(No Model.)

J. D. YARRINGTON & H. D. SHANKLIN.

RAILWAY SIGNAL.

No. 397,884. Patented Feb. 12, 1889.

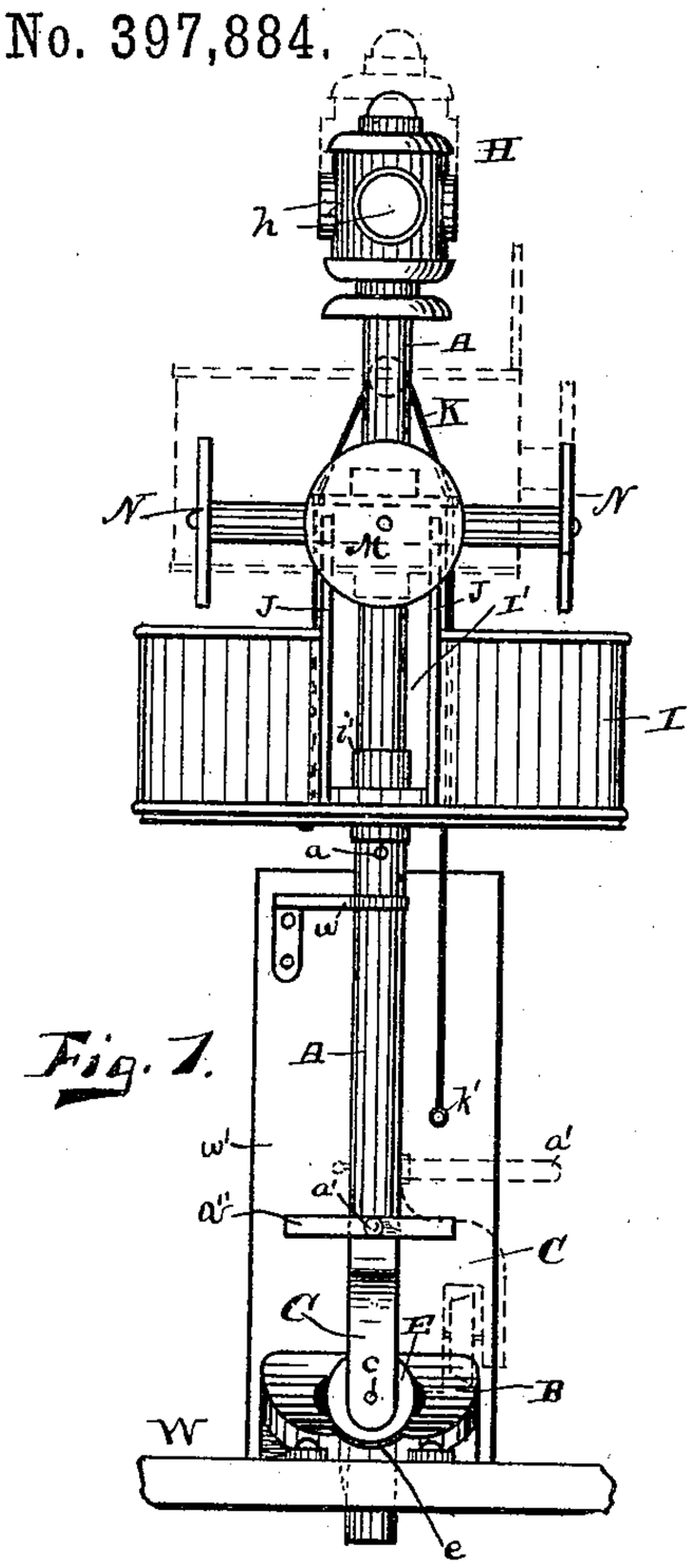

Fig. 1.

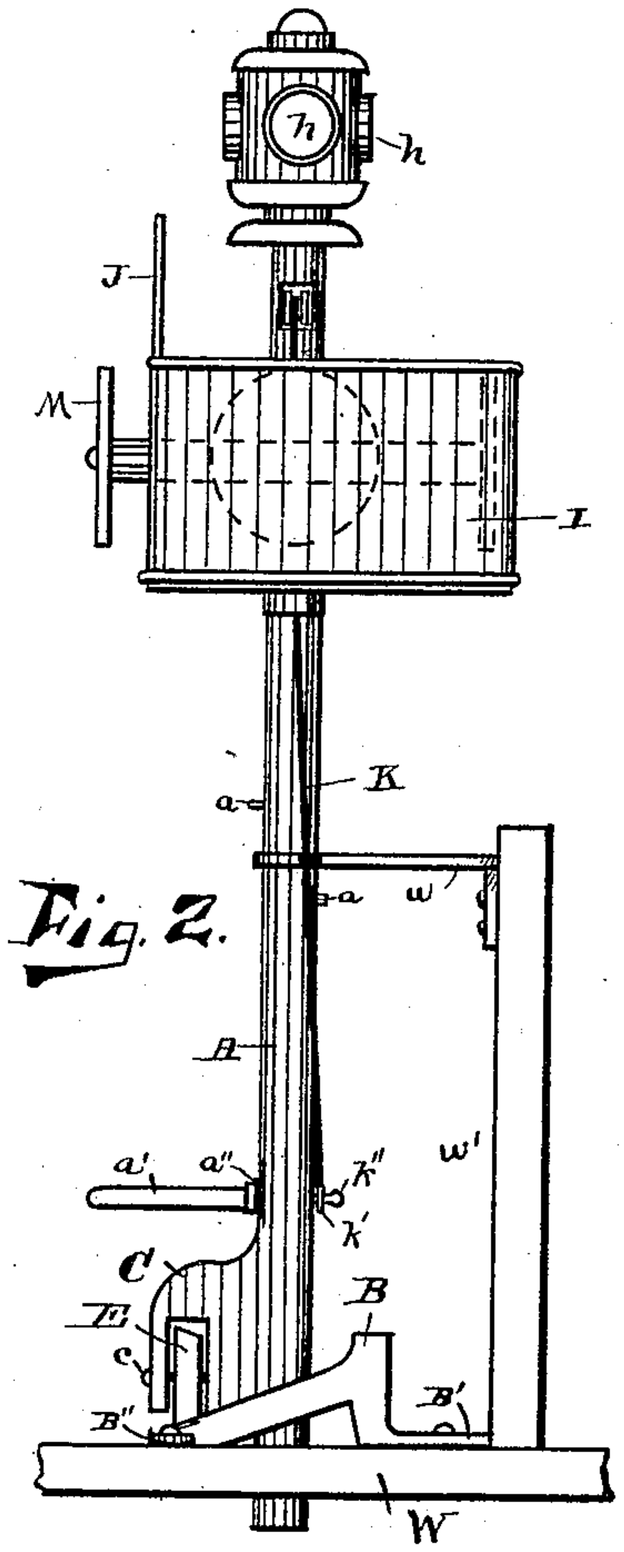

Fig. 2.

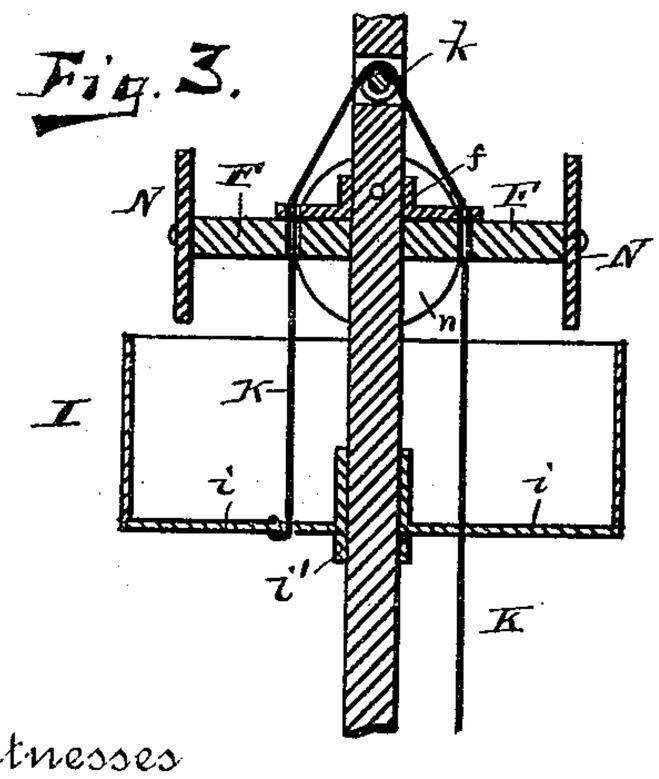

Fig. 3.

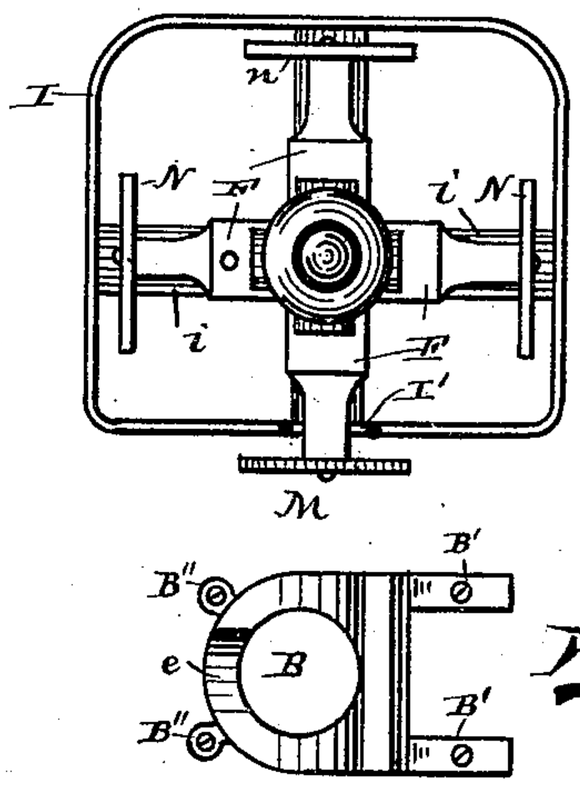

Fig. 4.

Fig. 5.

Witnesses

O. H. Seville

A. E. Sowell

Inventors

J. D. Yarrington and

H. D. Shanklin

By their Attorney

W. Alexander

UNITED STATES PATENT OFFICE.

JOHN DUVALL YARRINGTON, OF LEXINGTON, AND HENRY D. SHANKLIN, OF CLARK COUNTY, KENTUCKY; ASSIGNORS TO SAID JOHN D. YARRINGTON.

RAILWAY-SIGNAL.

SPECIFICATION forming part of Letters Patent No. 397,884, dated February 12, 1889.

Application filed September 29, 1888. Serial No. 286,738. (No model.)

To all whom it may concern:

Be it known that we, JOHN DUVALL YARRINGTON, of the city of Lexington, county of Fayette, and HENRY DAVIDSON SHANKLIN, of the county of Clark, and both of the State of Kentucky, have invented certain new and useful Improvements in Railway-Signals; and we do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form part of this specification, in which—

Figure 1 is a front view of the signal with the hood down in full lines and raised in dotted lines. Fig. 2 is a side view of the same, showing the signal in different positions by the aid of dotted lines. Fig. 3 is a sectional view of the same. Fig. 4 is a top plan view of the semaphores. Fig. 5 is a detail plan view of the cam-block.

This invention is an improved semaphore or signal, being especially designed for railroads. Its objects are to provide means whereby the danger-semaphores may be covered or hidden from sight, and to so construct the semaphore that it will be held normally in "danger" position, and returned automatically to such position when released by the operator; to prevent casual displacement of the semaphore by the wind, and to elevate the semaphores simultaneously with the turning thereof, so that the shifting of the semaphore will be rendered more conspicuous and noticeable.

To these ends the invention consists in the novel construction and arrangement of parts hereinafter described, illustrated in the drawings, and particularly pointed out in the appended claims.

Referring to the drawings by letter, A designates a vertical rod or bar which carries the semaphores, and which is journaled in proper bearings or openings in the floor or shelf W, and in a suitable bracket, *w*, which is secured to the wall of the building in or on which rod A is located. The lower end of said rod is extended through its bearings in shelf W sufficiently to allow a certain degree of vertical movement to said rod, and its upper end can play similarly through bracket *w*. Its movement is, however, limited by a pin or pins, *a a*, secured above and below the bracket, respectively.

B designates an annular double-faced cam-block secured on shelf W, the rod A playing freely through it. The lowest portion of the cam-faces of said block stands farthest from wall *w'*, and the highest portion adjoins the same, as shown. This block is provided with the rearwardly-extending perforated feet B' B', which impinge against wall *w'* and assist in keeping the block in position, and with front perforated feet or ears, B''. Through the perforations in said feet pass screws or other suitable fastening devices for securing the block to the shelf.

C is a bracket formed on or secured to rod A above block B.

E is a roller journaled on a stud, *c*, in bracket C and bearing upon block B. The periphery of this roller is preferably rounded or beveled, as shown, to bear properly upon the cam-surfaces of block B. This roller supports rod A on said block, and when the rod is turned the roller rides upon the said block and lifts the rod. The rod is provided with a handle, *a'*, by which it can be turned, and with an index-plate, *a''*, by which the operator can determine the shifting of the rod and semaphores. When the rod is released, its weight will cause roller E to descend the cam-face of the block until it reaches the lowest part thereof, and the roller in descending will automatically turn the rod, as is evident, thus shifting the semaphores to normal position.

e is a notch or recess at the lowermost meeting portion of the cam-faces of the block, into which roller E drops, and thereby prevents the rod from swinging or casually turning and disturbing the normal position of the signals.

M, N, N, and *n* are the signals mounted on rod A at the ends of cross pieces or arms F F, which are attached to a hub or sleeve, *f*, that is secured to rod A by a pin, or in other suitable manner. Semaphores N N *n* are "danger" and semaphore M "safety" or "dispatch" signals. Semaphore M is on the same side of rod A as handle *a'* and roller E, and

semaphore *n* is opposite semaphore M. The latter can therefore be shifted to assume the position of either semaphore N to direct trains on either side of the station. As the other signals indicate "danger," the safety-semaphore will be seen by the engineer of the train on the side to which it is turned, and the danger of two trains being started at the same moment, as would be the case were M and *n* alike, is obvious, the rod A having to be turned in opposite directions to signal opposite trains. Immediately upon the release of rod A it returns by gravity to its normal position, and with it the semaphores, which are kept in such position by roller E and its notch, as described. It will be seen that by reason of the cam or wedge-shaped block B the signals are thrown upward as they are rotated, thus rendering their shifting more conspicuous and rendering it easier for the engineer to promptly discover the signal.

H represents a lamp mounted on the top of post A, and having four lights, *h*, corresponding to the semaphores on the rod, and which at night answer the purpose of said semaphores.

I represents a hood or shield formed of a band of suitable material, which is sufficiently large to embrace three of the signals, but preferably does not cover or embrace the safety-semaphore M. The shield I is preferably mounted on the cross-arms *i i*, which are attached to the sleeve *i'*, playing loosely on rod A below the semaphores and above bracket W. The shield I is of such height that when elevated it will completely hide the semaphores N N *n* from sight.

The shield I is cut away at I', approximating semaphore M, for the accommodation of the supporting-arm F thereof, and from the edges of said slot rise two guide-rods, J J, which embrace said arm and assist in properly guiding the shield to its place when elevated.

K is a rope or chain attached to one arm *i*, passed upward through an opening in the cross-piece F directly above it, thence over a pulley, *k*, mounted in a slot in rod A above the semaphores, and thence down through a cross-piece, F, and arm *i*, as shown. To the lower free end of rope K is attached a ring, *k'*, which, when the shield is raised, may be engaged with the arm *a'*, or with a stud, *k''*, projecting from rod A, as shown.

When the shield I is raised, the danger-semaphores are all obscured, indicating an open track. The shield, it will be observed, is mounted upon the rod and turns with the semaphores. When not raised, it stands below the semaphores and offers no obstruction to their free display. In some instances it might be found desirable to mount the shield above the semaphores, so that the manner of operating it is the reverse of that described; but we prefer mounting it below the semaphores.

Having described our invention, we claim—

1. The combination of a vertically-movable rod, a supporting-roller therefor, and a cam-block, B, upon which said roller moves, with the safety and danger semaphores mounted on said rod, and the vertically-movable shield adapted to cover the danger-semaphores when raised, all constructed and arranged substantially in the manner and for the purpose described.

2. The combination of a supporting-rod and the semaphores mounted thereon, the roller supporting said rod, and the annular cam-block B, supporting said roller and having a locking-notch, *e*, with a vertically-movable shield adapted to be shifted to cover the danger-semaphores, all constructed and arranged substantially in the manner and for the purpose described.

3. The combination of the movable rod, its supporting-roller and cam-block B, substantially as described, with the semaphores on said rod, and the vertically-movable shield, all constructed and arranged substantially in the manner and for the purpose described.

4. The combination of a vertically-movable rotatory rod and its supporting-roller with a cam-block traversed by said roller, and having a notch engaging said roller to hold the rod in normal position, all constructed and arranged substantially in the manner and for the purpose described.

5. The combination of the rod A, its roller and the cam-block, with the semaphores mounted on said rod, the shield mounted thereon and having guide-rods, and the devices for operating said shield, all constructed and arranged to be operated substantially in the manner and for the purpose specified.

In testimony that we claim the foregoing as our own we affix our signatures in presence of two witnesses.

JOHN DUVALL YARRINGTON.
HENRY D. SHANKLIN.

Witnesses:
A. O. HODGES,
JOHN T. SHELBY.