

No. 702,300.

Patented June 10, 1902.

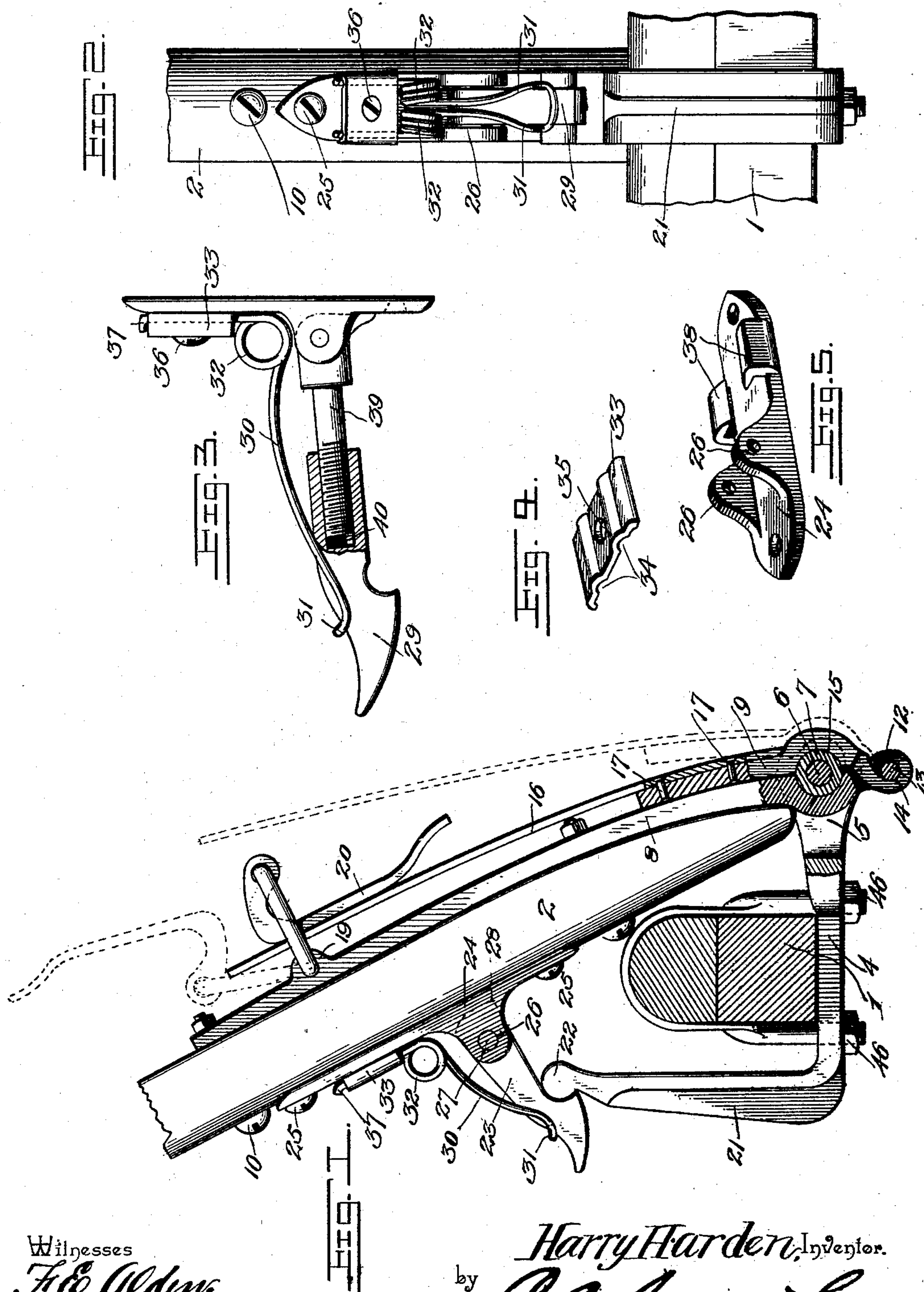
H. HARDEN.

COMBINED SHAFT SUPPORT AND COUPLING.

(Application filed Sept. 21, 1901.)

(No Model.)

2 Sheets—Sheet 1.



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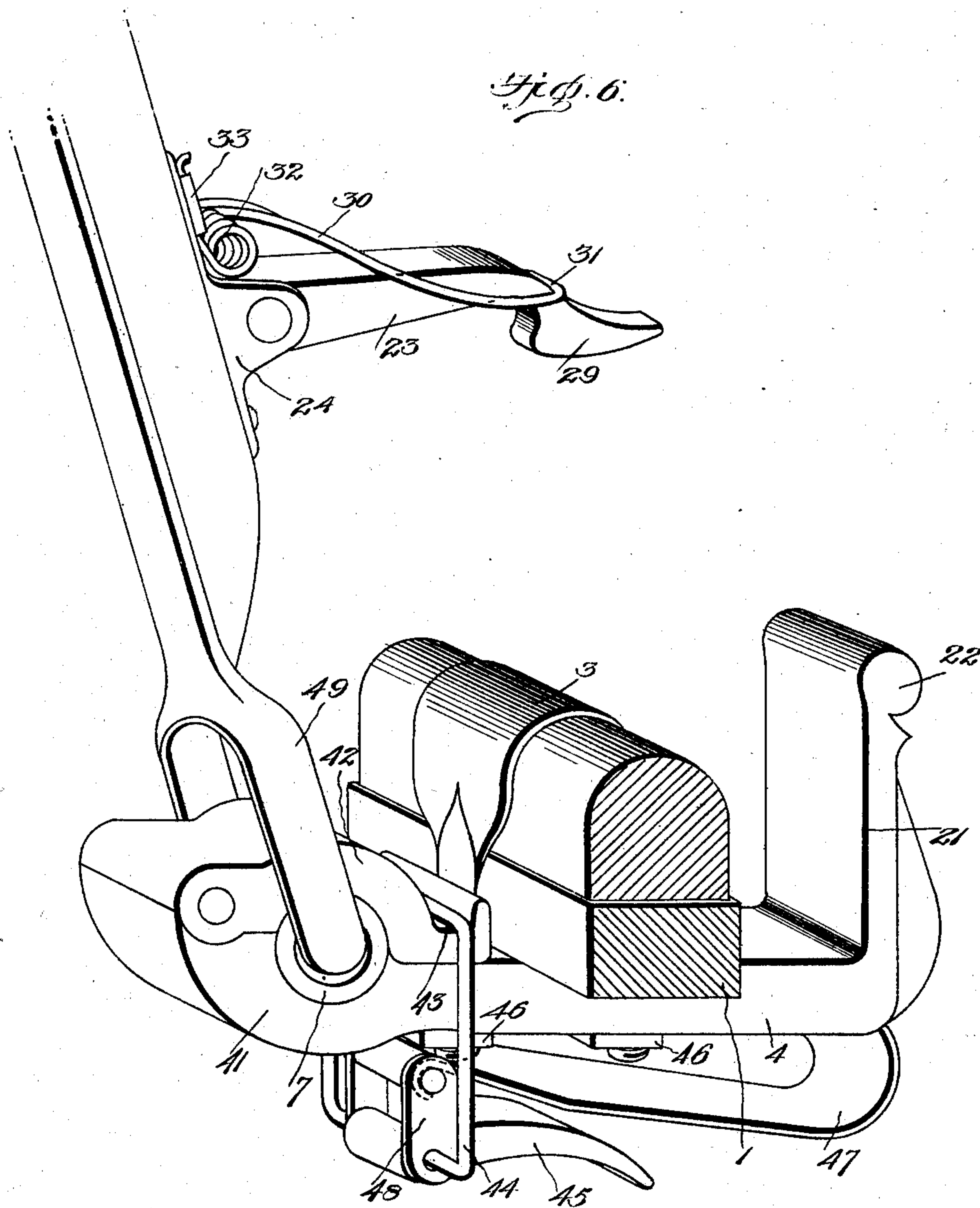
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# UNITED STATES PATENT OFFICE.

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## COMBINED SHAFT SUPPORT AND COUPLING.

SPECIFICATION forming part of Letters Patent No. 702,300, dated June 10, 1902.

Application filed September 21, 1901. Serial No. 76,090. (No model.)

*To all whom it may concern:*

Be it known that I, HARRY HARDEN, a citizen of the United States, residing at London, in the county of Madison and State of Ohio, have invented a new and useful Combined Shaft Support and Coupling, of which the following is a specification.

This invention relates to a combined shaft support and coupling.

10 The object of the invention is to provide an attachment of this character which will support a thill in its operative position for draft purposes and also when elevated and out of use.

15 A further object is to provide an attachment of the above description which may be applied to any of the common or ordinary form of thills without necessitating any change or alteration in the structural arrangement thereof and which shall be adjustable to fit different thills and to support the latter at different inclinations.

20 A further object is to provide an attachment of the character specified which will when released permit the thills to drop to the ground.

25 With these and other objects in view, as will appear as the nature of the invention is better understood, the same consists in the novel construction and combination of parts of a combined shaft support and coupling, as will be hereinafter fully described and claimed.

30 In the accompanying drawings, forming a part of this specification, and in which like numerals of reference indicate corresponding parts, there are illustrated two forms of embodiment of the invention capable of carrying the same into practical operation, it being understood that the elements therein exhibited may be varied or changed as to shape, proportion, and exact manner of assemblage without departing from the scope of the invention, and in these drawings—

35 Figure 1 is a view in side elevation, partly in section, exhibiting one form of combined shaft support and coupling. Fig. 2 is a view in front elevation. Fig. 3 is a view in side elevation, partly in section, of a slightly-modified form of locking-latch from that shown in Fig. 1. Fig. 4 is a detached detail view in perspective of a detachable clamp member

employed for holding the latch-actuating spring in position upon the latch-plate. Fig. 5 is a detail perspective view of a modified form of latch-plate. Fig. 6 is a perspective view exhibiting a modified form of shaft-coupling from that shown in Fig. 1.

Referring to the drawings and to Figs. 1 to 5 thereof, 1 designates the axle of the ordinary construction, and 2 one of the thills. 60 The axle has associated with it by an ordinary clip 3 a tie-plate 4, the forward end of which is provided with two ears 5, (one only being shown,) through which is passed a pin 6, as usual, to be engaged by the thill-coupling, the pin being covered by a sleeve 7, of leather or the like, to prevent undue wear and also to prevent rattling. The pin is engaged by a draft-eye consisting of two members 8 and 9, the member 8 constituting a thill-iron and being secured to the thill in any suitable manner, as by bolts 10. The member 8 of the draft-eye is provided with a semicircular bearing or seat 11 to engage the sleeve 7 and with a bifurcated extension 12, 75 carrying a transversely-disposed pin 13, the latter being engaged by the hook end 14 of the member 9 of the draft-eye, the latter also being provided with a semicircular bearing or seat 15 to engage the sleeve 7. Connecting 80 with the draft-eye member 9 is a spring-arm 16, which may be held associated with the said member by bolts or rivets 17, the free end of the spring-arm being passed through a link 18, carried by an orificed boss 19 on the member 8, 85 the said link carrying a latch-lever 20, adapted to bear upon the spring-arm 16 and lock the same in the position shown in full lines in Fig. 1 and to release the spring-arm to permit it to assume the position shown in dotted lines in the said figure, whereby to permit separation of the thills from the pin 6. By this simple arrangement of coupling the thills may be connected with or be disconnected from a vehicle with readiness and ease. 95 The manner herein shown of hinging the hook end 14 of the draft-eye member 9 to the pin 13 of the member 8 will be found thoroughly efficient in use, as it will permit disconnection of the two members at this point; but it is to be understood that the hook 14 could be bent around the pin 13 in such manner as to 100



prevent disconnection, in which event the spring-arm 16 would have to be swung outward a sufficient distance to come into alignment with the member 8 before the thills could be detached. The tie-plate 4 is provided with an upstanding arm 21, disposed at right angles to its base portion, and has its upper extremity provided with a rounded projection 22 to be engaged by a pivoted latch 23, the portion 22 constituting a keeper for the latch. The latch is pivotally associated with a latch-plate 24, secured to the thill by bolts or screws 25, the means of connection between the latch and the plate being accomplished in this instance by providing the said plate with two ears 26, between which the latch is held assembled by the transverse pin 27. The inner end of the latch is provided with a straight shoulder 28, which by contact with the plate 24 limits its downward movement, and its outer end is provided with a rounded projection 29, which by contact with the rounded surface of the keeper 22 will cause the latch automatically to enter into locked engagement therewith. The means for actuating the latch and for holding it locked with the keeper comprises a spring 30, bent upon itself to form a yoke 31, which bears upon the latch adjacent to the head 29, the intermediate portions of the two members thus presented being bent into spiral springs 32, the terminals of the spring members being secured to the latch-plate 24 by a clamp 33, the same being provided on its under face with grooves 34, in which the said terminals rest, and with an orifice 35, through which is passed a screw 36 to assemble the clamp securely with the latch-plate, the ends of the spring-terminals being upturned, as at 37, to prevent their becoming disconnected from the clamp. This means of assembling the latch-actuating spring 30 with the latch-plate will be found thoroughly efficient in use; but should it be preferred to dispense with the clamp 33 the latch-plate may be provided with two inturned ears or bosses 38, as shown in Fig. 5, under which the spring-terminals will be inserted and will be held associated therewith by having their ends upturned, as at 37.

In order to adapt the support to thills of different curvatures, the latch 23 may be made adjustable, as shown in Fig. 3, in which the same is shown as composed of a threaded shank 39, pivoted between the ears 26 of the latch-plate and having the latch-head provided with a threaded socket 40 to engage the threaded shank. It will be seen that by lifting the latch-actuating spring and turning the latch-head on the shank 39 proper adjustment of the latch with relation to the thill may be readily effected, and when the latch-spring returns to its normal position the latch-head will be held against turning, and thus be in its adjusted position.

In the form of shaft coupling and support shown in Fig. 6 the same general arrangement of the support is observed, the differ-

ence in construction residing in the arrangement of the draft-eye. In this instance the tie-plate 4 is provided with a horizontally-disposed draft-eye member 41, having a semicircular bearing engaged by the sleeve 7, and hinged to the member 41 is the other draft-eye member 42, also having a semicircular bearing to engage the sleeve, the inner end of the member 42 being provided with a recess 43, engaged by the upper portion of a link 44, the lower portion of which engages a locking-lever 45. Secured to the under side of the tie-plate, as by the clip-bolts 46, is a spring 47, the forward end of which engages with the head 48 of the lever 45 and normally exerts downward pressure thereon, whereby to cause the link to bear upon the inner end of the member 42 of the draft-eye, thus to keep the two members thereof locked around the thill-iron 49, which may be of the usual or any preferred construction.

In both the form of draft-eye shown in Fig. 1 and in Fig. 6 the release of the locking-levers 20 and 45, respectively, will free one member of the draft-eye from engagement with the thill-pin, thereby to permit detachment of the thills from the vehicle. When the thills are dropped on the ground and it is desired to turn them up in a vertical or approximately vertical position, the same are lifted and thrown backward, thereby causing the head 29 of the latch to engage the keeper, whereupon the two parts will be locked together. The latch-actuating spring 30 will present sufficient resistance to lifting of the latch 23 as to cause the same to hold the shafts from dropping; but when it is desired to lower the thills it will only be necessary to apply a forward pull on them, whereupon the head of the latch will ride upon the rounded head of the keeper and effect automatic unlocking of the parts.

From the foregoing description it will be seen that the combined shaft coupling and support of this invention is of exceedingly simple construction, and being composed of but few number of parts it will not be liable to damage or breakage in use. All of the parts can be made of standard sizes, so that in the event of one becoming injured it may readily be replaced at but small cost.

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

1. In a combined shaft support and coupling, a tie-plate provided with a member constituting a keeper, said tie-plate being secured to the axle, and a thill carrying a pivoted spring-pressed lengthwise-adjustable latch for engaging the keeper.

2. In a combined shaft support and coupling, a thill carrying a plate, a pivoted adjustable latch carried by the plate, and a latch-actuating spring secured to the plate and having a yoke or looped end to engage the latch.

3. In a combined shaft support and coup-



ling, a thill carrying a plate, a pivoted latch  
carried by the plate and having a limited  
range of downward movement, and a latch-  
actuating spring secured to the plate and hav-  
5 ing a yoke or looped end to engage the latch.

4. In a combined shaft support and coup-  
ling, the combination with an axle of a tie-  
plate having one member constituting a  
keeper, and the other member one element  
10 of a thill-coupling, and a pivoted spring-

pressed latch to engage the extremity of the  
keeper, substantially as and for the purpose  
specified.

In testimony that I claim the foregoing as  
my own I have hereto affixed my signature in 15  
the presence of two witnesses.

HARRY HARDEN.

Witnesses:

MARQUIS HALLAM,  
FRED. VAN WAGENER.