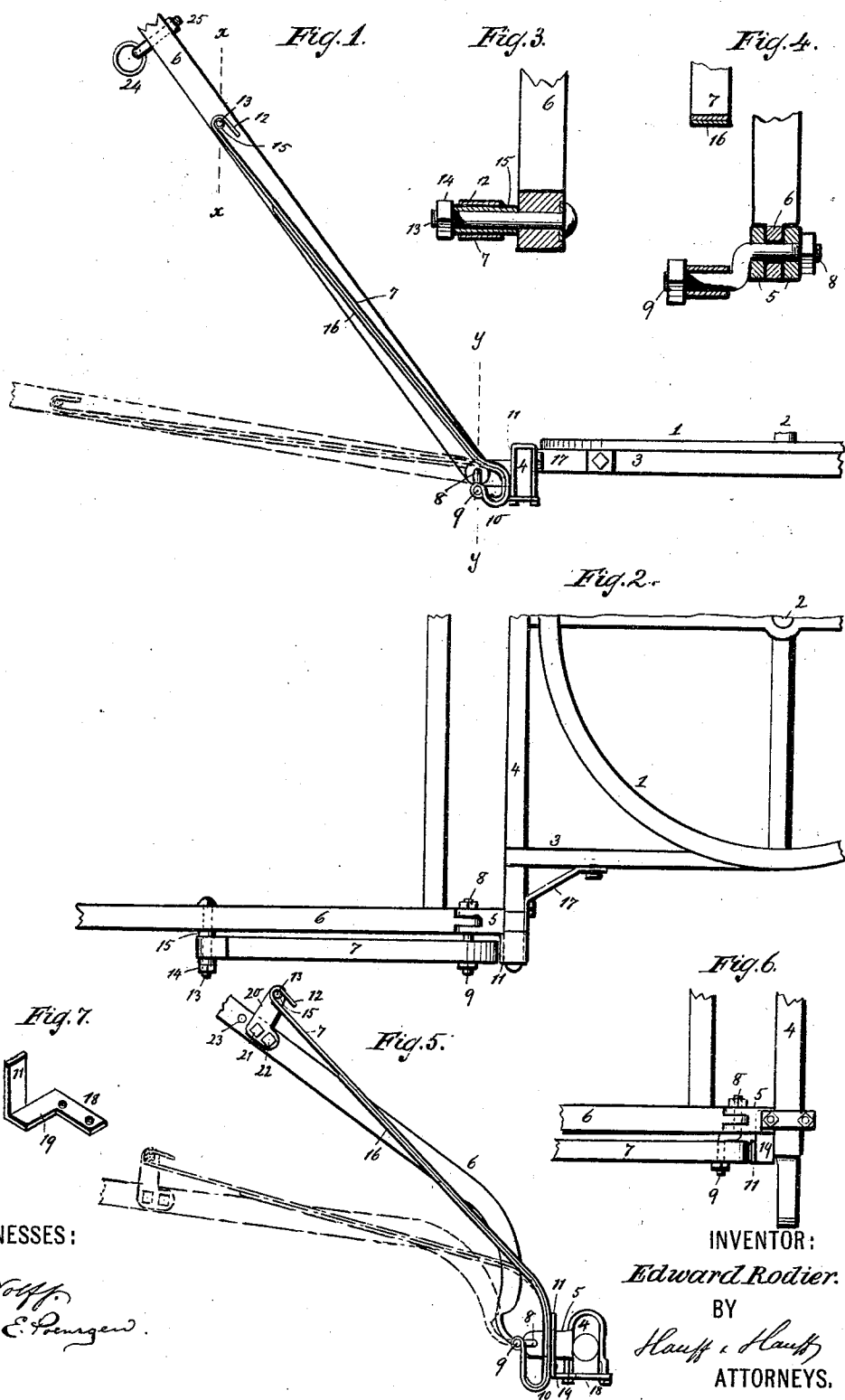


E. RODIER.
THILL SUPPORT.

Patented Aug. 13, 1895.



UNITED STATES PATENT OFFICE.

EDWARD RODIER, OF NEW YORK, N. Y.

THILL-SUPPORT.

SPECIFICATION forming part of Letters Patent No. 544,592, dated August 13, 1895.

Application filed November 2, 1894. Serial No. 527,763. (No model.)

To all whom it may concern:

Be it known that I, EDWARD RODIER, a citizen of the United States, residing at New York, in the county and State of New York, have invented new and useful Improvements in Shaft-Supports, of which the following is a specification.

The object of this invention is to provide a shaft-support which is readily applicable and which will be of simple construction; and the invention resides in the novel features of construction set forth in the following specification and claims, and illustrated in the annexed drawings, in which—

Figure 1 is a side elevation of the shaft-support. Fig. 2 is a plan view of Fig. 1. Fig. 3 is a section along $x x$, Fig. 1. Fig. 4 is a section along $y y$, Fig. 1. Fig. 5 is a side elevation of a modification. Fig. 6 is a plan view of Fig. 5. Fig. 7 is a perspective view of a brace-plate shown in Fig. 5.

The fifth-wheel 1, with king-bolt 2, is constructed as shown, the braces 3 extending to the cross-bar 4. The cross-bar 4 has the supporting lugs or bearings 5 for the pivots or bolts supporting the shafts or thills 6. When the horse is unhitched the shafts 6 are prevented from dropping their free ends to the ground by the shaft-carriers 7. The pivots in the bearings 5 are formed with two portions 8 and 9, the portion 8 serving as a pivot for a thill or shaft, the portion 9 serving as a support for a shaft-carrier.

The shaft-carrier is prevented from dropping its free end by means of an elbow 10, bracing against a plate or projection 11, fixed or bolted firmly to cross-bar 4. The free end of each carrier 7 is bent or hooked, as at 12, and engages a bolt 13, secured to shaft 6. To prevent the nuts 14 of the bolts 13 jamming against the ends or hooks 12 a sleeve or piece of gas-pipe 15 is slipped over each bolt, against which sleeve the bolt 14 can be screwed home. The sleeve 15 being seated about the bolt against the shaft, the spring portion 12 can be engaged about said sleeve.

The carrier 7, when strengthened by a layer or piece 16, will be prevented from breaking when exposed to extraordinary strain, as by a horse falling onto a shaft. Braces 17, when properly applied, will strengthen the parts of

cross-bar 4, to which the brace-plates 11 are secured.

The brace-plate 11, as seen in Fig. 1, is readily applicable to cross-piece 4, so that said brace-plate can be readily slipped onto and secured to old vehicles or vehicles already made. If desired, the brace-plate 11 can be cast or formed in one piece with the part 4.

In Figs. 1 and 2 the brace-plate 11 is shown secured to part 4 outside of the pivot-support 5. Should the attachment of the brace-plate be desired nearer toward the center of part 4 the brace-plate shown in Fig. 7 can be employed, said brace-plate having an attaching arm 18 and laterally-projecting supporting-arm 19. The attaching arm being secured to the part 4 by a suitable strap or fastening, as seen in Fig. 5, the supporting-arm 19 will extend laterally under the pivot-support 5 to bring the brace-plate 11 to proper position for engaging the curved portion or elbow 10 of the shaft-supporting spring 7.

The bolt or fastening 13 for the spring portion or hook 12, instead of being passed transversely through the shaft 6, as in Fig. 1, may be carried by an arm 20, Fig. 5. This arm 20 is adjustable, having a suitable eye for the passage of a pivot 21, carried by shaft 6, and another eye for the passage of a fixing-pin or fastening 22 preventing the accidental rotation of arm 20 on pivot 21. When the arm 20 is fixed to project above shaft 6 the spring 7 will not be able to lift or hold the freed or unhitched shaft as high as when the arm 20 should be rotated to project below shaft 6. To rotate or set arm 20 the fixing-pin 22 is removed, the arm 20 turned or set, as seen fit, about pivot 21, after which the fixing-pin 22 is replaced, the shaft 6 having suitable eyes 23 for the engagement of the fixing-pin 22.

For girth attachment an eye or ring 24, hinged or jointed to a bolt 25, secured to shaft 6, will be found serviceable.

What I claim as new, and desire to secure by Letters Patent, is—

1. The combination of a thill, a support therefor, a cranked pivot connecting the thill and support, and a braced supporting spring connected at one end to said cranked pivot,

and at its other end to the thill, substantially as described.

2. The combination of a thill, a support therefor, a cranked pivot connecting the thill and support, a braced supporting spring connected at one end to said cranked pivot and a pin or bolt secured to the thill and engaging the other end of the spring, said cranked pivot operating to throw the end of the spring out of alignment with the shaft, substantially as described.

3. The combination with a thill, of a supporting spring therefor suitably supported at its rear end and an adjustable arm or connection carried by the thill and engaging the forward end of the spring, and means for holding said arm or connection in its adjusted position to throw the end of the spring above or below the thill, substantially as described.

4. The combination with a thill, of a supporting spring therefor suitably supported at its rear end, an arm pivoted to the shaft and engaging the forward end of said spring and provided with a lateral extension, and means for adjustably securing said extension to the thill to throw the end of the spring above or below the thill, substantially as described.

5. A cross bar, a shaft, and a pivot connecting said bar and shaft, combined with a

brace on the cross bar, and a supporting spring for the shaft mounted on said pivot and having a curved portion or elbow made to engage the brace substantially as described.

6. A cross bar, a shaft, and a pivot connecting said bar and shaft, combined with a brace on the cross bar, and a supporting spring for the shaft mounted on said pivot and having a curved portion or elbow made to engage the brace, said spring being provided with a strengthening layer substantially as described.

7. A cross bar, a shaft, and a pivot connecting said bar and shaft, combined with a brace on the cross bar, and a supporting spring for the shaft mounted on said pivot and having a curved portion or elbow made to engage the brace, said cross-bar having a strengthening brace at the portion provided with the spring engaging brace substantially as described.

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

EDWARD RODIER.

Witnesses:

WM. C. HAUFF,

E. F. KASTENHUBER.