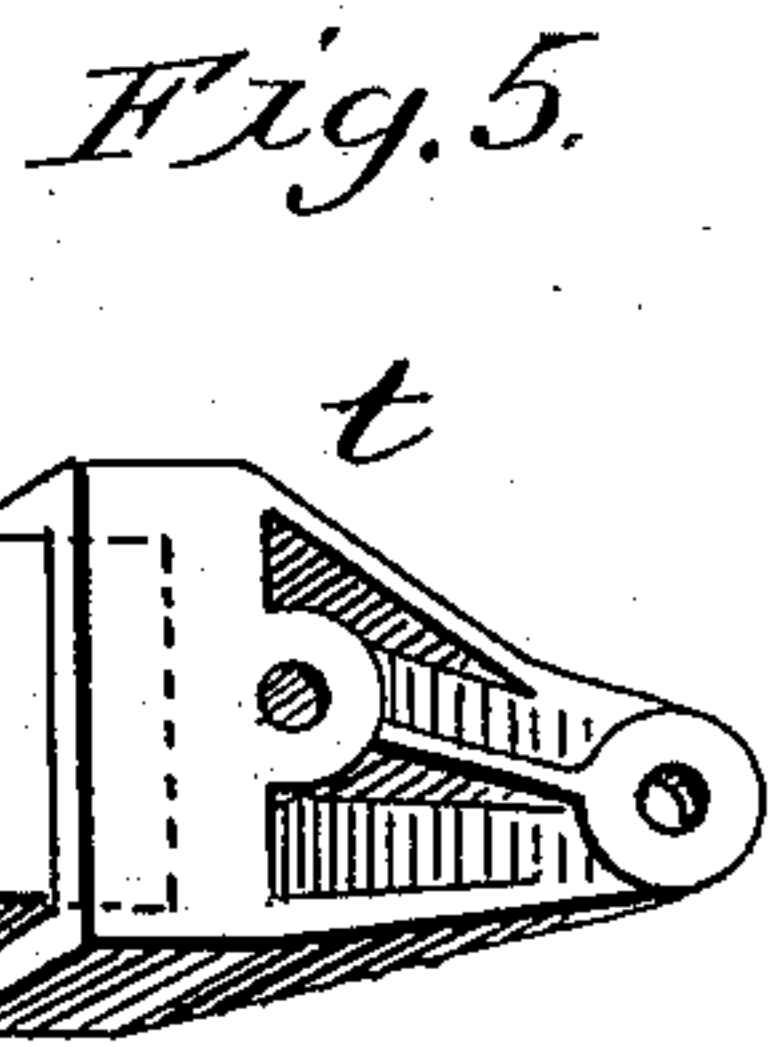
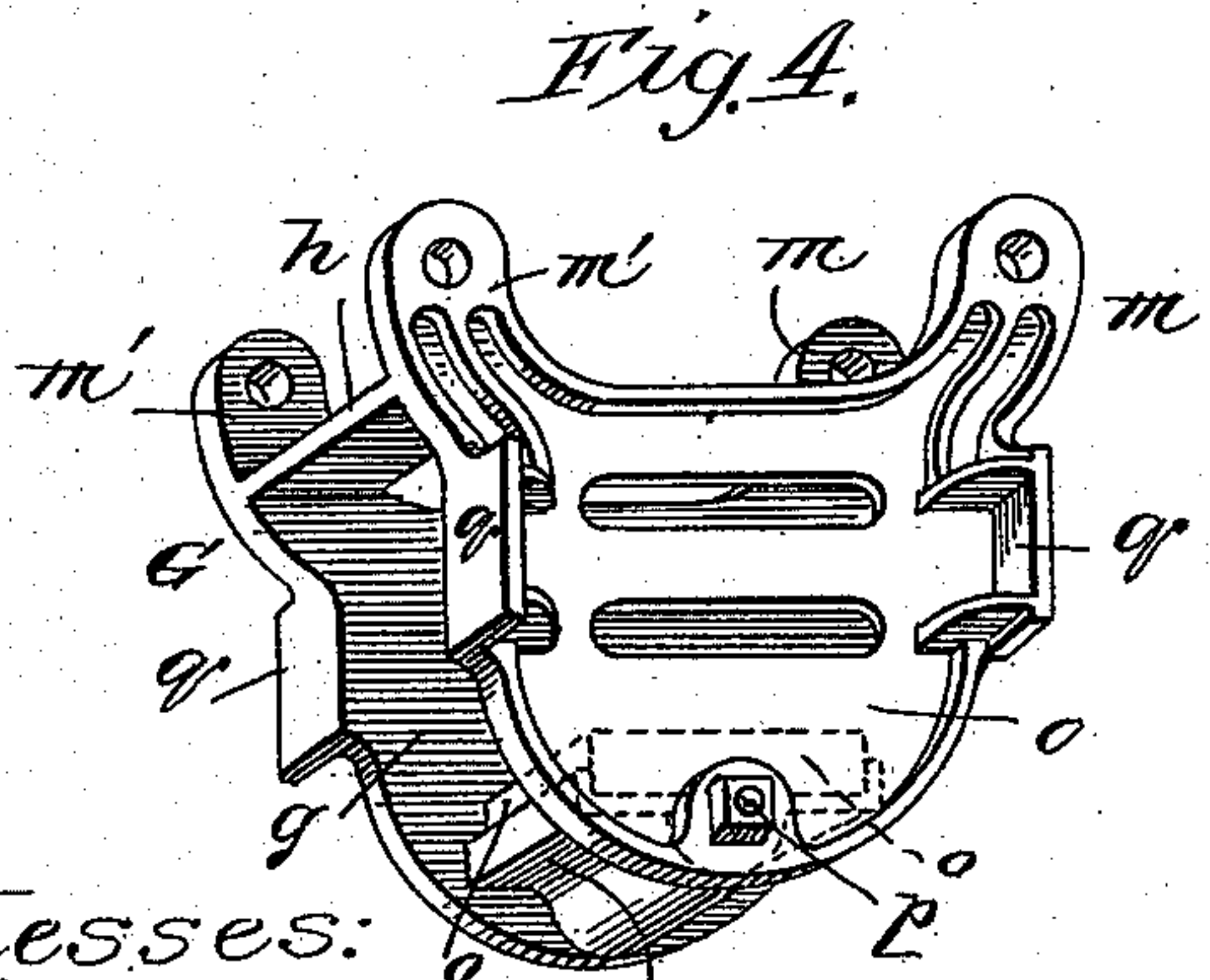
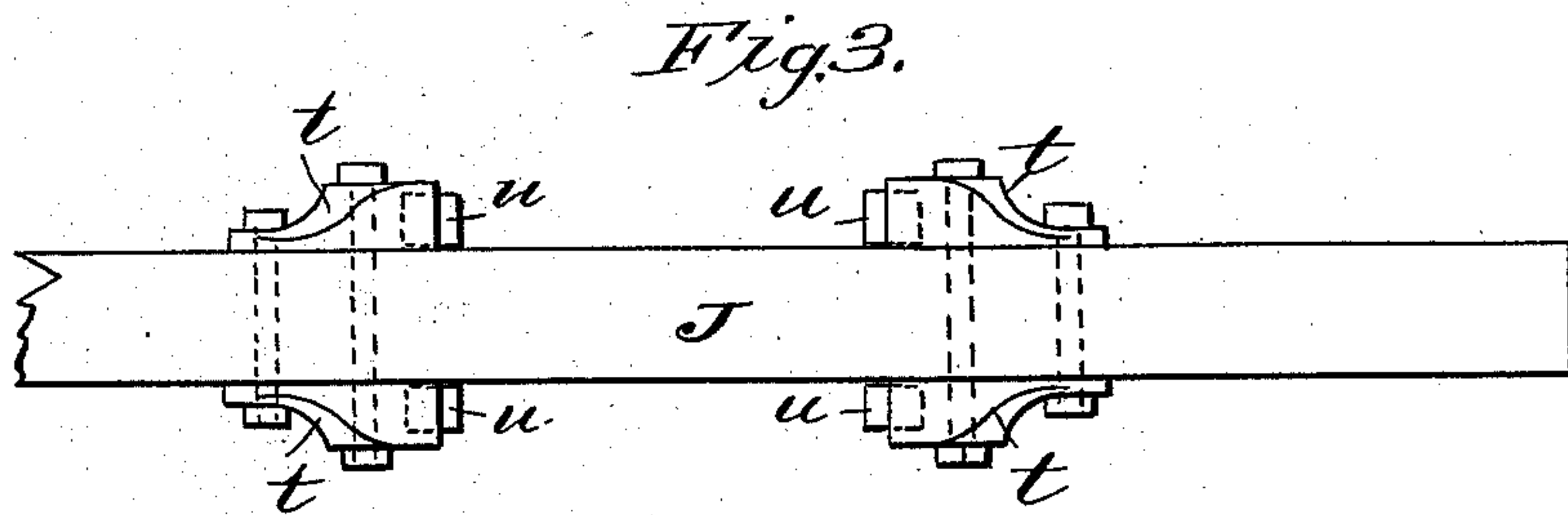
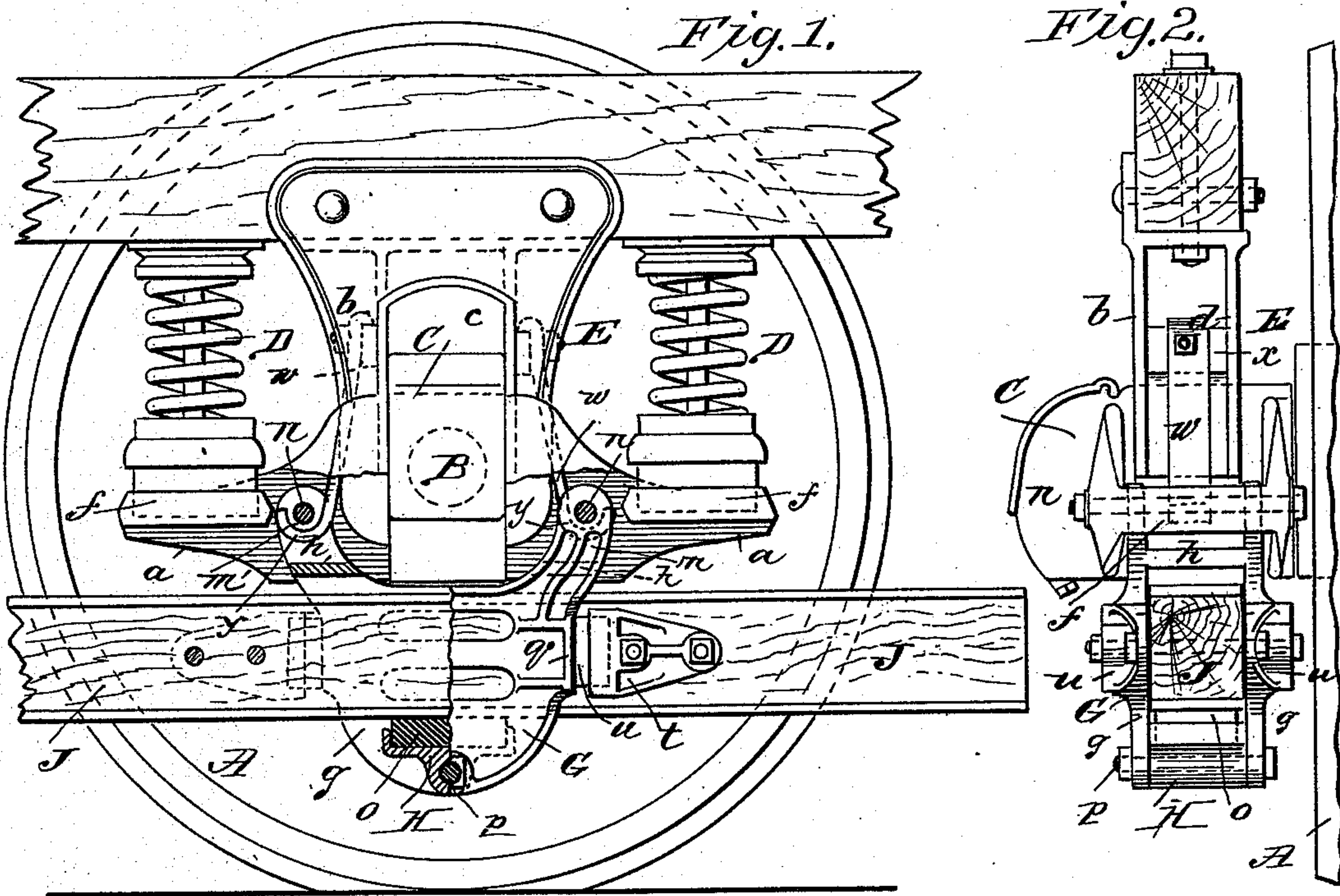


(No Model.)

S. A. BEMIS.  
TRUCK FOR CABLE OR ELECTRIC CARS.

No. 413,890.

Patented Oct. 29, 1889.



Witnesses:  
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# UNITED STATES PATENT OFFICE.

SUMNER A. BEMIS, OF SPRINGFIELD, MASSACHUSETTS.

## TRUCK FOR CABLE OR ELECTRIC CARS.

SPECIFICATION forming part of Letters Patent No. 413,890, dated October 29, 1889.

Application filed September 2, 1889. Serial No. 322,779. (No model.)

*To all whom it may concern:*

Be it known that I, SUMNER A. BEMIS, a citizen of the United States, residing at Springfield, in the county of Hampden and State of Massachusetts, have invented new and useful Improvements in Trucks for Cable or Electric Railway Cars, of which the following is a specification.

This invention relates to trucks for cable or electric railway cars, particularly grip-trucks for cable cars, and especially relates to means comprised in said trucks for supporting the grip-carrying beam, whereby said beam may be readily applied to and detached from the truck, and when carried thereon is most effectually cushioned against jar or shock.

It may be further stated that the purpose of the invention is similar to that described and shown in Letters Patent of the United States granted to me June 25, 1889, No. 405,691, the parts located near the journals of the truck composing the grip-beam supporting and cushioning devices in the present invention, however, being adapted for supporting and cushioning a grip-beam which may extend forward and rearward of the wheels, which form of grip-beam is here shown; and the invention consists in the construction and combination of parts, all substantially as will hereinafter more fully appear and be set forth in the claims.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in all the views, and in which—

Figure 1 is a side elevation of one end portion of the car-truck, showing a portion of the car-sill supported thereon, and also the pocket or yoke-formed device for supporting one end portion of the grip-carrying beam, some of the parts adjacent the journal-box for the car-wheel axle being broken away, and a part of the grip-beam support being in sectional elevation. Fig. 2 is an end elevation of the parts seen in Fig. 1, the car-supporting springs shown in the former figure being, however, in this view omitted. Fig. 3 is a plan view of one end portion of the grip-carrying beam, showing novel appliances thereon, forming a part thereof. Fig. 4 is a perspective view of the supporting-pocket for the

grip-beam, and Fig. 5 is a perspective view of one of the cushioning appliances or abutments for the grip-beam.

In the drawings, A represents a car-wheel near the end of the axle B for one end of the truck, said axle being projected beyond the outer face of the car-wheel, as usual, and supports the journal-box C, which has forwardly and rearwardly projecting steps *a*, preferably integrally cast therewith, on which, through the medium of springs D between said steps and the sill of the car, the car-body is supported, and said body is provided with pedestals E over each journal-box, which are bifurcated, having the outer and inner pending portions *b* and *d*, which project into openings in said steps, and by their bearings on the opposing side walls of said steps serve to prevent undue lateral chucking of the car-body on the trucks, and said pending pedestal portions are also bifurcated to fit over the journal-box, as shown at *c*, and, as usual in railway-car trucks, each step *a* comprises, practically, the vertical inner and outer walls, which range in parallelism forwardly and rearwardly, and are curved at their extremities to meet each other to form the rests or sockets *f* for the base of the springs D.

The construction of the parts of the truck which have just been described with more or less particularity is substantially the same as described and shown in the hereinbefore-mentioned Letters Patent.

G represents the pocket or grip-beam support, the novel construction and an approved design of which is shown in perspective in Fig. 4, and said pocket comprises opposing side or cheek pieces *g g*, connected by suitable cross-braces *h h* near their upper portions. Each cheek-piece *g* has upward extensions *m* and *m'* at its forward and rearward portions, respectively, whereby they are suspended after having been introduced within and against the side walls of the hollow steps *a* forward and to the rear of the journal-box, by the bolts *n n*, which pass through said step-walls and through the said extensions *m m'* of the beam-support G. The said opposing inner and outer cheek-pieces of each beam-support hang from the supporting-bolts therefor below the journal-box, and have extend-



ing between their lower portions a block H for the rest thereon of the grip-beam, which is socketed in its top side to receive a cushion *o*, of rubber, said block being supported in its position, substantially as shown, in any suitable manner, which may be by casting the block integrally with the cheek-pieces; but, as shown and as preferred, the said block is supported by a bolt *p*, passed through said cheek-pieces and loosely through the block, whereby the latter may have a swiveling motion in a vertical plane. The said beam-support G is open from end to end above the beam-supporting block H and between it and the upper uniting and strengthening cross-braces *h*, whereby the grip-carrying beam J, which is of a width to closely fit between said cheek-pieces, may be passed through and between said cheek-pieces, as shown in Fig. 1. Either or both of the cheek-pieces *g g*, preferably both, are provided with outwardly-projecting lugs or rests *q* of suitable strength to resist the longitudinal forces or pressure exerted on the grip-beam. The grip-beam J at one or both of its sides is provided forward and to the rear of said lugs or rests relatively to its position in the truck with abutment-blocks *t t*, bolted or otherwise secured to the grip-beam, said blocks being socketed in their ends toward the grip-beam rests *q*, and provided therein with rubber or other kind of cushions *u*, which form a yielding bearing for said abutment-blocks upon said rests.

When the grip-carrying beam is mounted in its position upon and within the support G, one thereof for each grip-beam being provided at each end of the truck, (but one thereof only in the illustrations being deemed necessary for a clear understanding of the invention,) the forward and rearward ones of each pair of said cushions *u u* bear closely, and perhaps under a slight compression, upon the rests *q q* respectively adjacent thereto, and by such bearing any substantial longitudinal movement of the grip-beam is prevented, the said cushions *u u*, however, serving to ease off shocks which might be imparted longitudinally to the grip-beam from sudden or irregular movements of the truck; and the cushions *o*, which are provided on the upper sides of each transverse block H, support the grip-beam horizontally and prevent any tendency to jumping or jolting of the said beam vertically.

For the introduction or removal of the grip-beam into or from the truck provided with supporting appliances, substantially as described, the bolt *p*, which passes through the cheek-pieces *g* and forms the pivotal supports for the blocks H, may be withdrawn, when said block may be dropped out from between said cheek-pieces, and with it the grip-beam. Of course, in lieu of this method of removing the grip-beam, the side abutment-blocks might be removed and the beam drawn longitudinally through the cheek-pieces.

The grip-beam mounted as described,

whereby it may be and is extended outwardly beyond the journals—that is, forwardly and rearwardly therefrom longitudinally of the truck—affords a most efficient means for the support of other appliances forming part of the truck equipment. Pending rods *w*, which by their upper ends are bolted to the forward and rear end walls *x*, that are formed on the pedestals E, extend by their lower ends, which are hooked, as at *y*, under the bolts *n*, passing through and between the step-walls, and from which bolts the grip-beam support G is suspended. It will be understood by the provision of said rods that the car-sill and pedestal and the journal-box, axle, and wheels, the steps *a*, the beam-support, and said beam are practically tied together, so that any occasion requiring the lifting of the car-body with it will also move the other parts just mentioned located therebelow.

What I claim as my invention is—

1. A truck for cable or electric railway cars, provided with a suitable horizontal support pivotally mounted for a swiveling motion in a vertical plane, and one or more rests located and supported laterally beyond said horizontal support, combined with a grip or other supporting-beam adapted to be maintained on said horizontal support and projected forwardly and rearwardly therefrom and provided forwardly or to the rear of said rest or rests with bearing-abutments, substantially as and for the purpose described.

2. A truck for cable or electric railway cars, provided, first, with a suitable horizontal support pivotally mounted for a swiveling motion in a vertical plane and having on its upper side a cushion, and, secondly, with one or more rests located and supported laterally beyond said horizontal support, combined with a grip or other supporting-beam adapted to be maintained on said horizontal support and projected forwardly and rearwardly therefrom, and provided forwardly and to the rear of said rest or rests with bearing-abutments, substantially as described.

3. The combination, in a truck for cable and electric railway cars, with the hollow step-extensions *a a*, of the beam-support consisting of the opposing cheek-pieces supported from said step-extensions, and provided, first, with the horizontal supporting-block H, pivotally supported therein and having the cushion *o*, and, secondly, with the laterally-extended rests *q*, and the carrying-beam adapted to be passed between said cheek-pieces, resting on said cushioned block and extending forwardly and rearwardly therefrom, and provided forwardly and to the rear of said rest or rests with cushioned bearing-abutments, substantially as and for the purpose described.

4. In cable or electric railway car trucks, a carrying-beam support consisting of separated and opposing cheek-pieces, each having extending between their lower portions a removable beam-supporting block, and having extending laterally from the outer side of one



or both of said cheek-pieces one or more rests *q*, substantially as and for the purpose set forth.

5 In cable or electric railway car trucks, a carrying-beam support consisting of separated and opposing cheek-pieces having at their upper portions the extensions *m m'*, through which supporting-bolts therefor may be passed, and provided with the uniting  
10 cross-bracing *h*, and provided between their lower portions with the cushioned block *H* and the removable supporting-bolt *p*, and also having extending laterally from the outer side of one or both of said cheek-pieces one or  
15 more rests *q*, substantially as described.

6. In a truck, the combination, with the car-body having the pedestal thereon, of the journal-box steps provided with the trans-

verse bolts *n*, and the rods *w*, by their upper portions secured to said pedestals and having 20 their lower ends hooked and adapted to engage with said bolts *n*, substantially as and for the purpose described.

7. In a truck, the combination, with the car-body having the pedestal thereon, of the 25 hollow journal-box steps provided with the transverse bolts *n*, the beam-support *G*, pending from said bolts, and the rods *w*, by their upper portions secured to said pedestals and having their lower ends hooked and adapted 30 to engage with said bolts, substantially as and for the purpose described.

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Witnesses:

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