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ANTIRATTLING THILL-COUPLING.

933,691.

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To all whom it may concern:

Be it known that I, STEPHEN N. BURDSALL, a citizen of the United States, residing at Dayton, in the county of Montgomery and State of Ohio, have invented certain new and useful Improvements in Anti-rattling Thill-Couplings, of which the following is a specification.

My present invention relates to an "anti-rattling thill-coupling."

The objects and advantages of said invention consist in providing a coupling intended more especially for connecting the thills or shafts, or even the pole, to the vehicle, that will do away with the old style straps or all other superfluous attachments; also one in which there will be no rattling or other harsh noise by reason of the jarring of the parts, which so often is the cause of fright to the animal, by dispensing with all noisy links or similar objectionable parts; also one which can be quickly and easily coupled or uncoupled; also one of simple construction and composed of few parts; also one which is strong and durable and will seldom if ever need any repair; and one which will necessarily be quite inexpensive in cost of manufacture and sale.

This invention consists essentially, referring briefly and in general terms to the construction of the device, of the thill-iron; the resilient lever hinged to said iron and provided with the key-eye or opening; and the retaining key adapted to rest in said eye and adjustably lock said lever in position; and the minor details of construction; and the very peculiar and novel arrangement, construction, and combination of these several parts or elements, as will be hereinafter more fully and elaborately described in detail and set forth in the subjoined claims, in accordance with the statutes in such cases made and provided therefor.

Referring to the accompanying drawing illustrating my invention and constituting a formal part of this specification, and wherein the same letters and numerals of reference are used to indicate or point out the same parts wherever occurring throughout the several views:

Figure 1 is a side view of my anti-rattling thill-coupling shown as coupled to an axle, the same being partially in section. Fig. 2 is a perspective view of said device in an

uncoupled or detached position. Fig. 3 is a horizontal sectional view taken on dotted line *x—x* of Fig. 1; and Fig. 4 is a detail perspective view of the adjustable retaining key.

In describing my said invention specifically, and referring in detail to the various mechanical parts or elements of construction of my anti-rattling thill-coupling, as shown throughout the several views of the drawing and indicated and pointed out by means of the reference letters and numerals as aforesaid:—*a* refers to a broken away portion of the end of a shaft or thill, to which is securely bolted or otherwise suitably connected at 7 and 8, thill-iron *b*, constituting the stationary member; which is provided with a hinge or hinged portion *c*, by which means is connected therewith a short arm *d*; said parts each having a semi-circular concavity *e* at their hinged juncture or meeting point—see more particularly Fig. 2—and when said parts are brought together in a coupled position as shown in Fig. 1, they will form an eye which receives the shackle or draft-bolt *f* of shackle or clip *G*, which is of ordinary construction and is connected with and extends in the usual manner from axle *H* of the vehicle, by which it is supported. For the purpose of avoiding all objectionable rattling or harsh grating noise at this point, also so as to strengthen the parts by facilitating the prevention of the snapping or breaking of the parts by a sudden jerk or wrench, I preferably provide said draft-bolt with a sleeve or long bushing *g* of leather, rubber, or similar suitable material.

Short arm *d* is suitably recessed or mortised to a sufficient depth to provide a sharp angle or shoulder *h*, which forms a rigid bearing to securely retain the yielding and reacting or resilient lever *K*,—constituting the movable member—which is riveted or otherwise suitably connected to said short arm *d*, and is preferably constructed out of the best spring metal; and provided with an eye or opening *l* of the proper contour or shape to adapt it to receive the retaining head *m* (as shown), of adjustable key *n* having a screw threaded shank which engages the screw threaded socket *o* of boss *r* of said thill-iron.

Retaining head *m* taken in connection with eye *l* is one of the important features

of my invention, and is preferably approximately T-shaped, as shown, and is provided with a square or rectangular portion *s*, which is thus adapted to bear and rest firmly without turning in eye *l* when said device is coupled, as shown in Fig. 1; said draft-bolt acting as a fulcrum to permit said resilient lever to be pressed in an inward position until its eye passes over key *n*, when said key is in the position shown in Fig. 2, and by simply turning said key laterally, by reason of its screw threaded connection, to the position shown in Figs. 1 and 3, said lever will be locked so as to retain said device in a coupled position as desired. Another very important feature about my thill-coupling being that, by reason of eye or opening *l* in said lever, and screw threaded key *n* engaging the screw threaded socket *o*, said key can be adjusted as desired, so as to draw lever K—by reason of its resilient and reacting nature—in and toward thill-iron *b*, or let said lever out from said thill-iron, so as to take up any slack, thus offsetting any wear or giving of the parts as desired; also, by locating the rivet or pivotal point of hinge *c* as far below and away from the center of the eye as possible, I do not weaken the hinge, as all strain is thereby removed therefrom, the draft now being on bolt *f*.

It will be noted from the above that I have so constructed my thill-coupling that it is strictly an anti-rattler, as there cannot be any loose parts to jar, also that it combines

therewith strength and durability and can be easily and quickly manipulated.

Having now clearly described my improved thill-coupling, I claim as my invention:

1. In a thill coupling, the combination with a shaft, a thill iron connected thereto, a short arm movably connected to said thill iron and a resilient member attached to the free end of said short arm and provided with an eye, of a key having a threaded connection with the thill iron whereby it may be adjusted therein, and provided with a head, adapted, when in one position, to pass through the eye in the resilient member.

2. In a thill coupling, the combination with a shaft, a thill iron secured thereto, and an arm hinged to the thill iron, the outer end of said arm being constructed to yield and provided with an eye, of a key having a threaded connection with the thill iron and provided with a head adapted to pass through the eye in the arm, and with an angular portion below the head adapted to engage the side wall of the eye and prevent the key from turning when the parts are in their assembled positions.

In testimony whereof I affix my signature in presence of two witnesses.

STEPHEN N. BURDSALL.

Witnesses:

C. H. YAGER,

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