(No Model.)

W. R. CLOSE.

FOG SIGNAL.

No. 472,335. Patented Apr. 5, 1892.

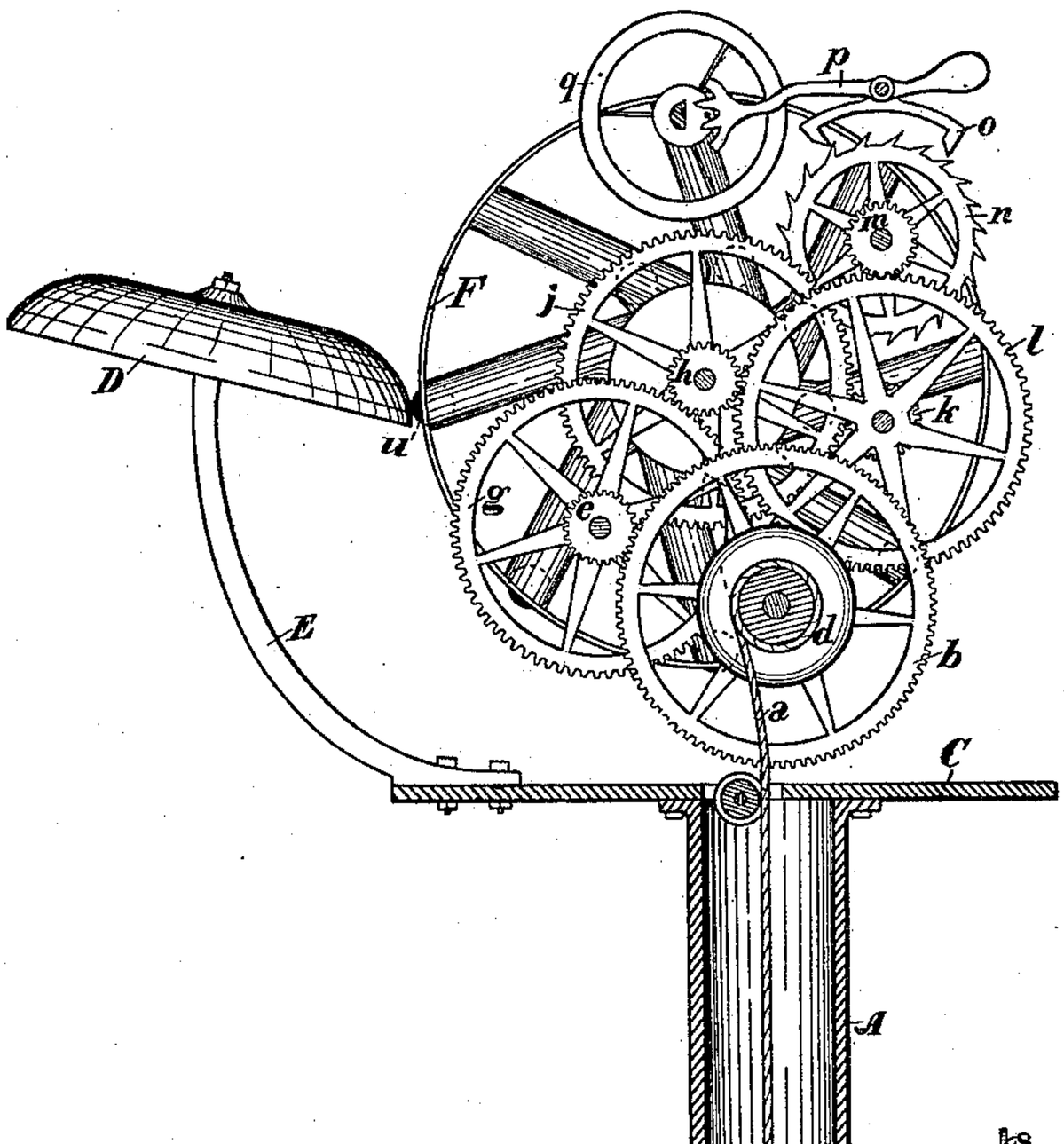


Fig. 1

Fig. 2

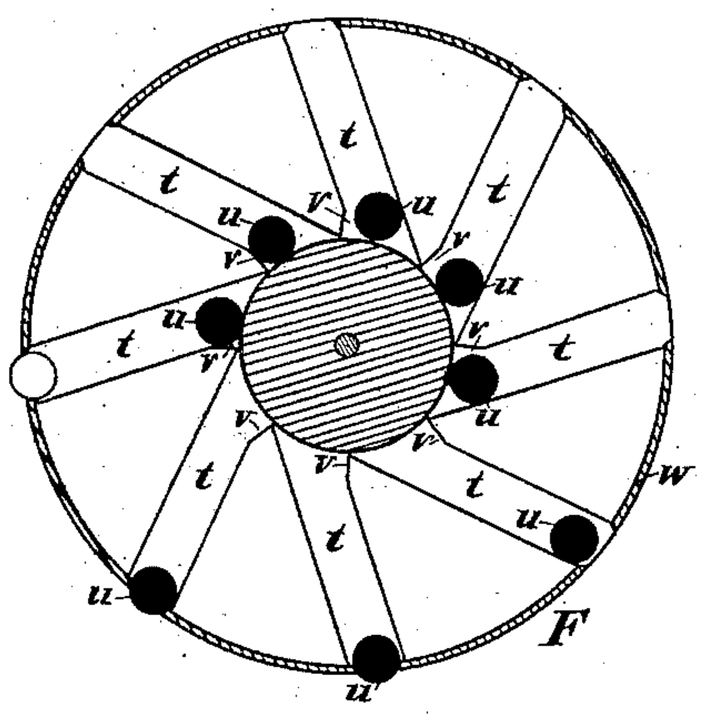
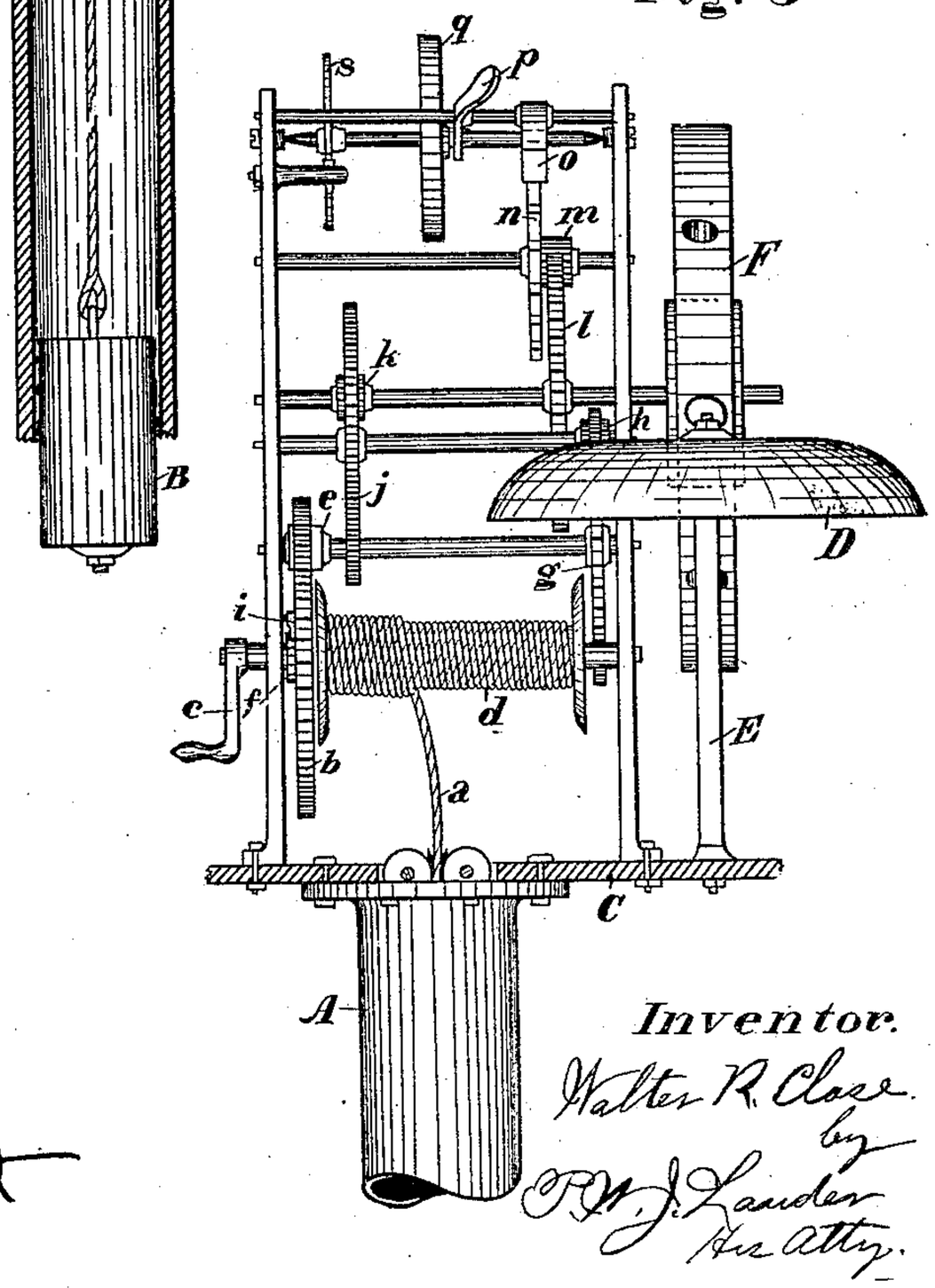


Fig. 3



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UNITED STATES PATENT OFFICE.

WALTER R. CLOSE, OF BANGOR, MAINE, ASSIGNOR OF ONE-HALF TO CHARLES E. HILL, OF SAME PLACE.

FOG-SIGNAL.

SPECIFICATION forming part of Letters Patent No. 472,335, dated April 5, 1892.

Application filed June 13, 1891. Serial No. 396,074. (No model.)

To all whom it may concern:

Be it known that I, WALTER R. CLOSE, a citizen of the United States, residing at Bangor, in the county of Penobscot and State of Maine, have invented a new and useful Fog-Signal; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to a new and improved mechanical fog-signal; and it consists of the combination of regulated clock-gears with a new wheel having hollow tangential spokes provided with balls therein and a bell located in such position as to be struck by the said balls in the revolving of the wheel by means of the clock-work or other suitable motor, as will hereinafter be fully described.

Throughout the description reference is made to the accompanying drawings, forming part of this specification, in which—

Figure 1 represents a side elevation of my device, showing the gears as mounted upon a platform with a section through the hollow post. Fig. 2 represents a sectional view of the bell-striking wheel, showing construction and the balls in their relative position. Fig. 3 shows a front elevation of my invention complete.

Similar letters of reference refer to correspondingly like parts throughout the different figures.

It is the object to place my invention along the sea-coast, at the entrance of harbors, and all places where fog-signals are deemed necessary and useful; and for that purpose I have mounted it upon a hollow post A, which can be set by drilling into a rock or ledge, inserting the lower plugged end of the post, and fastening by means of sulphur or other suitable material. Upon this hollow post A is placed my invention mounted on the platform C; and it consists of the drum *d*, upon which is wound the rope *a*, attached to the driving-weight B. The drum-shaft is provided with a handle or crank *c* at one end thereof, furnishing means for winding, and also contains the usual ratchet *f* and retaining-dog *i*. (Shown in Fig. 3 of the drawings.)

Upon the drum-shaft is mounted a gear-wheel *b*, meshing into a pinion *e*, carrying a large gear *g*, which in turn meshes into a pinion *h*, carrying a large gear *j*. The gear *j* meshes into a pinion *k*, (which is on the usual minute-shaft of an ordinary clock-movement,) and the large gear *l* upon said shaft meshes into a pinion *m* on the shaft with the escapement-wheel *n*. Thus from the weight B power is transmitted to the escapement-wheel *n*, which is regulated by an escapement *o*, having an arm *p*, extending to and oscillated by a balance-wheel *q*, the latter being supplied with a hair-spring *s* to propel the same in the usual manner known to clock-movements.

The second or third shaft from the escapement *o* I extend outside of the frame and fasten thereto my improved bell-striking wheel F, which consists of a large hub having hollow radial spokes projecting in tangents toward a flat rim *w*, where they are securely fastened at regular distances. The rim *w* of the striking-wheel F is preferably a flat band of metal fastened to the outer extremity of each hollow spoke *t*, and where each spoke connects with this rim a hole is made through the latter coinciding with and slightly smaller than the interior bore of the said spokes. These holes through the rim *w* should be of such sizes as to allow a portion of the metal balls *n* to project therethrough sufficiently to strike a gong D, placed in proximity thereto, and still not pass out of the wheel.

A heavy metal ball *u* is placed in each spoke *t* of the striking-wheel F, of sufficient size to roll readily therein. It can readily be seen by referring to Fig. 2 of the drawings that upon turning the striking-wheel F toward the left as soon as a spoke becomes inclined below a horizontal position the ball therein will immediately roll to the rim of the wheel and remain until an incline in the opposite direction is reached on the opposite side of said wheel, where it will again return to the hub. Thus as each spoke becomes inclined and the balls roll toward the rim sufficient force is obtained to deliver a stroke upon the gong D, placed with its lower edge near the point of inclination to receive the

force of the ball. In this manner continued and regular strokes are administered to the gong D by the revolving of the wheel F, which is kept in continual motion by means of the clock mechanism hereinbefore described. With an eight-spoked wheel, as shown in the drawings, as two balls are continually at the rim upon one side of the center of gravity they will counterbalance the three balls on the opposite side, while the lowermost and two upper balls will balance each other. Consequently all that is required to turn my improved striking-wheel and keep it in motion is only sufficient power to overcome the friction of its journals. I can therefore run a large striking-wheel containing heavy balls with a light clock-movement.

In order to obtain additional force and a heavier stroke of the balls *u* upon the gong D, I have constructed small pockets *v* upon the under side of each spoke *t* where it joins the hub, within which the balls rest and are detained until a greater inclination of the spokes is obtained before they roll down the latter to the rim. As the balls *u* strike the gong they consequently rebound, and by the time they again reach the rim the turning of the wheel has caused them to pass the lower edge of the said gong, and thus a clear stroke is always obtained.

My improved striking-wheel can be attached to other motors besides a clock-movement to accomplish the same result, as it is equally applicable to battery-power, and may be utilized for other purposes.

Having thus described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

1. An improved fog-signal consisting of the combination of a drum with winding mechanism provided with gear attached to a clock mechanism having an extending shaft, a wheel mounted upon said shaft and having hollow tangential spokes provided with inclosed balls, said wheel having openings in its rim to allow the partial projection of said balls, a gong mounted near the periphery of said wheel in such manner as to be adapted to be struck by the said balls upon the revolving of the wheel, and a hollow post with platform supporting said mechanism, and a weight traveling in said post, attached by cord or other means to said drum, for the purpose described, and substantially as shown.

2. An improved fog-signal consisting of the combination of a wheel having hollow tangential spokes provided with a pocket or incline at their connection with the hub, for the purpose described, said spokes containing loose balls adapted to project in certain positions partially through the openings in the rim, and a gong located in position to be struck by the projection of said balls upon the revolving of said wheel with a clock-movement having a projecting shaft attached to said wheel and adapted to convert motion to the latter, for the purpose described, and substantially as shown and set forth.

3. A revolving wheel turned by clock-movement or other suitable mechanism, said wheel having hollow inclined radial spokes projecting tangent to the hub and containing balls adapted to roll therein and in certain positions project partially through holes in the rim, for the purpose described, and substantially as shown and set forth.

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