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P. KENEHAN.

WAGON ATTACHMENT.

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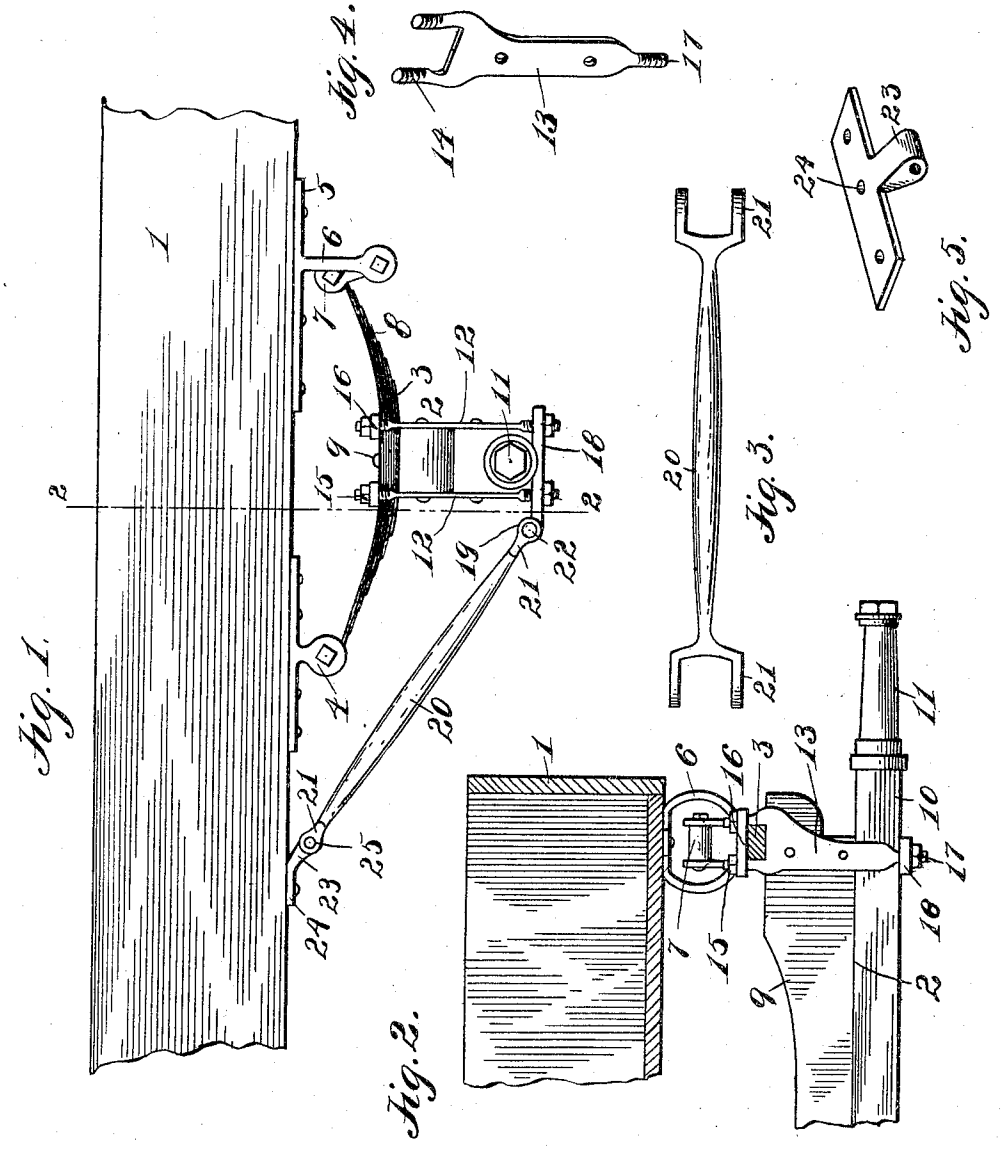

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UNITED STATES PATENT OFFICE.

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WAGON ATTACHMENT.

SPECIFICATION forming part of Letters Patent No. 792,777, dated June 20, 1905.

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To all whom it may concern:

Be it known that I, PATRICK KENEHAN, residing in the city and district of Montreal, in the Province of Quebec, Canada, have invented certain new and useful Improvements in Wagon Attachments; and I do hereby declare that the following is a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to carriages and wagons, and concerns itself especially with arrangements for mounting the body of such vehicles upon their axles.

The invention is intended to be applied usually at the rear axle and is intended to overcome a defect inherent in all spring-wagons of a certain type. The type referred to is distinguished by the manner in which the rear of the body of the wagon is supported upon the rear axle, this being by means of a bow-spring or carriage-spring, consisting of a plurality of leaf-springs disposed in a front and rear direction and attached rigidly to the axle and freely to the body. It has been found in practice that with carriages and wagons of this construction, however rigidly the springs may be attached to the axle, the front and rear vibration of the body has a tendency to "work" or advance the springs at the point of attachment with the axle, so that the spring becomes eventually thrown into an unnatural or abnormal position.

It is the object of this invention to overcome the defect mentioned by simple means.

The invention consists in the construction and combination of parts to be more fully described hereinafter and definitely set forth in the claims.

In the drawings, which fully illustrate my invention, Figure 1 is a side elevation of the rear portion of the body of a wagon to which my invention has been applied. Fig. 2 is a cross-section taken substantially on the line 2 2 of Fig. 1. Fig. 3 is a plan of a brace constituting a part of my invention. Fig. 4 is a perspective view representing a plate which constitutes a part of a clip used in the construction. Fig. 5 is a perspective of a plate which is used in attaching to the body the brace shown in Fig. 3.

Throughout the drawings and specification the same numerals of reference denote like parts.

Referring more particularly to the parts, 1 represents a portion of the body of a wagon adjacent to the rear axle 2, which rear axle is attached below the body in conjunction with springs 3, disposed in the usual manner at each side. Each spring 3 is hung, preferably, at its forward extremity upon a bracket-plate 4 of any common construction, and at the rear the same is supported upon another bracket-plate 5, comprising a depending yoke 6, on which a shackle 7 is carried, to which shackle the rear extremity of the spring 3 is attached in the usual manner.

The spring 3 is preferably of substantially the form shown, which is a common form, consisting of a plurality of bowed leaves 8, fastened together at substantially their middle point by means of a suitable bolt 9.

The axle 2 is preferably composed of an upper section 9, of wood, and a lower section 10, of steel or iron, the latter terminating at each side in an arm or spindle 11 to receive a wheel-hub.

The spring 3 is attached to the axle by means of a clip 12, which clip comprises side plates 13 of special form, as shown, which are attached opposite to each other respectively on the front and rear faces of the axle by means of bolts or rivets, as shown. These side plates 13 project above the axle, at which point they are bifurcated, so as to form oppositely-disposed stems 14, which are threaded, as shown, in order to receive nuts 15, which nuts secure in place cap-plates 16, which pass transversely over the spring, as shown. Below, these plates 13 terminate in threaded stems 17, which enable the attachment of a main cap-plate 18, which is disposed transversely beneath the axle.

Preferably toward its forward extremity the main cap-plate 18 is provided with an enlarged head 19, to which there is attached by

means of a pin 22 a brace 20, the same having bifurcated extremities 21, as indicated. This brace is disposed in an inclined direction, projecting forwardly and upwardly, so that its other extremity may be attached to a head 23, which constitutes an integral part of a bracket-plate 24, which bracket-plate is attached to the under side of the body 1, as indicated. The connection at this point includes a pin 25, similar to the aforesaid pin 22, and it should be understood that the joints at both ends of the brace 20 are free, so as to permit a relative movement between the parts, such a movement being necessary in order to allow for the deflection and readjustment of the spring incident to passing over rough roadways.

It is believed that the defect which this invention is intended to remedy arises by reason of the momentum of the body of the wagon and its contents, which must evidently at times jerk the springs violently in a forward direction in such a manner as to produce the distortion referred to. However, with the construction described above it should readily appear that the brace 20, which consists of a stout bar, as shown, will operate to arrest this forward movement of the body, which could not be restrained by the springs, imparting the momentum of the body also to the axle. At the same time it will be observed that by reason of the fact that the brace has jointed extremities the normal operation and deflection of the springs is in no way interfered with. In operation it would be found that in absorbing the momentum of the body in the manner suggested the substantially horizontal force due to the momentum of the body would be decomposed into an inclined force acting through the brace and a substantially vertical force producing simply a deflection of the springs, and of course the vertical force would have no tendency whatever to work the springs longitudinally through the clip, while the inclined force, acting through the braces 20 at each side of the body, would not act upon the springs at all, but simply upon the body and the axle. The distortion of the parts consequent upon the deflection of the springs and the movement of the body would be taken care of by the shackle 7 in the usual manner.

While I have shown in the accompanying drawings the preferred form of my invention, it will be understood that I do not limit myself to the precise form shown, for many of the details may be changed in form or position without affecting the operativeness or utility of my invention, and I therefore reserve the right to make all such modifications as are included within the scope of the following claims or of mechanical equivalents to the structures set forth.

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

1. In a vehicle, a body, springs disposed longitudinally beneath the body, brackets rigidly secured to the body and pivotally connected with the front ends of the springs, yokes secured to the body, shackles carried by the yokes and adapted to receive the rear ends of the springs, an axle, means for maintaining the springs on the axle, said means comprising a pair of oppositely-disposed members with screw-threaded, upper ends and a screw-threaded lower end, and a plate formed with a perforated extension thereon adapted to receive the screw-threaded lower ends of said retaining members, in combination with a bracket secured to the under side of said body, a projecting head on said bracket, and a brace connecting the plate and the bracket.

2. In a vehicle, a body, springs disposed longitudinally beneath the body, brackets rigidly secured to the body and adapted to receive the front ends of the springs, yokes secured to the body, shackles carried by the yokes and adapted to receive the rear ends of the springs, an axle, means for maintaining the springs on the axle, said means comprising a pair of oppositely-disposed members with screw-threaded, bifurcated upper ends and a screw-threaded lower end, and a plate formed with an extension thereon adapted to receive said screw-threaded lower end of said retaining members, in combination with a bracket secured to the under side of said body, and a bifurcated brace jointed to said plate and said bracket.

3. In a vehicle, means for preventing longitudinal creeping of body-supporting springs within the clips which secure said springs to the axle of the vehicle comprising in combination an axle, superposed semi-elliptical springs, disconnected from the vehicle-body intermediate their ends pivotal connecting means uniting the ends of said springs with a vehicle-body one end of said springs being held against endwise movement with relation to the vehicle-body, a body supported thereupon, a clip-plate beneath said axle, connecting members extending through said clip-plate upwardly and over said spring, a perforated extension integral with said clip-plate, a bracket-plate on the lower side of a vehicle-body, and a bifurcated brace pivotally connected with said extension and with said bracket-plate.

4. In a vehicle of the class described, means for preventing longitudinal creeping of body-supporting springs within the clips which secure said springs to the axle of the vehicle, comprising an axle, a bolster, semi-elliptical springs resting on the bolster and extending longitudinally of the vehicle-body and disconnected from the vehicle-body intermediate

their ends, pivotal connecting means uniting the ends of the springs with a vehicle-body one end of said springs being held against endwise movement with relation to the vehicle-body, clips connecting said axle, said bolster and said springs, said clips including clip-plates below said axle, perforated extensions integral with said clip-plates, perforated bracket-plates secured to the under side of a vehicle-body, and bifurcated braces pivotally connected with said extensions and with said bracket-plates.

In witness whereof I have hereunto set my hand in the presence of two witnesses.

PATRICK KENEHAN.

Witnesses:
J. H. KENEHAN,
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