

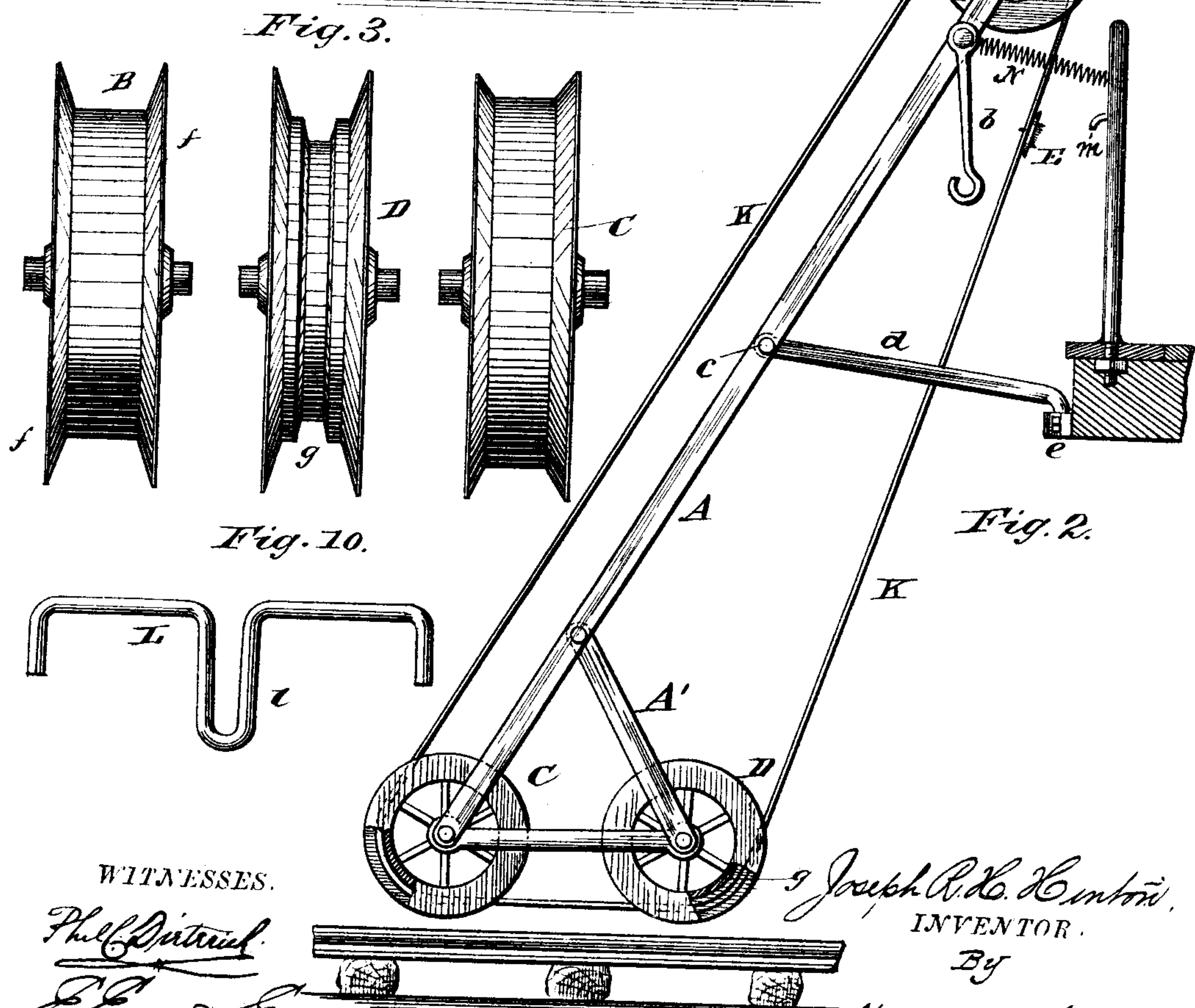
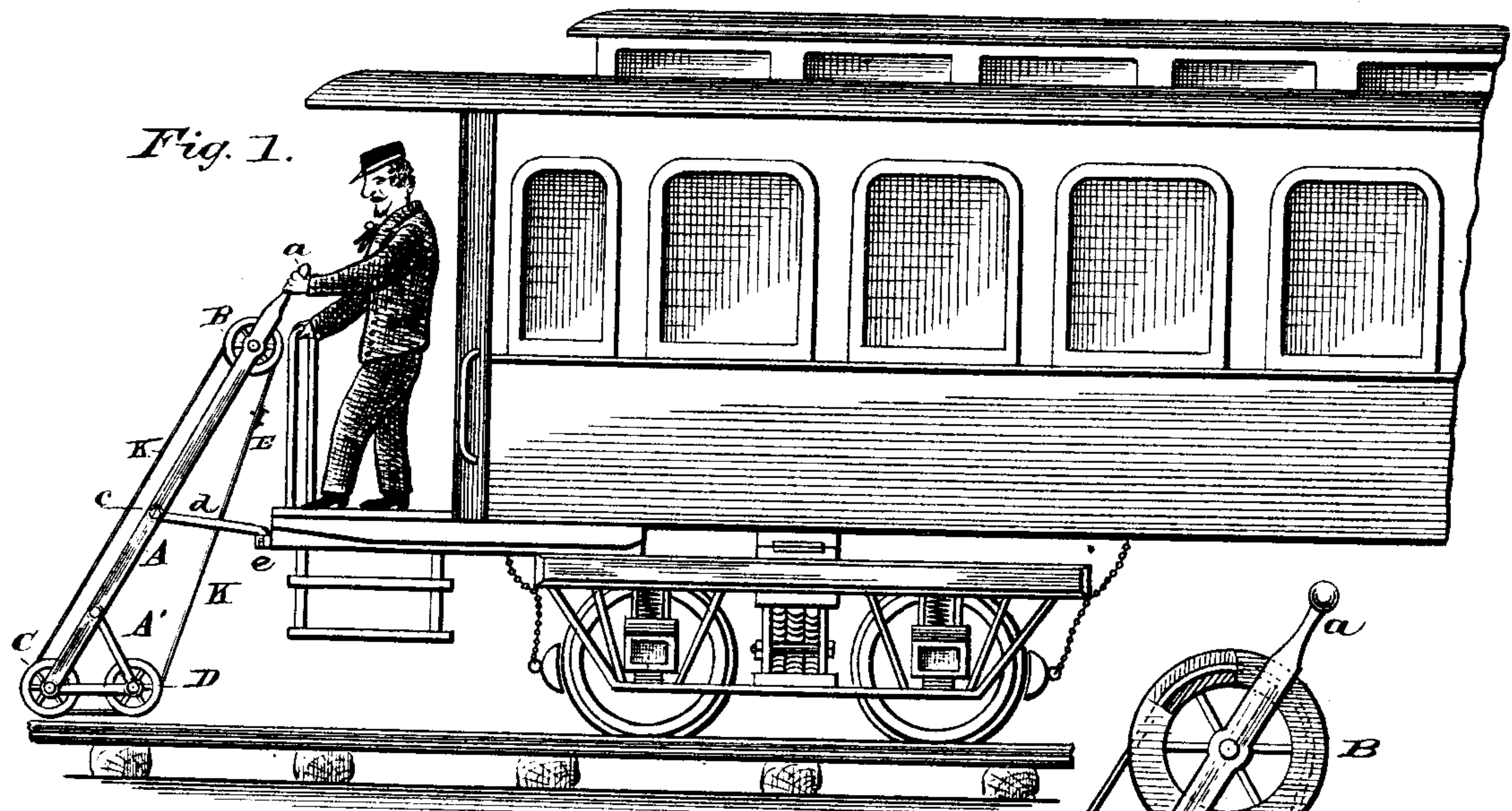
(No Model.)

2 Sheets—Sheet 1.

J. R. H. HINTON.

APPARATUS FOR PLACING TORPEDOES ON RAILROAD TRACKS.
No. 388,199.

Patented Aug. 21, 1888.



WITNESSES.

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his Attorney.

(No Model.)

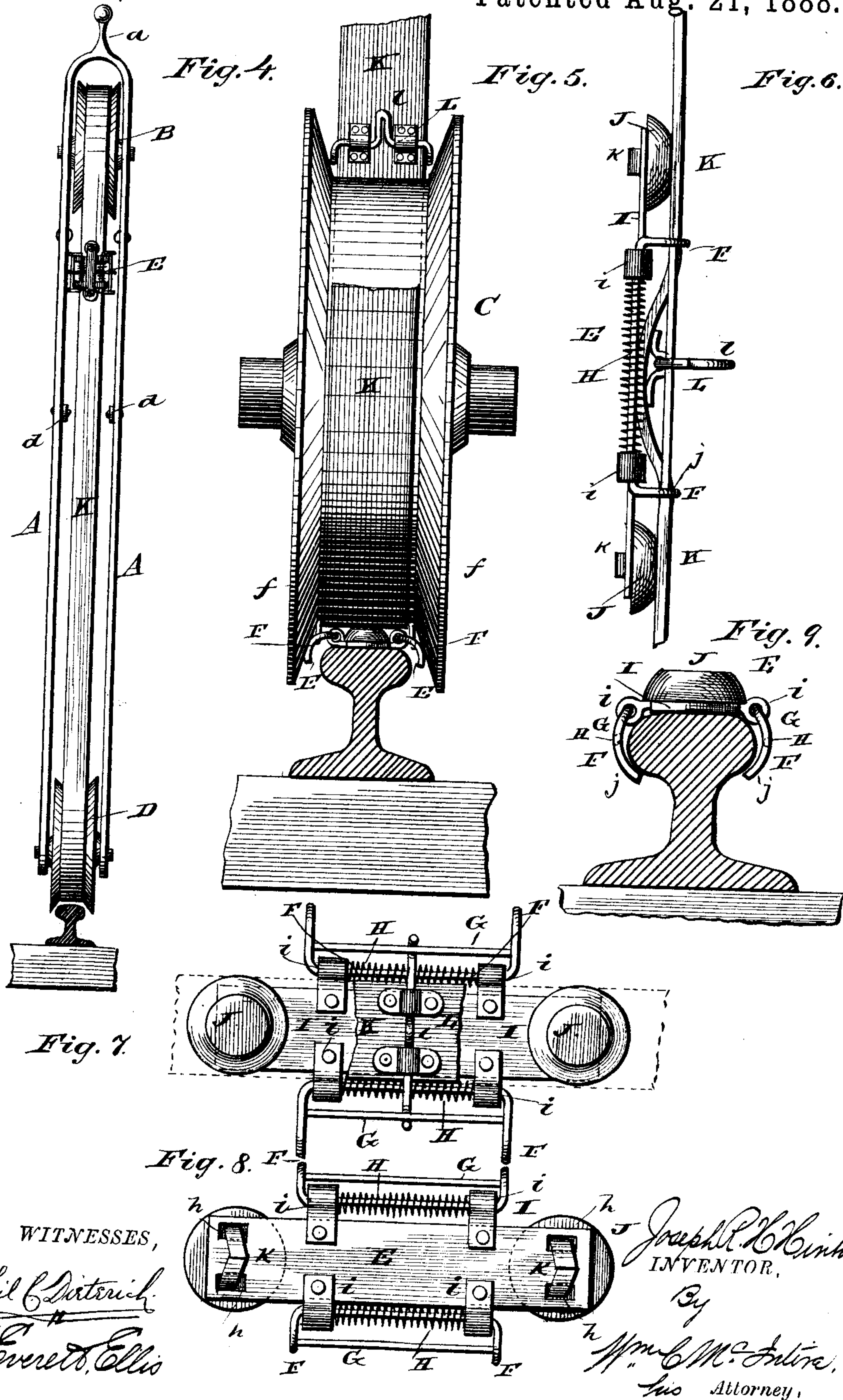
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UNITED STATES PATENT OFFICE.

JOSEPH R. H. HINTON, OF BALTIMORE, MARYLAND, ASSIGNOR OF ONE-HALF
TO THE VIADUCT MANUFACTURING COMPANY, OF SAME PLACE.

APPARATUS FOR PLACING TORPEDOES ON RAILROAD-TRACKS.

SPECIFICATION forming part of Letters Patent No. 388,199, dated August 21, 1888.

Application filed January 31, 1887. Renewed February 1, 1888. Serial No. 262,665. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH R. H. HINTON, a citizen of the United States, residing at Baltimore, in the State of Maryland, have invented new and useful Improvements in Apparatus for Placing Torpedoes on Railroad-Tracks, of which the following is a specification.

This invention relates to certain new and useful improvements in apparatus for placing signal-torpedoes on railroad-tracks; and it consists, substantially, in such features of arrangement, construction, and combinations of parts as will hereinafter be more particularly described, and pointed out in the claims.

The invention comprises in its organization, principally, a frame or yoke designed to be movably supported at the rear end of a car or train of cars, grooved wheels supported in or by the frame, an endless belt or band traversing the wheels, a spring-clamp for automatically clasp ing around the rails, and to or by which the torpedoes are held, and a movable finger attached to the belt and by the tripping of which the torpedo-clamp is operated.

The invention has for its object to provide simplified devices of this character by which the operators of trains can place torpedoes on railroad-tracks while the cars are in motion, and at any desired intervals required, and with such regularity and absolute precision as that no danger of accidental explosions is had.

The invention has additional objects in view, all as will more fully appear from the description hereinafter following when taken in connection with the accompanying drawings, wherein—

Figure 1 represents a longitudinal side elevation of a car having my improvements attached to the rear end, and wherein the operator is supposed to be in the act of lowering the device upon the track. Fig. 2 is an enlarged view, in side elevation, showing the appearance and construction of my invention more fully. Fig. 3 is a view to indicate the construction of tread or periphery of the several wheels employed in the practice of my invention. Fig. 4 is a view of the device or apparatus as it appears from the rear. Fig. 5 is a front view of a portion of the device, where-

in the torpedo-clamp is shown in the act of springing around the rail, while another clamp is to be seen following thereafter. Fig. 6 is a side view of the clamp itself, representing the manner of its attachment to the belt. Fig. 7 is a top view of the clamp together with a portion of the belt to which a trip-finger is attached, the same indicating the manner in which the finger holds the spring-arms of the clamp apart until released automatically to clasp the rail. Fig. 8 is a view of the under side of the clamp, showing the manner of attaching the torpedoes thereto. Fig. 9 is a sectional view of a rail, showing the clamp as embracing the two upper side flanges thereof and in readiness to have the torpedoes exploded by a passing train. Fig. 10 is a detail of the movable trip-finger to more clearly indicate its construction.

Reference being had to the several parts by the letters marked thereon, A represents a yoke or frame provided at the top with a suitable grip or handle, *a*, and to one side, near the top, with a hook or catch, *b*, the said frame being pivoted, as at *c*, to supporting-bars *d*, that are removably attached to the platform of the car, as seen at *e*.

Between the two sides of the frame, near the top, is journaled a wheel, B, the periphery of which is grooved, as shown, leaving two continuous side flanges, *f f*, while similarly supported between the sides of the frame, at their lower end, is a like wheel, C, as shown. Extending rearward of and attached to the frame is an auxiliary frame, A', within which is held in the same vertical plane with wheel C another wheel, D, whose tread or periphery is grooved in the same manner, but is also formed with a central continuous recess or channel, *g*, for a purpose hereinafter described. The said wheels B, C, and D are all of the same diameter, and it will be observed that the one D is supported by the auxiliary frame slightly elevated or higher than C, in order to permit passage thereunder of the traveling belt and torpedo-clamp attached thereto.

The torpedo-clamp E is constructed of an oblong strip of flat metal, having at each end small slots or openings *h*, while at opposite sides of its length it is provided with loops *i i*,

in which are held the bent spring-actuated arms F F, that are automatically operated to inclose or embrace between them the two side flanges of the rail. These arms are each
 5 provided or formed with a rib, G, extending lengthwise thereof between their curved branches *j*, and surrounding each of the said arms is a spiral spring, H, whose one end bears upon the ribs G, while their other end bears
 10 upon the top of the metallic strip I, and from this it will be seen that the torsion of the springs tends to draw the bent arms together downwardly. The torpedoes are provided on their under side with small strips of metallic
 15 or other ribbon, *k*, and the manner of attaching them to the plate I is by passing the ribbons through the openings *h* and bending them down or tying them together in the manner shown, and it is evident that when the clamp
 20 is caused to embrace the rail the torpedoes J will be placed in such manner as to be exploded by the wheels of a passing train.

K represents an endless band of leather or other suitable material, which passes around
 25 the wheels in the manner shown, and at suitable intervals of its length and on the inner surface thereof I provide a trip-finger, L, consisting of a piece of wire or other material bent at each end to about a right angle and
 30 formed with a central portion, *l*, the said finger being movably supported in small loops or eyes secured to the belt, as shown, and its two bent extremities extend over the edges of the band. By taking hold of the spring-actuated arms of the clamp and drawing them
 35 apart, and then turning the finger L outwardly to bring its bent extremities under the ribs G, the said arms will be held apart until the finger is tripped to cause them to again close together.
 40

The operation of my invention is as follows: When it is desired to place a torpedo, the operator, having in readiness a suitable number of the spring-clamps, to which the torpedoes
 45 are attached in the manner explained, takes one of the clamps and bends the arms thereof backwardly, as indicated, and then turns the trip-finger around, so as to hold the arms apart. The operator then forces the apparatus down
 50 until the wheel C bears upon the track, and the friction thereby produced will cause the endless belt or band to travel around until the finger L comes in contact with the periphery of the said wheel C, whereupon it is tripped,
 55 thereby causing the spring-actuated arm to automatically close around the flanges of the rail. The wheel D does not come in contact with the rail at any time, and the continuous channel G thereof is for the purpose of accommodating the portion *l* of the trip-finger, so
 60 that the release of the spring-arms will not take place until after the clamp has been brought around lengthwise over the top of the rail. By the employment of this wheel D, I
 65 am enabled to bring the device to an accurate position to be sprung upon the rail, for it is

evident that the distance between its center and that of wheel C is intended to be such that the finger L will not be tripped until it is brought into contact with the tread or
 70 periphery of the wheel C.

From the foregoing description it is thought the construction of parts contributing toward my invention and the operation thereof will be thoroughly understood, and I desire to state
 75 that, while I have herein set forth a peculiar construction and arrangement of the several parts, I do not wish to be understood as limiting myself thereto in precise detail, for it is evident that very material changes could be
 80 resorted to coming within the scope of my invention.

For the purpose of holding the device out of contact with the rail when not in use the hook *b* is secured or slipped into the small eye
 85 *m*, formed on the side of the platform-rail, as shown. Bearing between this rail and the rear of the two side portions of the frame A are suitable springs, N, tending to force the lower end of the frame downwardly when the hook
 90 is released or detached.

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

1. In apparatus for placing torpedoes on
 95 railroad-tracks, the combination of a yoke or frame and an auxiliary frame, grooved wheels journaled in said yoke, a similar wheel journaled in the auxiliary frame, having a continuous channel or recess, an endless band trav-
 100 ersing said wheels, and a torpedo-clamp carried by the band, adapted to be tripped and to automatically embrace the flanges of a rail, substantially as described.

2. In torpedo-placing apparatus, the com-
 105 bination of the frame A, the grooved wheels B C, the auxiliary frame, and grooved wheel D, having continuous channel *g*, the endless band traversing these wheels and provided with trip-finger I, and the torpedo-clamp hav-
 110 ing spring-actuated arms held apart by said finger, substantially as described.

3. In torpedo-placing apparatus, the combination, with the endless belt or band, of a
 115 clamp holding at each end a torpedo and having spring-actuated arms for embracing a rail, and devices or means for holding said arms apart, adapted to be automatically tripped or released, substantially as and in the manner
 120 described.

4. The combination, with the endless band, of the finger I, loosely held thereto, having its
 125 ends bent and formed centrally with the portion *l*, and the clamp E, provided with bent spring-actuated arm F F, having rib G, under which the ends of the trip-finger are turned, the whole operating in the manner set forth and described.

5. The combination, with an oblong strip of metal having at opposite sides the loops *i i*, of
 130 the bent arms F F, held in said loops and having rib G, and the springs surrounding said

arms, with one of their ends bearing upon the ribs and the other upon the plate, substantially as described.

5 6. The combination, with the frame, supported as shown, of the hook *b* and springs N, substantially as and for the purpose described.

In testimony whereof I have hereunto set

my hand in the presence of two subscribing witnesses.

JOSEPH R. H. HINTON.

Witnesses:

THOS. KELL BRADFORD,
F. M. DUNN.