is shown as simply screwed to the side of the box *s*.

In the described manner I have produced a moving display-sign which is of very simple construction, and therefore not easily liable to disarrangement, which insures steady working, and saves expense of repairs. The extensible display-rack renders the device useful for show-windows of various widths, and owing to the fact that the tape mysteriously disappears it is highly attractive, the more since only one central standard is employed.

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

1. A moving display-sign comprising a base-board, a hollow standard centrally mounted thereon, an extensible display-rack mounted on said standard, one roller on each end of the display-rack, two guides each secured under an angle of forty-five degrees

above the hollow standard, and an endless tape provided with intelligible characters passing from the right to the left over the display-rack, its end rollers and the central guides down and up within the hollow standard, and a tape-actuating motor mechanism.

2. A moving display-sign comprising a base-board, a hollow standard centrally mounted thereon, an extensible horizontal display-rack mounted on said standard, one roller on each end of the display-rack, two guides each secured under an angle of forty-five degrees above the hollow standard in reverse position to each other, an endless tape provided with intelligible characters passing from the right to the left over the display-rack, its end rollers and the central guides down and up within the hollow standard, a tape-actuating motor mechanism, and means for transmitting the motion of the motor to the tape.

3. A moving display-sign comprising a base-board, a hollow standard centrally mounted thereon, an extensible horizontal display-rack mounted on said standard, one vertical roller on each end of the display-rack, two guides each secured under an angle of forty-five degrees above the hollow standard in reverse position to each other, two rollers having their axes mounted in different vertical planes below said standard, an endless tape provided with intelligible characters passing from the right to the left over the front surface of the display-rack, its left-hand vertical end roller, one central guide down through the standard, between the two rollers below said standard, up through the standard over the second central guide and around the right-hand vertical end roller, and a tape-actuating motor driving the rollers below the standard.

4. In a moving display-sign a hollow central standard, and an angular ring at its top end, an extensible horizontal display-rack mounted on said standard and ring, supporting-scrolls secured to the standard, vertical rollers one on each end of the display-rack, and an endless tape passing from the right to the left over the front surface of the display-rack, its rear surface and down and up within the hollow standard, and means for actuating said endless tape.

5. In a moving display-sign, a base-board, a hollow standard mounted centrally thereon and having a strengthening angular ring at its bottom end and a like ring at the top end, an extensible display-rack mounted on said standard and top ring, supporting-scrolls secured to the standard, one vertical roller on each end of said rack, two guides each secured under an angle of forty-five degrees above the standard in reverse position to each other, an endless tape with intelligible characters, and means for passing said tape continually over the display-rack.

6. In a moving display-sign an extensible
display-rack, one vertical roller on each end
of same, two central guides each secured un-
der an angle of forty-five degrees in the rear
5 of the said display-rack in reverse position
to each other; an endless tape passing from
the right to the left over the front surface of
the display-rack and successively over the

central guides, and means for actuating said
tape.

Signed at New York, N. Y., this 6th day
of August, 1906.

TIMOTHY B. POWERS.

Witnesses:

M. STRASSMAN,
LUDWIG K. BOHM.