

(No Model.)

F. VAUGHAN. CAR COUPLING.

No. 466,639.

Patented Jan. 5, 1892.

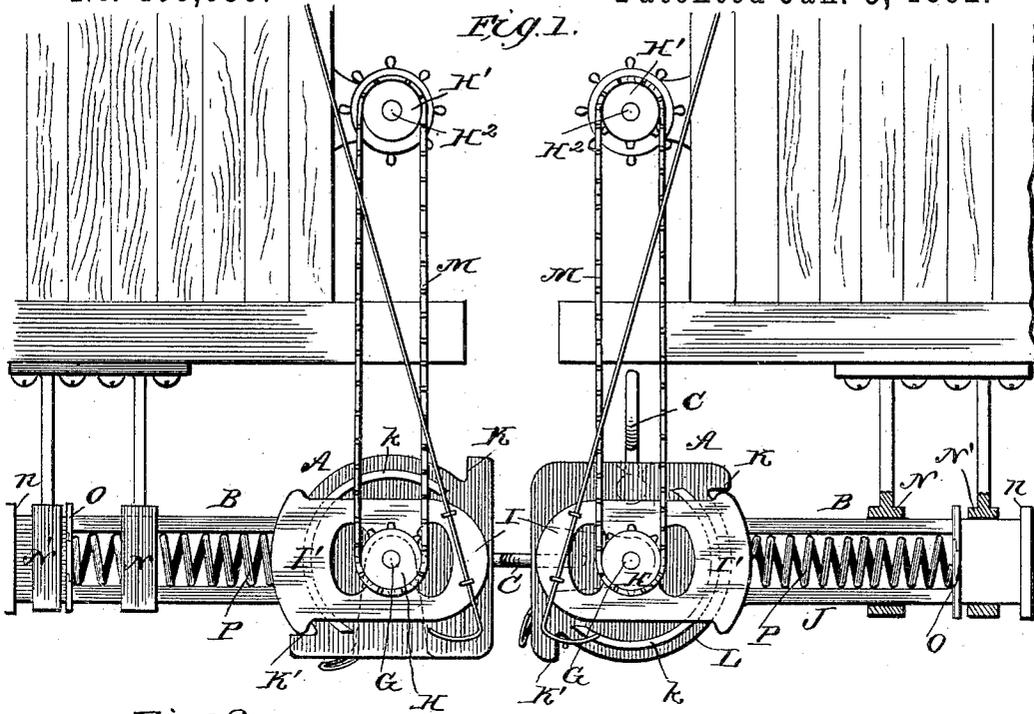


FIG. 2.

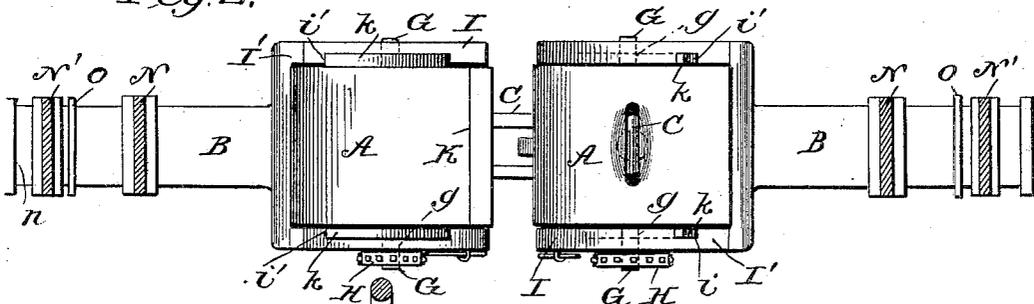
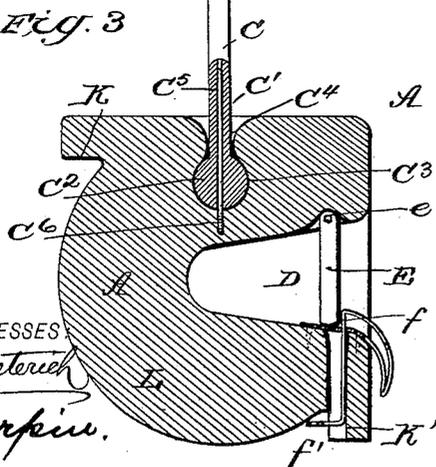


FIG. 3.



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CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 466,639, dated January 5, 1892.

Application filed April 9, 1891. Serial No. 388,327. (No model.)

To all whom it may concern:

Be it known that I, FRANK VAUGHAN, of Elizabeth City, in the county of Pasquotank and State of North Carolina, have invented a new and useful Improvement in Car-Couplings, of which the following is a specification.

My invention is an improved car-coupling; and it consists in certain novel constructions and combinations of parts, as will be hereinafter described, and pointed out in the claims.

In the drawings, Figure 1 is a side elevation of my improved car-coupler. Fig. 2 is a top plan view thereof, and Fig. 3 is a sectional view of one of the draw-heads.

My car-coupling is formed with the draw-head A and the draw-bar or frame B. The draw-head A is supported to turn on an axis and is provided with a link C and a link-mortise D, arranged on different radii, the draw-head being arranged to turn to adjust either the link or the mortise to position to face the meeting draw-head. It will be seen, therefore, that the draw-head may be turned to bring its mortise to position to receive the link on the meeting draw-head or to set its link to enter the mortise of the meeting draw-head. By preference the mortise and the link are arranged on lines at about right angles to each other, or ninety degrees apart; and it is also preferred to support the draw-head to move on a horizontal axis arranged at right angles to the direction of movement of the car.

While the link and the mortise and link-securing device shown are of a special construction and will be presently described in detail, I desire it distinctly understood that I do not wish to be limited in the broad features of my invention to the special construction shown; nor do I desire, in referring to the part C as a link, to be understood as limiting myself to an open link such as shown, for the link may be in the shape of a hook-bar, arrow-head rod, or other suitable construction, if desired, without departing from some of the broad principles of my invention.

The mortise D is provided with a link-securing pin E, pivoted at *e* and arranged to close at its opposite end against a shoulder *f*. This shoulder may be a fixed part cast integral with the draw-head, if desired; but I have shown it as capable of being depressed to permit the pin to move forward to release the

link. To this end the shoulder *f* is preferably a part of a spring-plate secured to the draw-head and inclining upward and backward to the shoulder part *f*, and which projects down through an opening in the draw-head and is provided with a stop *f'*, which limits its upward movement. To release the pin E, this spring may be depressed by means of the devices shown to draw the shoulder *f* below the end of the pin.

The link C is provided at one end with the shank or bar *C'*, on which is formed or secured the ball *C²*, which fits in the socket *C³* in the draw-head, the shank or bar fitting in the neck *C⁴* of the socket. This neck is flared slightly at its front end to permit a limited vertical play of the link and is slotted or elongated laterally to permit the link to swing at its outer end from side to side. To secure the link normally straight and at the same time permit it to play laterally and vertically, I provide a spring-rod *C⁵*, projecting from the ball and entering a socket *C⁶*, formed from the ball-socket. In the construction shown the rod *C⁵* is screwed longitudinally through the shank or bar *C'*, thence through the ball, and projects, as shown, into the socket *C⁶*. Manifestly, where desired, this rod may be embedded in the link by casting the same around the rod, or the rod can be otherwise inserted in or applied to the link, as may be desired.

The draw-head is in the construction shown provided at its opposite sides with trunnions G and, surrounding said trunnions, with teeth-forming sprocket-wheels H. The trunnions G journal in bearings *g*, provided in the front portion I of the draw-bar or frame J. The portion I has the bearings *g* for the trunnion G and is provided with back plates or bars *I'*, grooved at *i'* to receive curved heads *k* at the rear edge of the draw-head, shoulders K K' being formed on the draw-head at the opposite ends of the head *k* to limit the movement of the draw-head in opposite directions.

It will be seen from the foregoing description that the draw-head may be readily turned to adjust either the link or the link-mortise to the front. By preference the draw-head is weighted at L to cause the draw-head to turn by gravity to position to adjust the

link-mortise to the front. This insures the bringing of the said part to the front at all times, except when the link is intentionally adjusted to such position. This is preferred, because no damage would result from the meeting of two draw-heads with the mortised portions presented.

A lever mechanism or the like might be provided to enable the convenient turning of the draw-head; but I prefer the construction shown, wherein sprocket-belts M pass around the wheels H and thence up over wheels H' H' on a shaft H². By properly turning this shaft the wheels and belts may be caused to turn the draw-head to any desired position. Manifestly one belt may be used instead of two with good results; but the construction as shown is preferred. The draw-head is held and movable longitudinally in guide-plates or boxes N N', fixed to the car-frame, and is provided in rear of the box N' with a flange or projection n, which limits the forward movement of the draw-head. Between the loops N N' there is provided a plate or bar O, to which is connected a spring P. This spring P extends forward from the plate O and connects with the draw-head. When the draw-bar is pulled forward, the plate O presses against the rear side of loop N, and when such draw-bar is pushed back the plate O is pressed against the loop N', the spring serving to cushion the movements of the draw-bar in both directions.

Having thus described my invention, what I claim as new is—

1. The combination of the framing or support, the draw-head supported to turn and provided concentric with its axis of movement with a sprocket-wheel, and an operating-belt engaging said wheel, all substantially as and for the purposes set forth.

2. The combination of the draw-bar or frame having bearings, the draw-head having trunnions journaled in said bearings and provided with toothed wheels surrounding the same, the driving-shaft having toothed wheels, and the belts connecting the wheels of the driving-shaft with those of the draw-head, substantially as set forth.

3. The combination of the draw-bar or frame having a front portion provided with a back plate or bar I' and the draw-head journaled in said front portion and braced and guided by the back plate or bar I', all substantially as and for the purposes set forth.

4. The combination of the draw-bar or frame having a front portion provided with a back plate, a bar I', grooved at z', and the draw-head journaled in advance of bar I' and

having a curved rib or head fitting the groove z' and provided with stop-shoulders K K' at the opposite end of said rib or head, all substantially as and for the purposes set forth.

5. In a car-coupling, the combination, with the draw-head having a link-mortise, of a spring-plate supported at the front lower end of said mortise and provided with a rearwardly-facing vertically-movable shoulder-like part, and the pin supported in the draw-head and arranged to engage the said part, all substantially as and for the purposes set forth.

6. The combination of the loops N N', connected with the car, the draw-head supported and movable longitudinally in said loops N N', the plate or bar O, movable between said loops N N', and the spring P, all substantially as and for the purposes set forth.

7. In a car-coupling, the combination of the draw-head, the link connected at one end therewith and movable at its opposite end, and a spring-rod secured rigidly to the link and extended between the connected end thereof and the draw-head and adapted to secure the link in its normal position, substantially as set forth.

8. A car-coupling having the draw-head provided with a link and a link-mortise arranged on different radii, the link being adapted to the mortise and the latter being provided with means for securing the link, the draw-head being journaled or pivoted on a horizontal transverse axis, all substantially as and for the purposes set forth.

9. A car-coupling having a pivoted draw-head provided with a link-mortise and link arranged on different radii, the link being movably jointed to the draw-head and provided with a spring whereby to retain it in normal position, substantially as set forth.

10. In a car-coupling, the combination of the draw-bar or frame, the draw-head pivoted thereto and having a link-mortise, a spring-plate supported at the front lower end of said mortise and provided with a rearwardly-facing vertically-movable shoulder-like part, the pin supported in the draw-head and arranged to engage such shoulder-like part, the spring-plate being provided with a lateral pin or projection, and a rod having a portion arranged to engage the said projection, whereby it may be depressed to release the pin, substantially as shown and described.

FRANK VAUGHAN.

Witnesses:

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E. F. LAMB.