

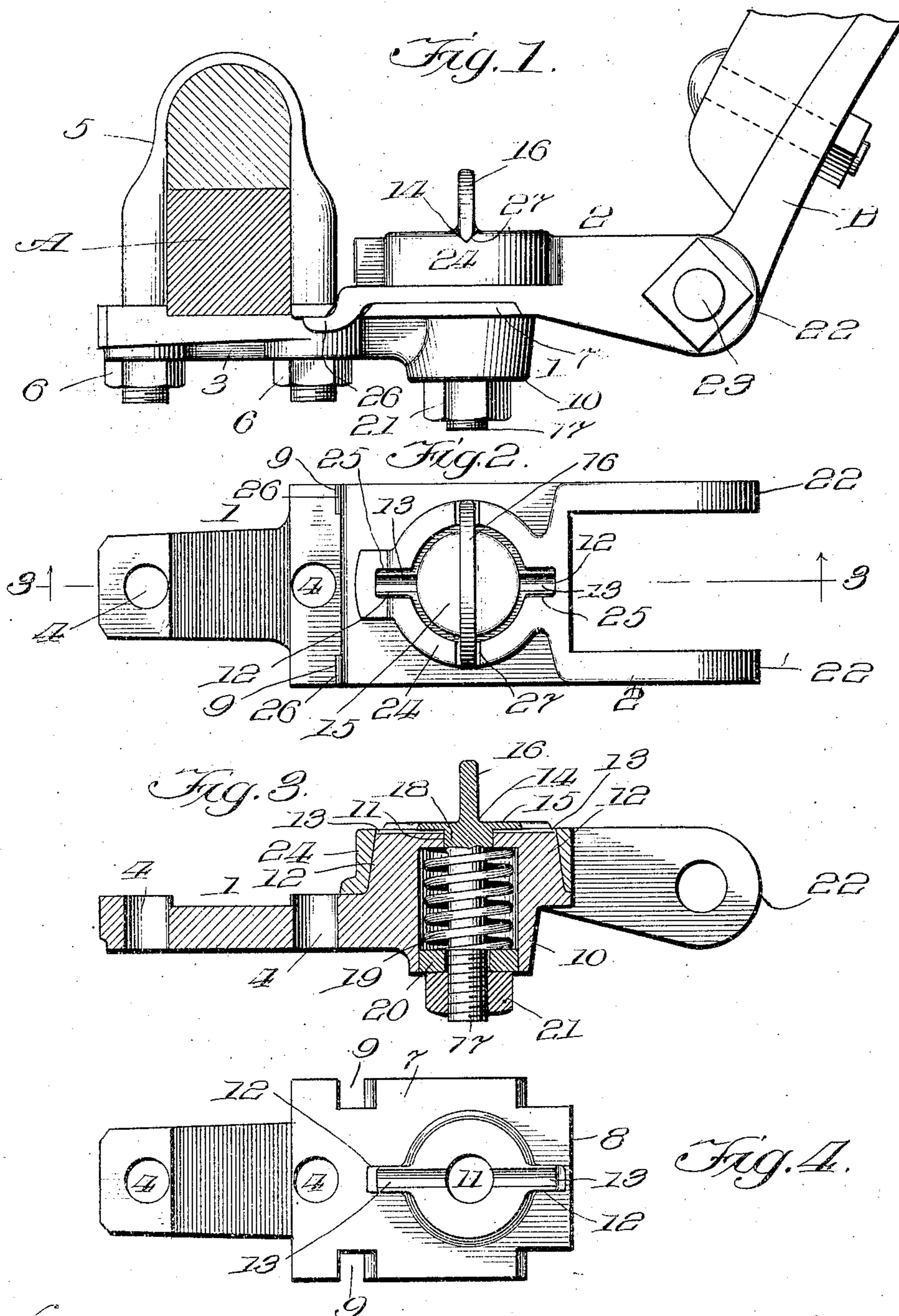
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G. E. CLOW.
THILL COUPLING.

APPLICATION FILED AUG. 15, 1904.

NO MODEL.



Witnesses:

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UNITED STATES PATENT OFFICE.

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THILL-COUPLING.

SPECIFICATION forming part of Letters Patent No. 775,444, dated November 22, 1904.

Application filed August 15, 1904. Serial No. 220,821. (No model.)

To all whom it may concern:

Be it known that I, GEORGE E. CLOW, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Thill-Couplings, of which the following is a specification.

This invention relates to an improved coupling for thills and poles, and has for its objects the production of such a coupling by means of which a pair of thills or a pole is securely attachable to and readily removable from the forward axle of a vehicle.

A further object of this invention is the production of such a thill-coupling wherein the members of the coupling are held from rattling and even when unlocked have no tendency to separate.

In the accompanying drawings, Figure 1 is a side elevation of this improved thill-coupling. Fig. 2 is a top plan view of said coupling. Fig. 3 is a sectional view on dotted line 3-3, Fig. 2; and Fig. 4 is a top plan view of the axle member of the coupling.

A refers to the axle of a vehicle, and B to the thills or pole thereof.

In the construction of this improved thill-coupling I provide two principal parts or members—to wit, the axle member 1 and the thill member 2, the former being secured to the axle and the latter to the thill-iron. The axle member 1 is secured underneath the axle in the usual manner, the stem 3 of said member being provided with openings 4 for the reception of the screw-threaded shanks of the strap-clip 5, which shanks receive nuts 6 underneath said stem 3. The body portion 7 of the axle member 1 is rectangular in general outline, but has a forwardly-extending tongue 8 upon its forward edge and two notches 9 in its side edges. A tubular spring-casing 10, open at its lower end and closed at its upper end save for the opening 11, is formed integral with said body portion 7, and this spring-casing has diametrically opposite ribs 12 near its upper end, the tops of which ribs and the upper end of said closed spring-casing being provided with a diametrical groove 13.

A turn-button 14, comprising a bearing-disk 15, adapted to lie in contact with the

upper end of the spring-casing 10, and an integral standing portion 16, curved upon its upper periphery, is provided with a screw-threaded stem 17, lying within the spring-casing 10, which stem has an enlarged bearing-shoulder 18 for the walls of the opening 11. The turn-button 14 is held in position upon the spring-casing 10 by a coiled spring 19 lying within said casing and surrounding the stem 17. A washer 20 and a nut 21 at the lower end of the stem close the lower end of the spring-casing 10 and hold the spring within said casing. The nut also offers a means of adjusting the tension of the spring. The lower edges of the standing portion 16 of the turn-button 14 project slightly below the lower face of the bearing-disk 15, which projections are adapted to engage the grooves 13 to hold the turn-button from accidental rotation.

The thill member 2 comprises the perforated ears 22 for receiving the bolt 23, by means of which bolt the member 2 is secured to the thill. The member 2 further comprises a ring-shape body portion 24, having the diametrically opposite recesses 25 for receiving the ribs 12, also the downwardly and rearwardly extending hook-fingers 26. The upper edge of the ring of the body portion 22 is slightly depressed at the recesses 25 and at a right angle with said recesses is provided with the locking-notches 27.

The two members 1 and 2 are attached, respectively, to the axle A and to the ends of the poles or thills B, as hereinbefore specified, and are coupled together by tilting the thill member at an angle with relation to the axle member, inserting the hook-fingers 26 within the notches 9, and then lowering said thill member into a horizontal position. When in this position, the two members may be locked together by turning the turn-button 14 into the position indicated in Fig. 2. When the two members 1 and 2 are hooked together, the tongue 8 lies between the ears 22. When in this position, even though they are not held together by the turn-button 14, the weight of the thills or pole upon the forward end of the member 2 will hold the members 1 and 2 securely together. When the turn-button is

rotated, the spring 19 is compressed, and when said turn-button is in engagement with the locking-notches 27 the tension of the spring 19 holds the members 1 and 2 from separation. When the member 2 is tilted upwardly to remove it from the member 1, the standing portion 16 of the turn-button passes through one of the recesses 25 in the ring-shape body portion 24 of said member 2, the peripheral conformation of the standing portion being such that the thill member 2 must be tilted at a considerable angle with relation to the member 1 before the thill member can be separated from the axle member.

In practice two of the axle members 1 are secured to the axle of a vehicle and two of the members 2 to a pair of thills or a pole. The thills or pole are attached to the vehicle by raising their forward ends and inserting the hook-finger 26 into the notches 9. The thills or pole are then lowered, and the two members 1 and 2 are locked together by rotating the turn-button into the position it is shown to occupy in Fig. 2. Should the turn-button 14 fail to act for any reason, the members 1 and 2 will still be held together by the hook-fingers 26 until the thills or pole are lifted sufficiently to permit the withdrawal of said fingers from the notches 9.

My invention is not restricted to the precise construction and arrangement of parts herein shown and described, as such construction and arrangement may be changed or modified without departing from the spirit and scope of the invention.

I claim as my invention—

1. In a thill-coupling, in combination, an axle member adapted to be secured to the axle; a thill member having means for forming a separable hinge connection between said members; and means for locking said members rigidly together.

2. In a thill-coupling, in combination, an axle member adapted to be secured to the axle; a thill member having means for pivotally connecting it with the thill, one of said members having an opening and the other member having a projection adapted to enter said opening; means for forming a separable hinge connection between said members; and means for locking said members rigidly together.

3. In a thill-coupling, in combination, an axle member adapted to be secured to the axle; a thill member having means for pivotally connecting it with the thill; a hook on one of said members adapted to engage the other member; and means for locking said members rigidly together.

4. In a thill-coupling, in combination, an

axle member adapted to be secured to the axle; a thill member having means for pivotally connecting it with the thill, one of said members having an opening at each side; two hooks on the other member adapted to enter said openings; and means for locking said members rigidly together.

5. In a thill-coupling, in combination, an axle member and a thill member; one of said members having an opening and the other a projection for engaging said opening; a hook on one of said members for engaging the other one, and a turn-button mounted on the projection and adapted to engage the other member to prevent the separation of said members.

6. In a thill-coupling, in combination, an axle member and a thill member, one of said members having an opening and the other a spring-casing adapted to enter said opening; a turn-button rotatably mounted on said spring-casing, a spring within the casing for holding the turn-button in position on the casing, the turn-button being adapted to engage the thill member to prevent the separation of said members.

7. In a thill-coupling, in combination, an axle member and a thill member, one of said members having an opening and the other a spring-casing adapted to enter said opening; the thill member also having a finger for engaging the axle member; a turn-button rotatably mounted on the spring-casing and adapted to engage the thill member, and a coiled spring within the casing to yieldingly hold the turn-button in contact with said thill member.

8. In a thill-coupling, in combination, an axle member adapted to be secured to the axle; a thill member having means for pivotally connecting it with the thill, one of said members having an opening therethrough, with a ring or flange about said opening, said ring having therein two recesses at diametrically opposite points; a spring-casing on the other member adapted to enter said opening, said casing having two ribs adapted to lie within said recesses; a turn-button mounted on said spring-casing and adapted to engage said ring or flange and to lie within said recesses; and a spring within the casing for holding said button in contact with said ring and thus draw said axle member and said thill member tightly together.

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Witnesses:

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