

(No Model.)

W. GLASGOW.

SIGNALING APPLIANCE FOR RAILWAY TRAINS.

No. 474,578.

Patented May 10, 1892.

FIG. 1.

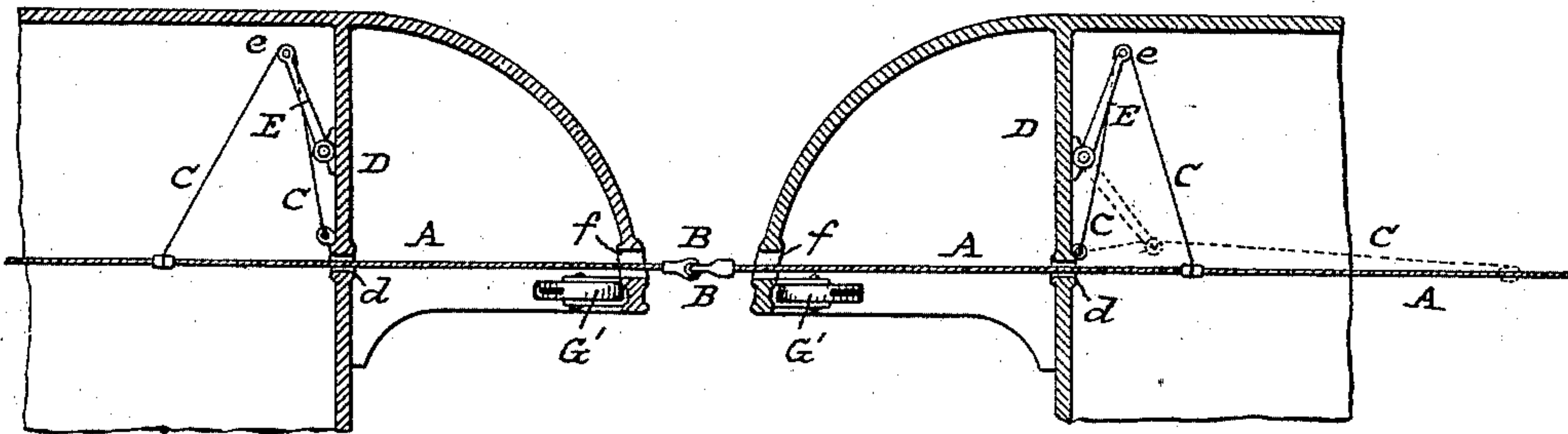


FIG. 2.

FIG. 8.

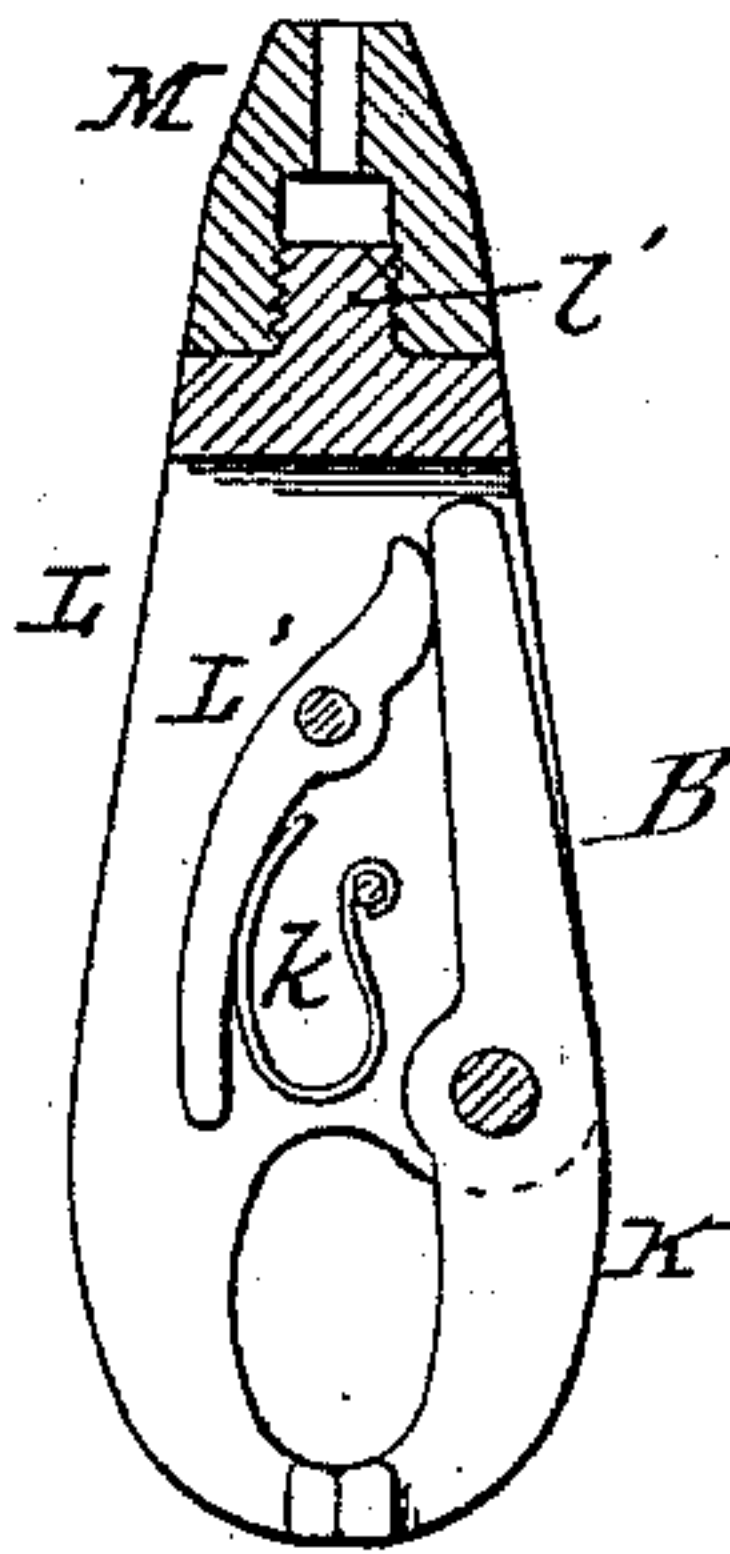


FIG. 3.

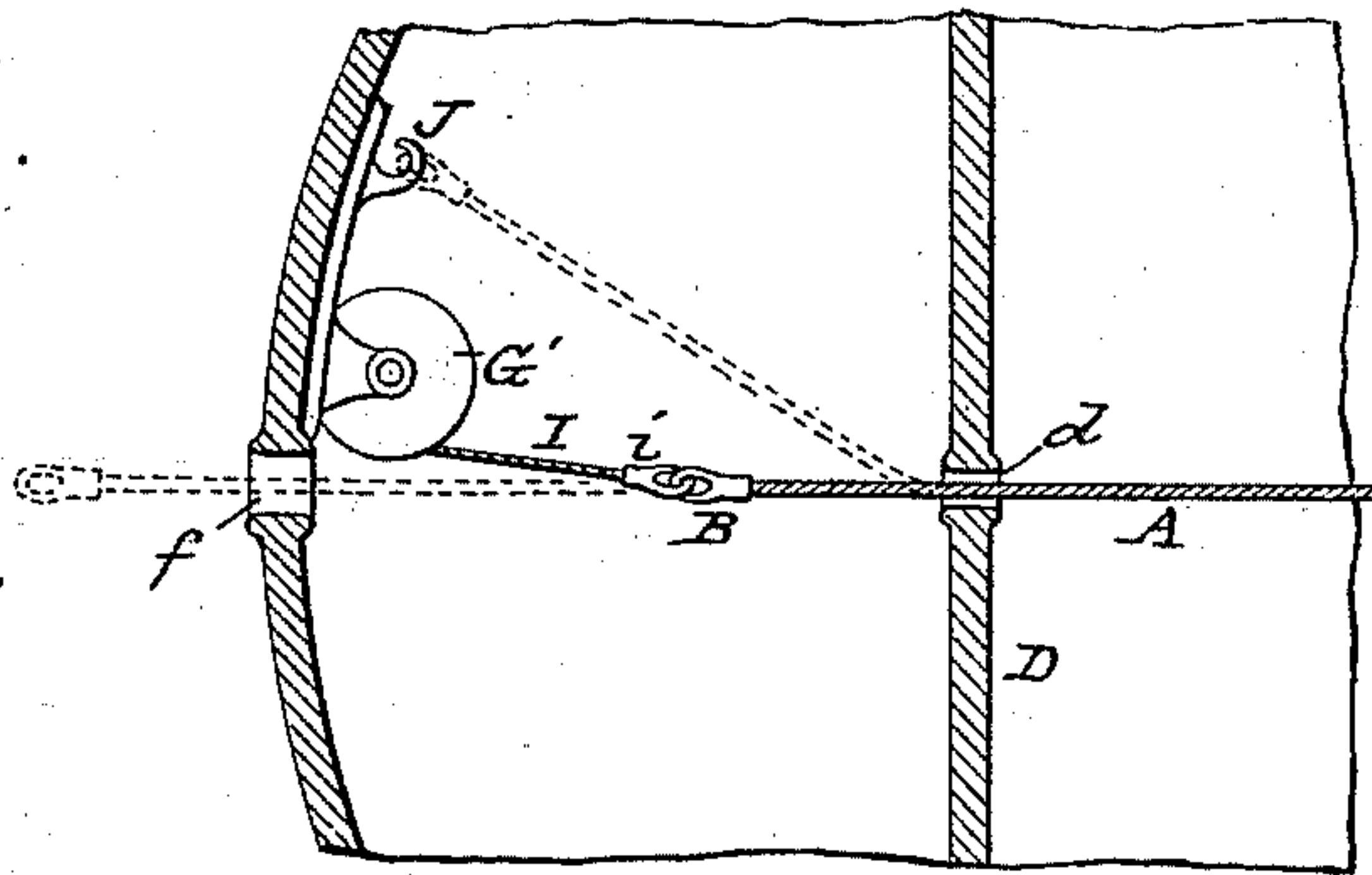
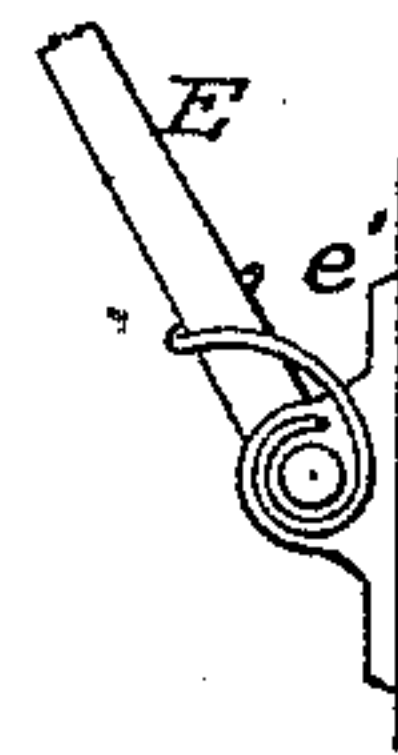


FIG. 4.

FIG. 6.

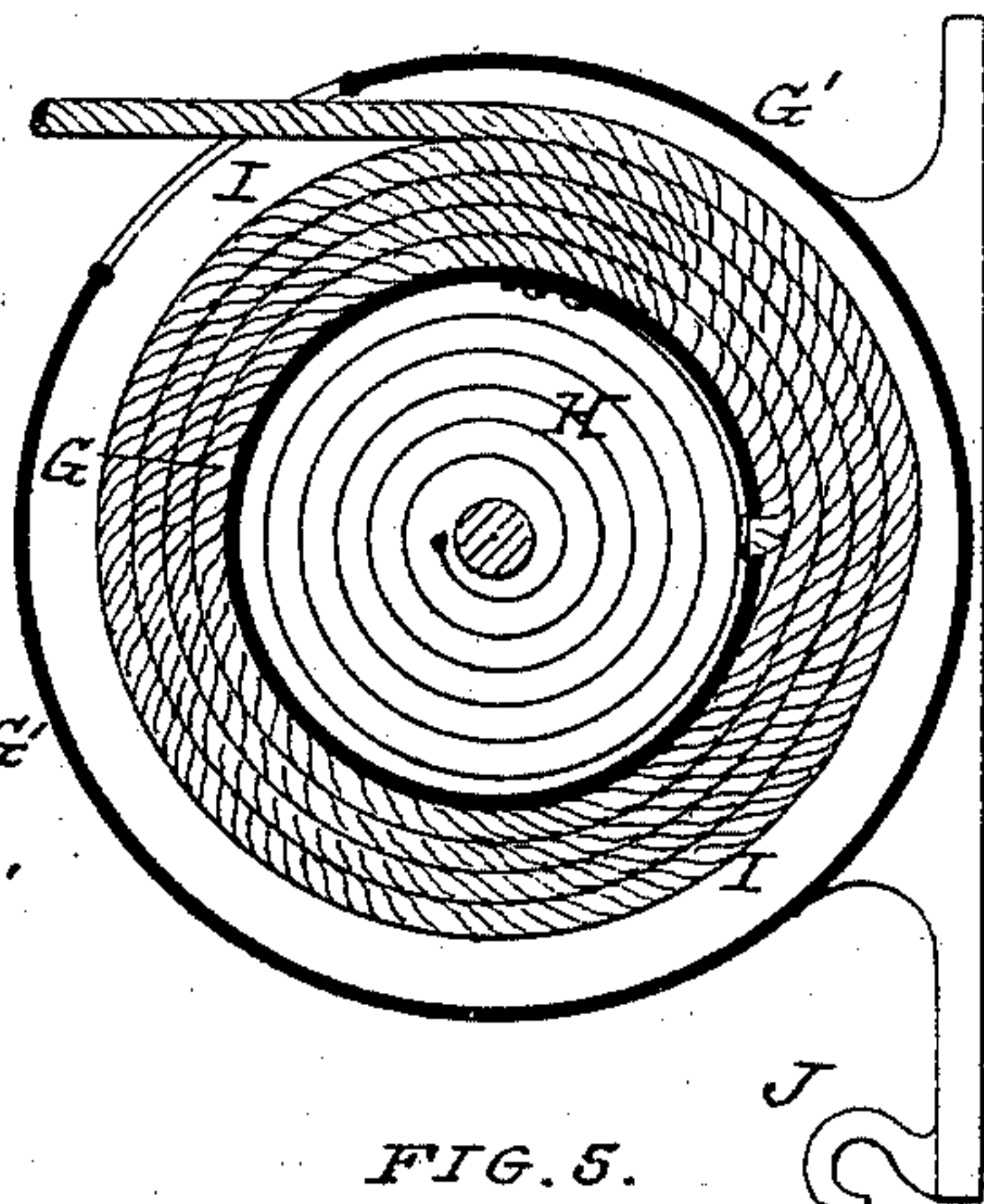
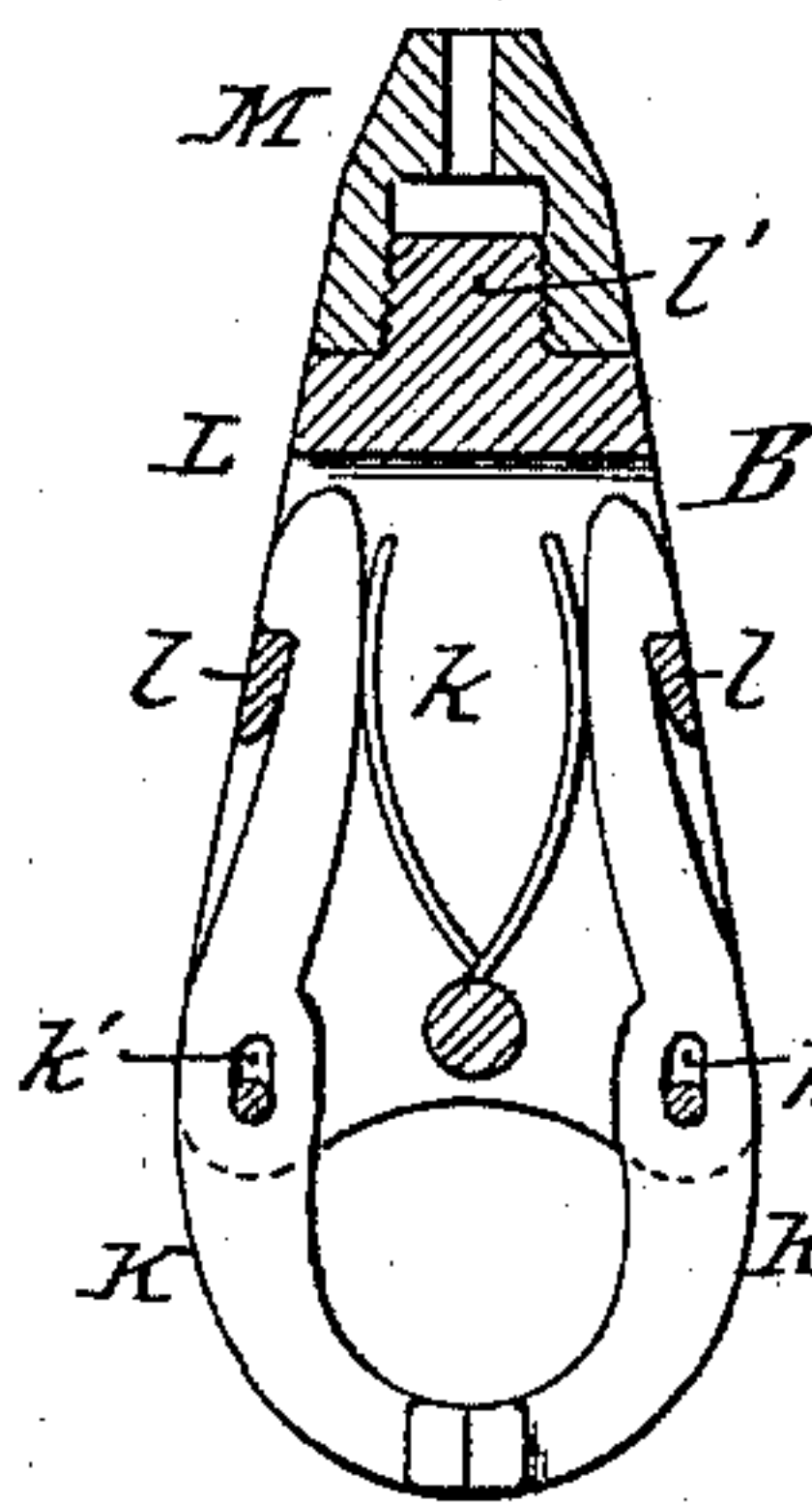


FIG. 7.

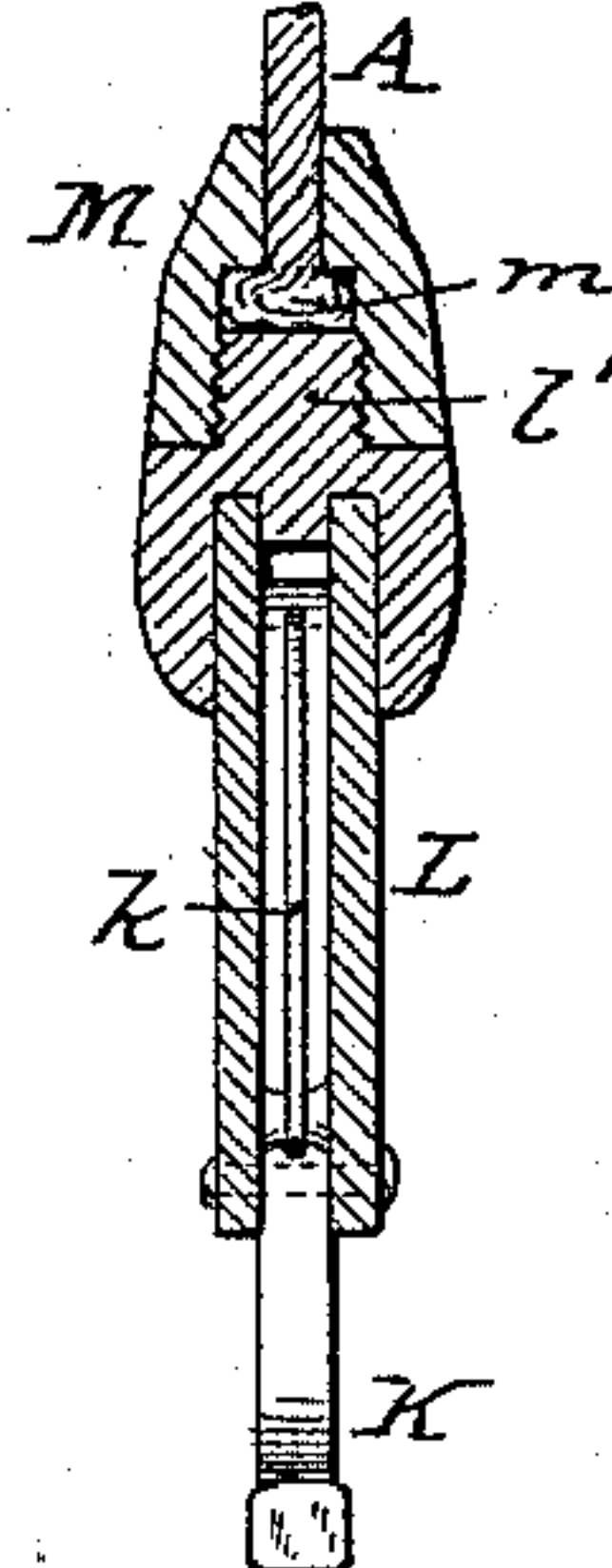
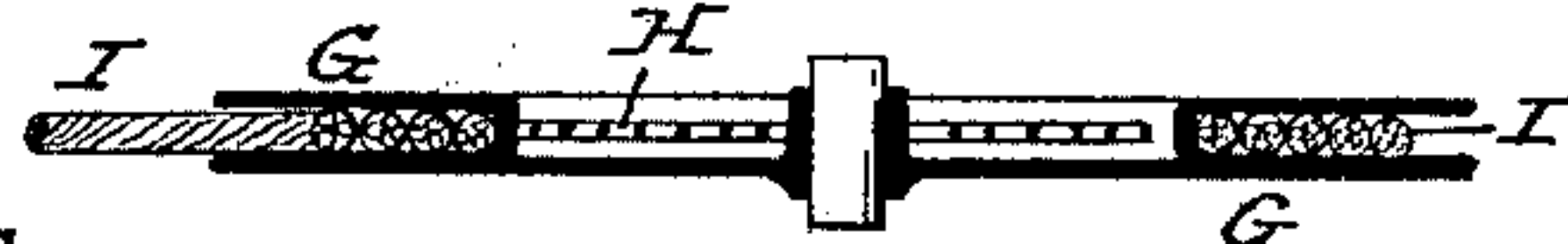


FIG. 5.

ATTEST:



INVENTOR:

Geo. H. Arthur

F. E. Selstrom

by

William Glasgow,

Robert Burns,

ATTORNEY.

UNITED STATES PATENT OFFICE.

WILLIAM GLASGOW, OF CHICAGO, ILLINOIS.

SIGNALING APPLIANCE FOR RAILWAY-TRAINS.

SPECIFICATION forming part of Letters Patent No. 474,578, dated May 10, 1892.

Application filed September 21, 1889. Serial No. 324,675. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM GLASGOW, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Signaling Appliances for Railway-Trains, of which the following is a specification.

The present invention relates to that type of sectional signaling appliances for railway-trains as set forth in the subject-matter of Letters Patent No. 399,193, issued to me March 5, 1889; and the present improvements have for their object, first, to provide a simple, cheap, and efficient means for attaching and supporting the local sections of the signaling-cord permanently in each car and keep the same taut from end to end of the car, and thus avoid the objectionable "sagging" of the cord-section without the use of intermediate supports throughout the car; second, to afford a simple and durable means for limiting the movement of the cord-section in a longitudinal direction through its car to a scope sufficient to admit of the proper signal-pull being given; third, to provide a simple and effective tension appliance at the ends of each car, for use at the rear end of the car that constitutes the tail or rear of the train, to take up from the rear the slack in the signaling-cord, furnish a yielding attachment for the rear end of the same, and at the same time furnish a convenient means for attaching the ends of the cord-sections when the car is not in use; fourth, to provide a cheap and durable coupling for the adjoining ends of the local sections composing the signaling-cord of the train, embodying the features of ready and easy coupling and forcible uncoupling without injury when the train accidentally "pulls apart," &c. I attain such objects by the construction and arrangement of parts illustrated in the accompanying drawings, in which—

Figure 1 is a detail sectional elevation of the adjacent ends of two cars, illustrating the general arrangement of my present invention; Fig. 2, an enlarged detail horizontal section of one end of a car, illustrating the arrangement of my improved cord-tension appliance; Fig. 3, a detail side view of the spring-arm for taking up the slack in the cord-sections;

Fig. 4, an enlarged section of my improved cord-tension device; Fig. 5, a horizontal section of the spring device of the same; Fig. 6, a longitudinal section of my improved coupling for the cord-sections; Fig. 7, a transverse section of the same, and Fig. 8 a longitudinal section of a modified form of the same.

Similar letters of reference indicate like parts in the several views.

Referring to the drawings, A A represent the adjacent ends of the local cord-sections provided with coupling parts B B, by which they are connected together, as shown. At each end these local cord-sections A are connected to the end walls of the car by a short length or section of cord C, secured to the cord-section A and to the wall D, as shown, E being a spring-arm pivoted a suitable distance above or away from the cord A, with its free end provided with an eye or sheave *e*, through or over which passes the short length of cord C. The action of the improved construction is to yield to a pull on the cord A and upon a cessation of such pull to return the cord-section A to its proper position and take up any slack in the same, and thereby avoid the necessity of the usual intermediate supports throughout the car for supporting the signaling-cord against sagging down. In addition thereto this improved construction acts to limit the longitudinal movement of the cord-section A when a signaling-pull is given to the signal-cord by the conductor.

Any suitable spring may be used to move the arm E. In Fig. 1 I illustrate a cheap and durable arrangement of parts. In this *e'* is a coiled spring around the pivot-pin of the arm with one end attached to the supporting-bracket and the other arm, as shown. I do not, however, rely wholly upon the above-described construction to limit the longitudinal movement of the sectional signaling-cord, but prefer to employ the following substantial and simple construction of parts: In this the bushing or orifice *f* in the hood of the car is made of sufficient size to freely admit of the passage of the coupling parts B, while the orifice or bushing *d* in the end walls D is only of sufficient size to admit of the free passage of the signal-cord, and thus form a stop to hold the cord by means of the coupling-piece on its end.

It will be observed that with the above construction the signal-cord will have a free longitudinal movement equal to the distance between the adjacent end walls of the cars and will be positively confined to such limit in a positive and substantial manner. (See Figs. 1 and 2.)

G represents a flanged drum or pulley mounted in a suitable casing G' and operated by a spring H to wind up the cord-section I upon its periphery between its flanges, as shown. Upon the end of the cord-section I is a coupling part i , adapted to form a connection with the coupling part B on the end of the signal-cord section A that extends through the car. One of these spring-drums will be arranged at each end of each railway-car, so as to be of use when the end of any car forms the tail or rear end of the railway-train, its use in this connection being to connect with the rear end of the signal-cord and form a yielding attachment for the same, so as to take up the unnecessary slack in said cord. J is a hook upon supporting-casing of said drum G , upon which the end of the cord-section A is hooked up out of the way when the car is not in use.

My improved coupling for use between the ends of the different signaling-cord sections A consists, essentially, of a pair of curved fingers or latch-bars K , pivoted in the head L and held together at their free ends by means of a spring k . These fingers or bars K are pivoted by means of elongated slots k' , so as to be capable of a slight pull-out movement, and their upper ends are hooked so as to engage over the stationary cross-bars l of the head L , the spring K tending to hold them in engagement with such bar l , so that the strain required to part the coupling will have to be sufficient to overcome the strength of such spring, as well as the friction between the hooked ends of the latch-bars K and the cross-bars l . By this means a coupling is formed which is permanent under ordinary circumstances and which will pull apart without injury when an excessive strain is brought to bear—say, for instance, when a train pulls apart.

The coupling may be modified, as illustrated in Fig. 8, so as to have but one pivoted curved finger or latch-bar K , and the resistance of the spring k depended upon alone to hold said bar at its lower end in contact with the stationary curved finger L' of the head L and resist the ordinary strains to which the coupling is submitted.

The end of the cord-section A is secured to the coupling B by passing its end through the cap M and forming such end into a knot or enlargement m and then screwing such cap onto the shank l' of the coupling-head L , as indicated in Fig. 7.

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

1. A train-signal-operating appliance comprising a local permanent cord-section in each car, a coupling for uniting such sections between the cars, lengths or sections of cord C , attached to the local cord-section and to the end walls of the car, and spring-arms E , having eyes or pulleys at their free end to receive or engage the lengths of cord C , in manner substantially set forth.

2. A train-signal-operating appliance comprising a local permanent cord-section in each car, a coupling for uniting such sections between the cars, the bushing or orifice f in the car-hoods made of a diameter sufficient to admit of the passage of the coupling-heads, and the orifices in the car-wall made small enough to prevent the passage of such coupling-heads, substantially as described, and for the purpose set forth.

3. A train-signal-operating appliance comprising a local permanent cord-section in each car, a coupling for uniting such sections between the cars, and a spring-drum G , arranged at the rear end of the train and provided with a cord-section I , adapted to couple with the main local cord-section, so as to take up the main slack in the signal-cord, substantially as and for the purpose set forth.

4. A train-signal-operating appliance comprising a local independent cord-section permanently arranged in each car and an automatic pull-apart coupling for the adjacent ends of each pair of the same, consisting of a head L , having a recessed cap M for attachment of the cord-section, and cross-bar l , the curved fingers or latch-bars K , pivoted in the head L by elongated slots k' , and having their upper ends of a hooked shape, and the spring k , arranged to force the upper ends of the bars K outward, substantially as and for the purpose set forth.

In testimony whereof witness my hand this 19th day of September, 1889.

WILLIAM GLASGOW.

In presence of—

ROBERT BURNS,
GEO. H. ARTHUR.