

(No Model.)

3 Sheets—Sheet 1.

T. G. MANDT.  
RUNNING GEAR FOR VEHICLES.

No. 553,864.

Patented Feb. 4, 1896.

Fig. 1.

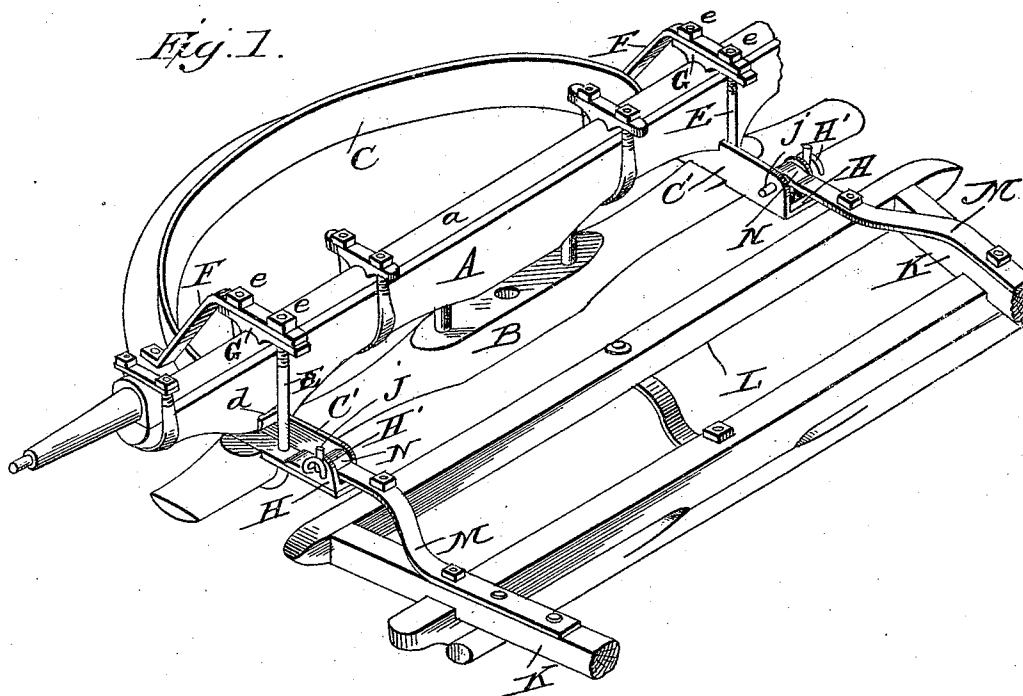
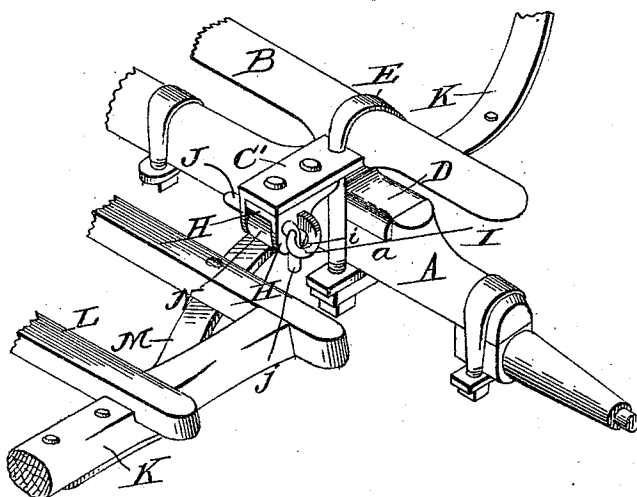


Fig. 2.



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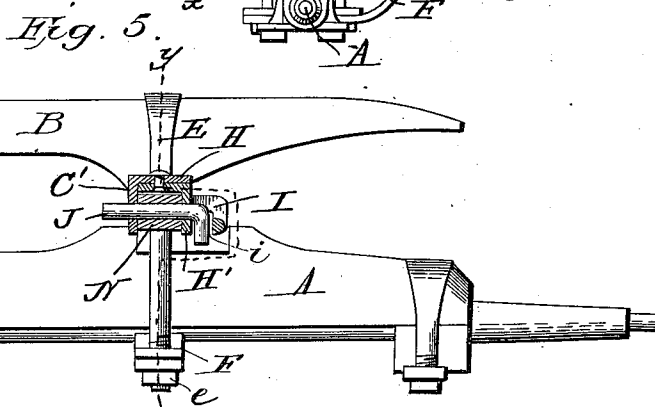
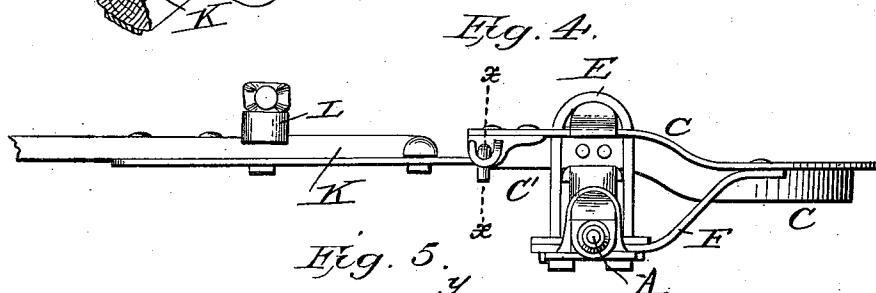
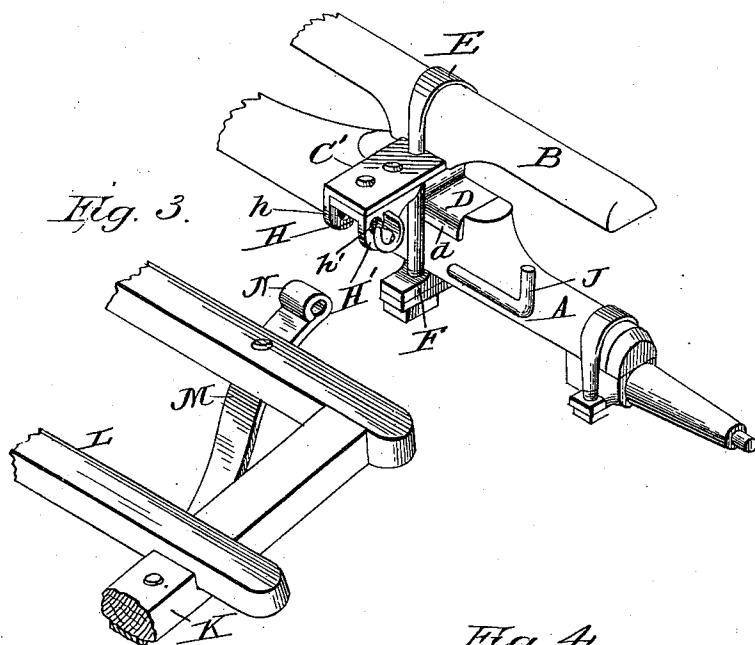
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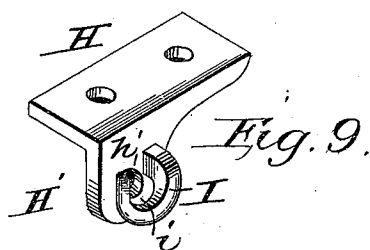
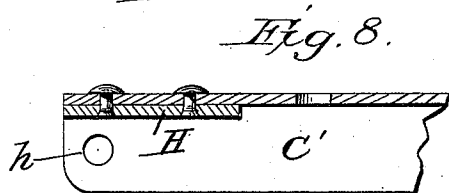
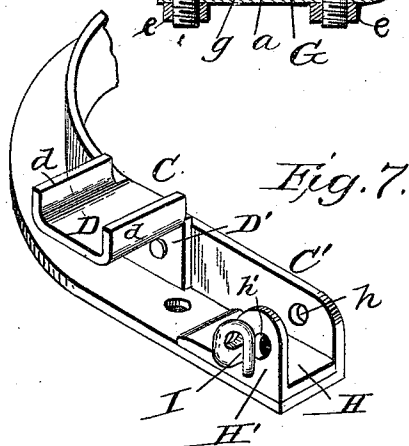
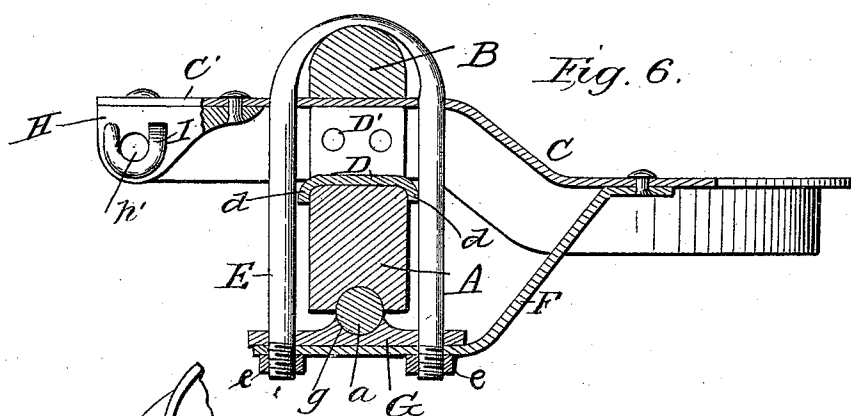
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# UNITED STATES PATENT OFFICE.

TARGE G. MANDT, OF STOUGHTON, ASSIGNOR TO JOHN A. JOHNSON, OF  
MADISON, WISCONSIN.

## RUNNING-GEAR FOR VEHICLES.

SPECIFICATION forming part of Letters Patent No. 553,864, dated February 4, 1896.

Application filed March 13, 1895. Serial No. 541,606. (No model.)

*To all whom it may concern:*

Be it known that I, TARGE G. MANDT, a citizen of the United States, and a resident of Stoughton, in the county of Dane and State of Wisconsin, have invented certain new and useful Improvements in Running-Gear for Vehicles; 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, reference being had to the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is a perspective view of the under side of the front axle of a wagon and the running-gear appertaining thereto, illustrating my improvement on the same. Fig. 2 is a detail view, in perspective, of one of the improved thill-couplings forming part of the same, with its key and key-retainer, showing the former in its operative position in the coupling. Fig. 3 is a similar view of the same parts, but showing the cross-bar uncoupled and the key withdrawn from the coupling. Fig. 4 is a side elevation of the coupling with the key in its operative position therein. Fig. 5 is a transverse sectional view through the coupling on the vertical plane indicated by the broken line marked *xx* in Fig. 4. Fig. 6 is a transverse sectional view of the front axle and bolster on the vertical plane denoted by the broken line marked *yy* in Fig. 5. Fig. 7 is an inverted detail view, in perspective, of one end of the curved metal hound and its seat for the ends of the front axle. Fig. 8 is a longitudinal sectional view of the extreme end of the metal hound, with its thill-coupling plate; and Fig. 9 is a detail view of this thill-coupling plate removed from the metal hound in conjunction or combination with which it forms the coupling.

Like letters of reference designate corresponding parts in all the figures.

This invention has relation to the running-gear of wagons and other light vehicles, and has for its objects to lighten and simplify the construction of the same, and at the same time increase the strength and durability of the parts which are subjected to the greatest strain.

With these objects in view my invention

consists in a novel and peculiar construction of the curved metallic hound appertaining to the front axle and its bolster, in the seat formed near opposite ends of said hound for the ends of the front axle, and in the novel and improved construction and combination of parts of the couplings whereby the thills and cross-bar are connected to the projecting ends of the metal hound, all as will be hereinafter more fully and at length described, and particularly pointed out in the claim.

On the accompanying three sheets of drawings, the reference-letter A denotes the front axle of a wagon and B the front bolster or box-bearing, which is located immediately over and in alignment with the axle A, but separated from it by the ends of the curved metal hound C, which project forwardly in front of axle A, forming two parallel arms or extensions C' C', one on each side.

The hound C is made of angle iron or steel, as may be deemed preferable, and is curved into a semicircle which extends back of the front axle and bolster, as usual. Near each end this semicircular bow is bent slightly in an upward direction, so as to form a sloping offset *c* between the bow C and its straight parallel projecting ends or extensions C' C', said extensions C' C' projecting between the front axle A and bolster B, as will appear more clearly on reference to Fig. 6, and at this point, on each side, an axle-seat D is riveted to the vertical web or flange of the hound by means of the seat-plate flange D'. This seat D is simply a flat plate of suitable size, bent at right angles D D', the horizontal part D, which forms the seat for the axle, having its ends turned down at right angles so as to form parallel side flanges *d d*, which overlap the top of the axle on opposite sides, and, in conjunction with the clip E, effectually prevent displacement of the hound C C' and seat D D' with reference to the axle and bolster.

The clip E (there being, of course, one of these clips on each side) straddles the bolster B and axle A, and is inserted with the ends of its two limbs through a depending bracket F, which is riveted or bolted to the horizontal web of the hound C back of the clip, the lower free end of said bracket F being fastened to clip E by means of nuts *ee*. Between the

horizontal lower end of bracket F and the underside of the steel-reinforced or compound axle A (reinforced by the steel rod *a* embedded into its under side) is placed a saddle-plate G, which has a central recess *g* to receive the projecting part of the reinforcing-rod *a*, the limbs of the axle-clip E passing through apertures at both ends of plate G, which coincide with corresponding apertures in bracket F. The clip-nuts *ee* are screwed home tight, so as to draw the parts firmly together and bind the lower end of bracket F and the intermediate saddle-plate G up tight against the underside of the axle, which will draw the ends of axle A up into the seats D D and interlock the projecting ends or arms C' C' of the hound firmly and rigidly between the axle and its superimposed bolster.

To the under side of each of the forwardly-projecting arms C' is riveted a plate or casting H, (shown in detail in Figs. 5, 8, and 9,) one side of which impinges against the contiguous depending web or flange, while said plate on the opposite side is provided with a depending ear H', having an aperture *h'*, which registers with a corresponding aperture *h* in the opposite depending side flange. To the outside of the depending ear H' is fastened a hook-shaped combined guide and retainer I, of such shape and size that it encircles the aperture *h'* on the outside, said combined guide and retainer forming a semicircle around the lower side of the aperture and a short distance therefrom.

The inner ends of the thills K K are mortised into the cross-bar L, and connected to said cross-bar by corner-braces M M, one on each side. The brace-straps M are extended back of the cross-bar and bent to form loops or sleeves N N, which will fit in the space between the depending web or side flanges of arm C' and the depending ear H', so as to register or coincide with the side apertures *h* and *h'*. The parts being in this position (illustrated in Figs. 1, 2, 4, and 5) a key J is inserted through the aperture *h'*, coupling loop or sleeve N and aperture *h*, after which this key is locked in place and prevented from

slipping out by turning its right-angled arm or finger-piece *j* down into the narrow slot or space *i* between the curved guide or retainer I and the adjacent side of the apertured ear H', in which position the key cannot slip out of the coupling, it being retained therein by the curved retainer I. At the same time the cross-bar and thills can readily be uncoupled by turning the finger-piece *j* upwardly out of the slot *i*, in which position key J can be readily withdrawn through the curved recess or bend in the retainer.

It will be observed that this is a direct coupling, connecting the thills and cross-bar to the coupling-arms C' C' and thus relieving the axle A of undue strain, as all the strain comes upon said arms C' C' and the hound C of which they form a part. After the parts are placed in their proper juxtaposition the coupling may be effected in a moment simply by inserting the key J *j* and giving it a half-turn, so as to lock its arm or finger-piece *j* between the ear H' and retaining-guide I, and similarly, by simply reversing this motion of the key, it may be withdrawn and the parts disconnected or uncoupled in a moment of time and without the use of wrenches or tools of any sort.

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

The combination with the axle A, bolster B, hound C of angle-metal having forwardly-extending parallel arms C', C', provided with flanged axle-seats D, D, bracket F, saddle-plate G, and clips E, having nuts *e, e*, of the plates H, having apertured ears H', and curved guide or retainer I, the thills, the coupling-shackles N, and the keys J, having a right-angled arm or finger-piece *j*, substantially as described.

In testimony that I claim the foregoing as my own I have hereunto affixed my signature in presence of two witnesses.

TARGE G. MANDT.

Witnesses:

BEN. E. WAIT,  
A. O. ERICKSON.