No. 715,309. Patented Dec. 9, 1902.

F. E. SMITH & F. C. WATSON.

SIGN.

(Application filed Jan. 6, 1902.)

(No Model.)

Fig. 1.

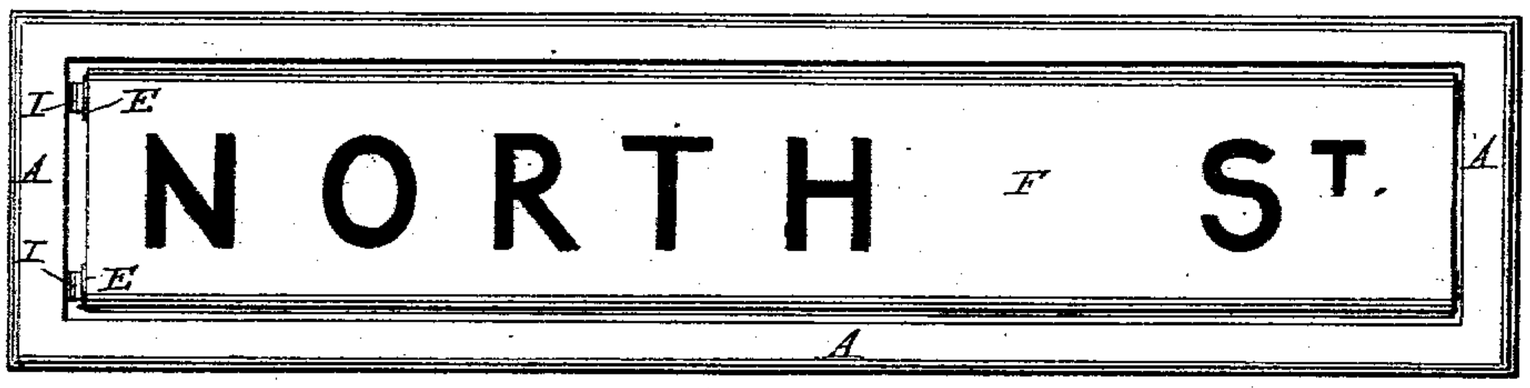


Fig. 2.

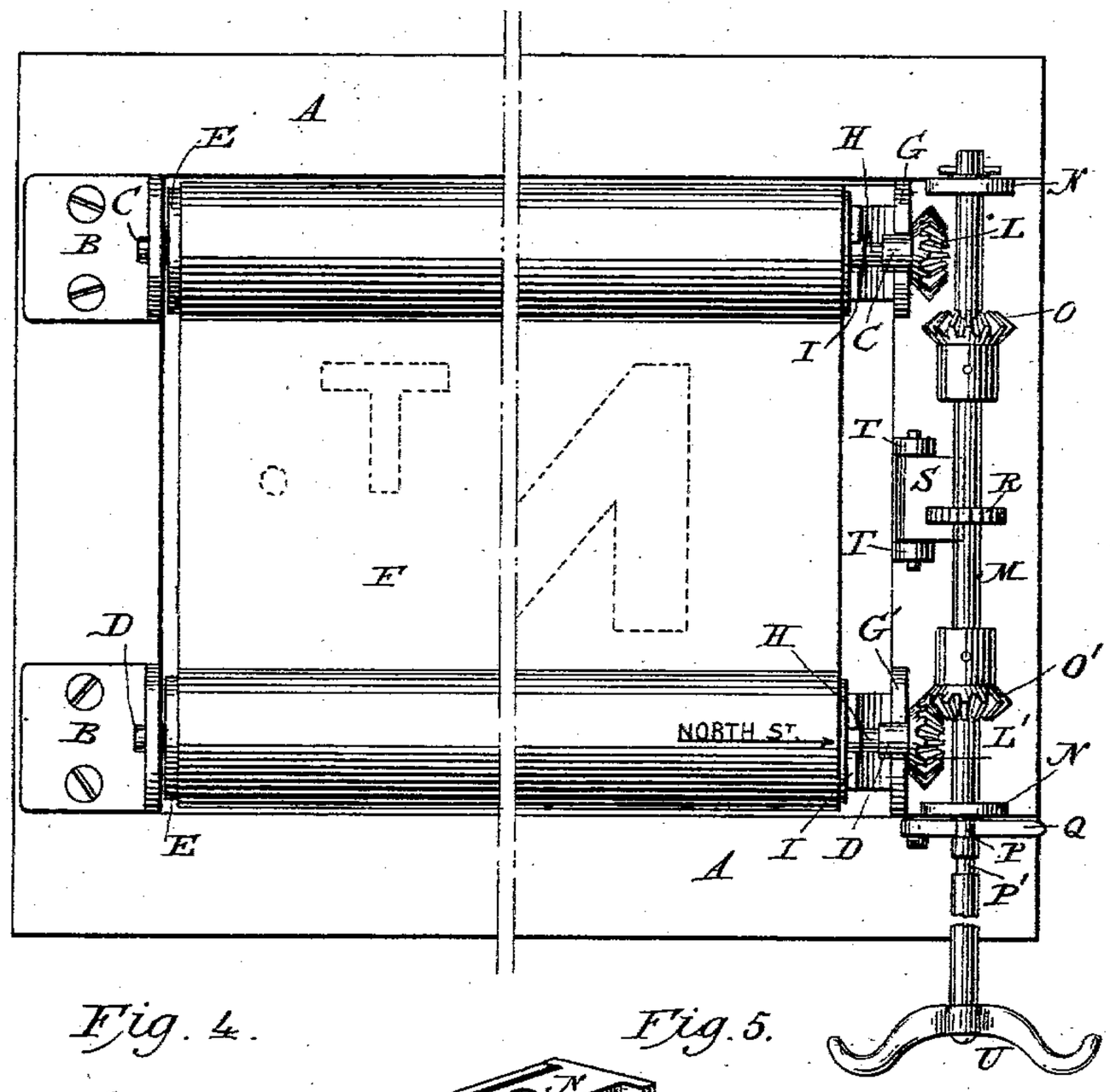


Fig. 3.

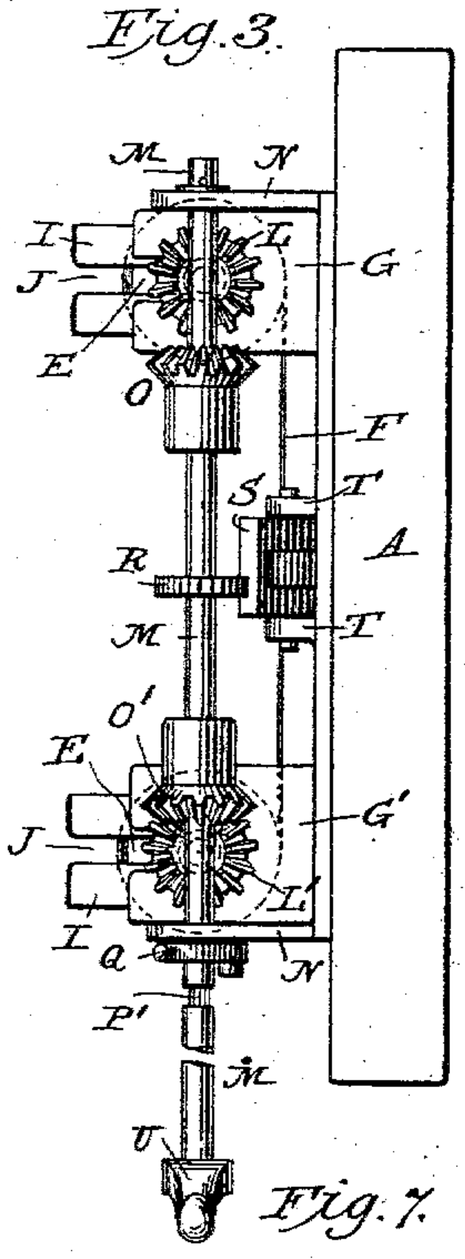


Fig. 4.

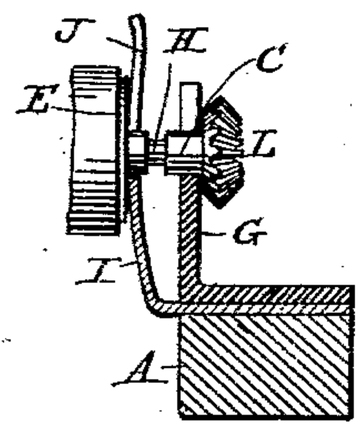


Fig. 5.

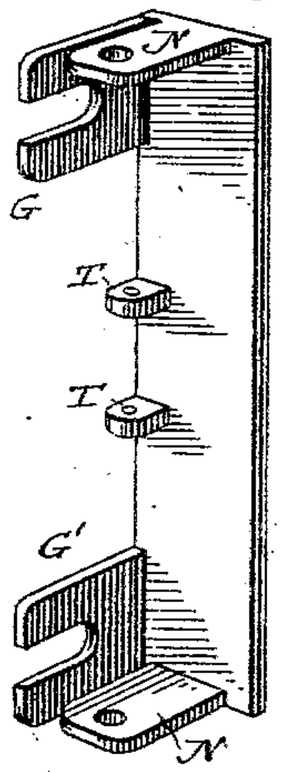


Fig. 6

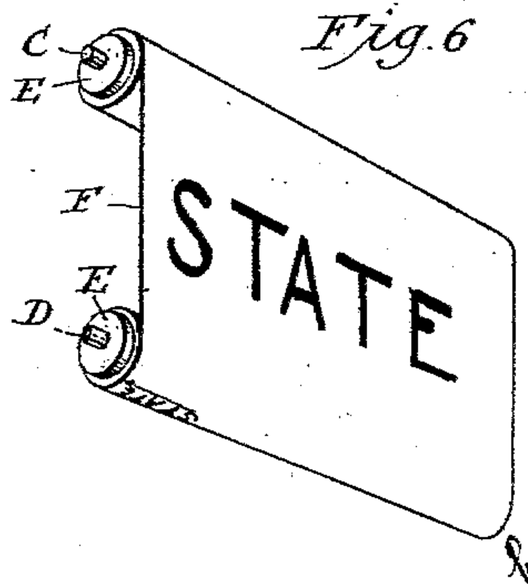
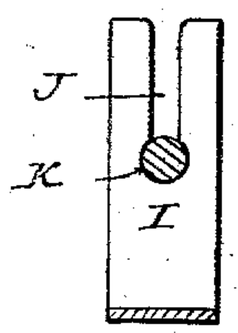


Fig. 7.



Witnesses
D. C. Bundick
J. B. Malnate.

Inventors,
Frank E. Smith and
Frank C. Watson,
by Dodge and Sons,
Attorneys.

UNITED STATES PATENT OFFICE.

FRANK E. SMITH AND FRANK C. WATSON, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNORS TO SMITH-WATSON MANUFACTURING COMPANY, OF PHILADELPHIA, PENNSYLVANIA, A CORPORATION OF DELAWARE.

SIGN.

SPECIFICATION forming part of Letters Patent No. 715,309, dated December 9, 1902.

Application filed January 6, 1902. Serial No. 88,651. (No model.)

To all whom it may concern:

Be it known that we, FRANK E. SMITH and FRANK C. WATSON, citizens of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Signs, of which the following is a specification.

The present invention pertains to car-signs. The construction and advantages will be hereinafter set forth, reference being had to the accompanying drawings, wherein—

Figure 1 is a face view of the sign; Fig. 2, a rear view of the same on an enlarged scale; Fig. 3, an end elevation; Fig. 4, a detail sectional view; Fig. 5, a perspective view of a portion of the apparatus; Fig. 6, a perspective view showing the rolls with the web passing from one to the other and illustrating the relation of the name or sign to its index carried by the web; and Fig. 7, a section through one of the shafts, showing the relation of the friction and retaining spring thereto.

The object of our invention is to provide a simple sign which may be placed in a car in line with the windows or ventilators usually present in cars of modern type. The sign may be placed at the forward or rear ends of the car-roof or at the sides directly behind the windows or ventilators just referred to.

In the drawings, A denotes a rectangular framework which may, if desired, be the ordinary framework of one of the windows or ventilators. Attached to one of the uprights or vertical members thereof is a pair of brackets B B, the vertical member of each bracket being provided with a central opening or aperture designed to receive the end of a shaft or spindle. The shafts or spindles (designated by the reference-letters C and D) are alike in construction, and a description of one will therefore suffice for both. Each shaft carries a roller E, and to the rollers is attached a web or band F, carrying a series of designations—such, for instance, as "North St." or "State," as shown in Fig. 6—and likewise a series of index-marks, said marks corresponding, respectively, to the streets or designations as they are brought to view on the web or band. These indices or marks are so spaced with relation to the names that as a name on the web comes in line with the rectangular opening in the frame the corresponding index will likewise be brought to view, so that the operator may know when to stop rotation of the rollers and leave a particular name in its proper position. In Fig. 2 the index "North St.," which appears above a line or arrow on the lower roller, is brought to view in a horizontal position, whereas in Fig. 6 the index "State" is at the lowermost part of the roller. Either form may be adopted as circumstances require or render advantageous.

A bracket or casting of the form best shown in detail in Fig. 5 is secured to the opposite upright member of the frame A. It is provided with two lugs G G′, adapted and designed to receive the outer ends of the shafts C and D. Said shafts, as will be seen upon reference to Figs. 2 and 4, are each provided with a reduced neck or section H, and a spring I, having a slot J formed therein and terminating in an enlargement K, is secured to the bracket or to the framework in line with the lugs G G′. In putting the rollers and shafts in position the ends are first introduced into the openings in the brackets B and the reduced portions H entered into the openings or slots J of the springs I and forced downwardly therein until the shafts come into the enlarged openings K, when the springs by reason of their form will spring over onto the enlarged portion of the shaft, at the same time bearing against the end of the roller and forcing the same over toward the bracket B. It will thus be seen that the springs not only hold the rollers in place and prevent them from being moved out of the brackets G, but that they also apply sufficient friction thereto to prevent them from turning without manual actuation.

To effect the winding of the web from one roller to the other, each of the shafts is provided with a bevel-gear L L′. An operating-shaft M, slidably mounted in lugs or ears N, extends at right angles to the axis of the web-carrying shafts or rollers and is provided with bevel pinions or gears O O′, which are pinned or otherwise rigidly secured to the shaft.

The gears O O′ are so arranged with relation to the gears L L′ that but one pair can be brought into operative relation at a time. To hold the shaft in its adjusted position, so that one or the other set of gears is in operative relation, the shaft is provided with two recessed or cut-away sections P P′, and a latch Q, pivoted to the lower lug N, is arranged to be swung into either one or the other of said cut-away or recessed sections, and to thus hold the shaft in either of its adjusted positions. Shaft M is also provided with a ratchet-wheel R, which works in conjunction with a broad pawl or detent S, which is pivotally mounted, intermediate ears T extending up from the main bracket. This locking dog or detent prevents the shaft from being rotated except in one direction, and consequently prevents the operator from rotating the web-carrying rollers in a wrong direction. Inasmuch as only one roller is driven, it will be seen that to rotate it in a direction opposite from that which would wind the web about it would be to permit the web to become loose and destroy its function.

The lower end of the operating-shaft M is provided with a handle U, which extends downwardly to a point where it may be readily reached by the car-attendant.

With the parts in the position illustrated in Fig. 2 the operating-shaft M will be turned and the web wound about the lower roller to the desired extent. When, however, it becomes necessary to change the traverse of the web, the latch Q is released and the operating-shafts moved lengthwise until the reduced portion P comes into alinement with the latch, which is then swung therein, thus locking the shaft against further endwise or longitudinal movement. This upward movement of the operating-shaft disengages the lower gears L′ O′ and brings the gears O L into operative relation, whereupon the web may be wound upon the upper roller. As above noted, pawl S is at all times in contact with its ratchet-wheel R.

If for any reason it be desired to remove the rollers and web from the frame or holder, all that it is necessary to do is to draw the springs I back toward the reduced section H of the shafts, when the shafts may be lifted out of the bearings G. It will thus be seen that the operating-shaft and its gears are not disturbed at all and will be in position for operation as soon as the rollers, with the webs, are again restored to place.

Having thus described our invention, what we claim is—

1. In a sign, the combination of a suitable frame or support; a pair of brackets carried at one end thereof; a pair of slotted ears mounted on the opposite end of the support; a pair of shafts, each having one end extending into the bracket and the opposite end supported in the slotted ears and likewise provided with a reduced section near its end; a spring mounted in line with each shaft, said spring having a slot extending from its free end and terminating in an enlarged open space or eye, the springs serving to hold the shafts in position and against accidental rotation; a sign-web extending from one to the other of said shafts; and means for rotating one or the other of said shafts.

2. In a sign, the combination of a suitable frame or support; a pair of brackets carried at one end thereof; a pair of slotted ears mounted on the opposite end of said support; a pair of roller-supporting shafts, each shaft having one end extending into the bracket and the opposite end supported in the slotted ears, and likewise provided with a reduced section adjacent to the ear; a spring mounted in line with each of said ears, said spring having a slot extending from its free end and terminating in an enlarged open space or eye, and serving when the shaft is passed into the slot to lock the shaft in position and against accidental displacement; a sign-web extending from one to the other of said shafts; a gear carried by each shaft; a sign-web extending from one shaft to the other; a rotatable shaft slidably mounted in line with said gears; a pair of gears carried by said slidable shaft and so positioned thereon that one or the other may be brought into operative relation with the gears carried by the other shafts; means for maintaining the slidable shaft in its adjusted position; and means for preventing backward rotation of said shaft.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

FRANK E. SMITH.
FRANK C. WATSON.

Witnesses:
FRANCES MCHUGH,
SAMUEL COLLINS.