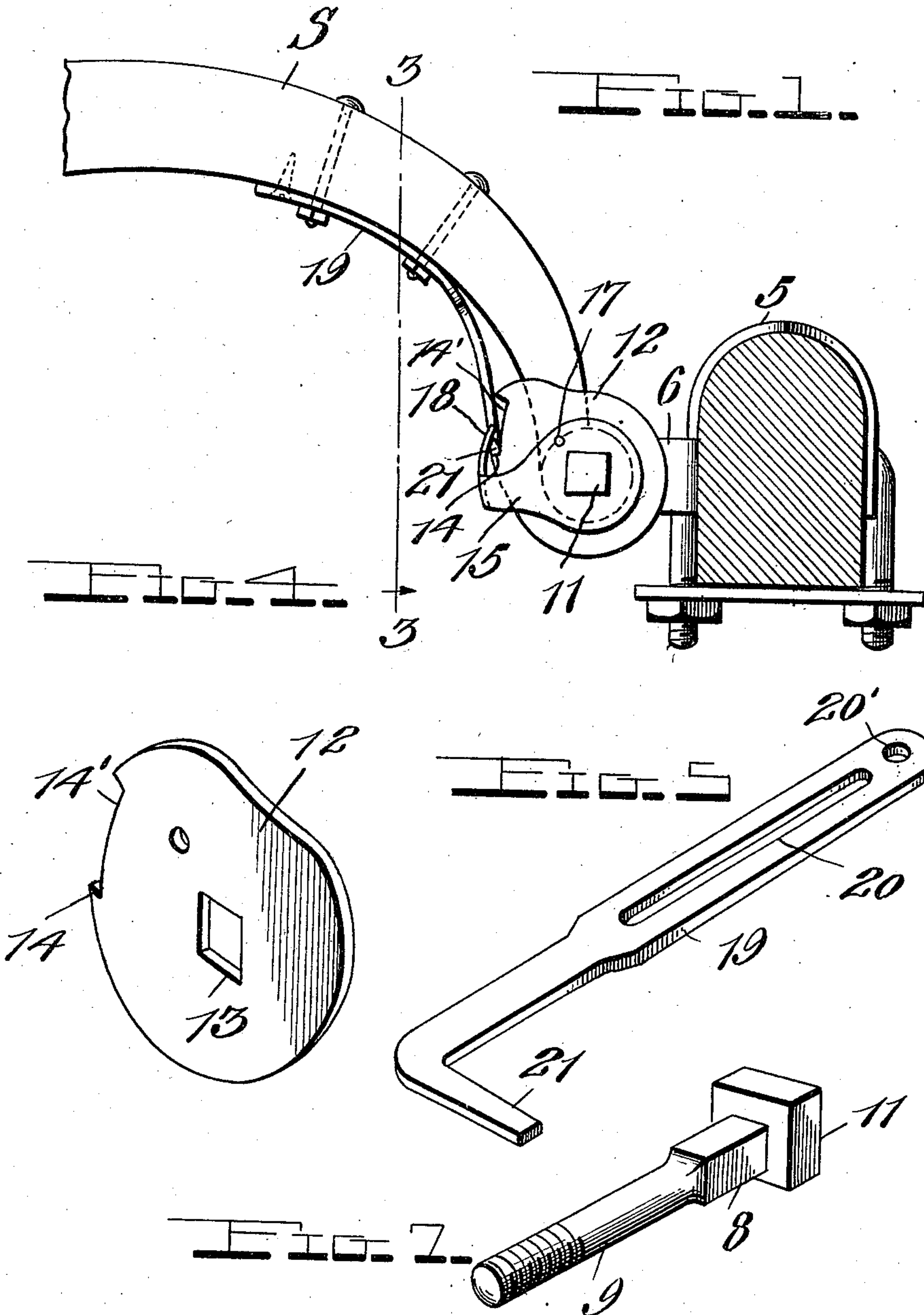


W. M. SMITH.
SHAFT SUPPORT.
APPLICATION FILED SEPT. 10, 1910.

996,806.

Patented July 4, 1911.

2 SHEETS-SHEET 1.



Witnesses

Chas. L. Griebauer.
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W.M. Smith,

By

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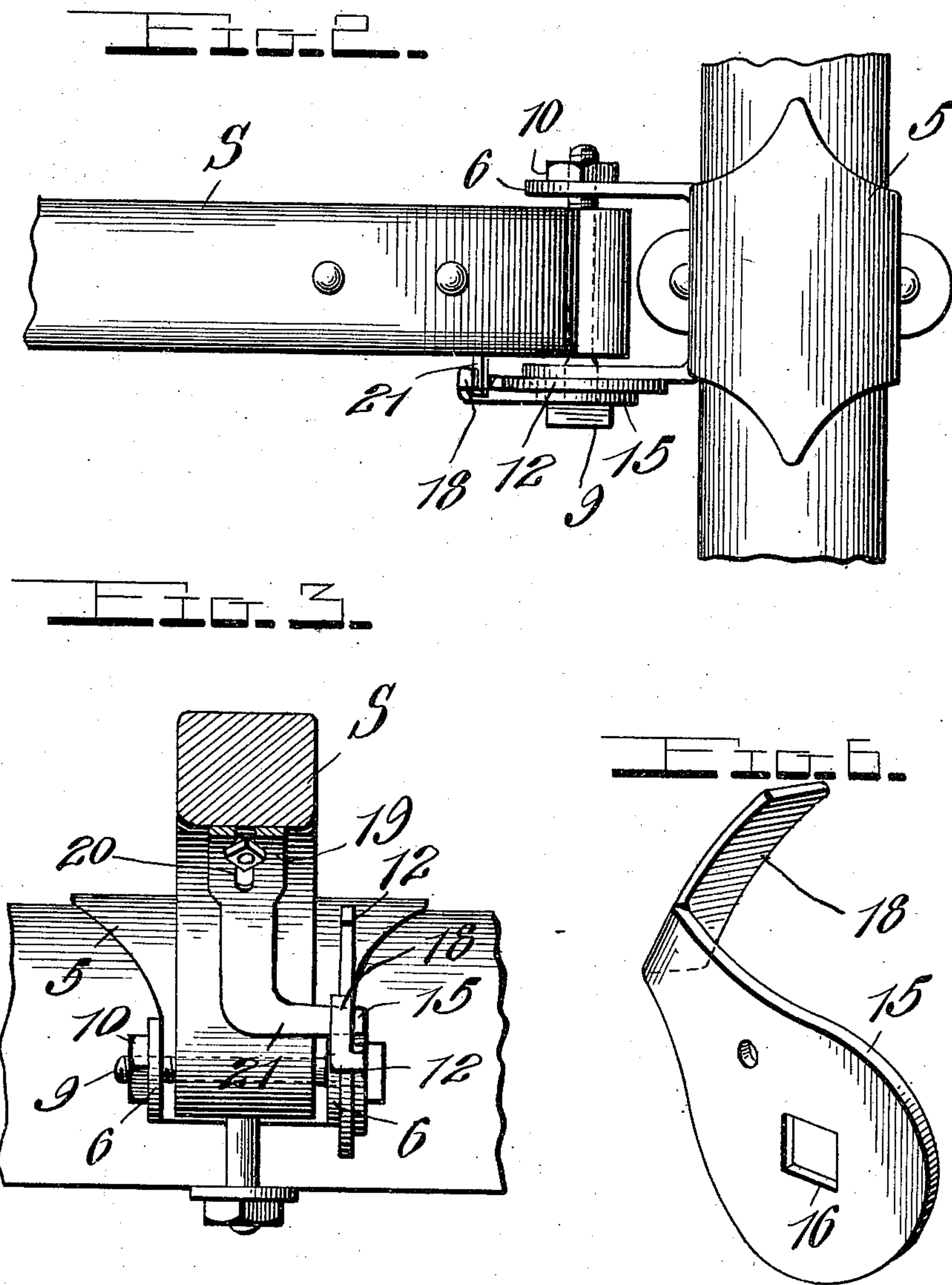
Attorney

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2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

WALTER M. SMITH, OF TYRONE, PENNSYLVANIA, ASSIGNOR OF TWO-THIRDS TO
WILLIAM C. LOVELL AND VIOLA J. LOGAN, BOTH OF TYRONE, PENNSYLVANIA.

SHAFT-SUPPORT.

996,806.

Specification of Letters Patent.

Patented July 4, 1911.

Application filed September 10, 1910. Serial No. 581,385.

To all whom it may concern:

Be it known that I, WALTER M. SMITH, a citizen of the United States, residing at Tyrone, in the county of Blair and State of Pennsylvania, have invented certain new and useful Improvements in Shaft-Supports, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to shaft supports and has for its object to provide a very simple and efficient device for supporting the shafts of a buggy or other vehicle in an elevated position when not in use.

A further object of the invention resides in the provision of a shaft support which is automatic in its operation and requires no adjustment of parts beyond the lifting of the shafts.

A still further object of my invention is to provide means for yieldingly supporting the shafts in an elevated position against any liability of the same dropping by their own weight but which will instantly permit of the shafts being lowered when they are grasped and sufficient downward pull is exerted thereon.

With these and other objects in view, the invention consists of the novel features of construction and the combination and arrangement of parts hereinafter fully described and claimed, and illustrated in the accompanying drawings, in which—

Figure 1 is an end elevation of a shaft support constructed in accordance with my invention, showing the shaft elevated; Fig. 2 is a top plan view; Fig. 3 is a section taken on the line 3—3 of Fig. 1; Fig. 4 is a detail perspective view of the supporting plate; Fig. 5 is a similar view of the resilient locking bar. Figs. 6 and 7 are detail perspective views of parts of the device.

Referring more particularly to the drawings 5 indicates the thill clip which is of the usual construction and which in the present instance is formed with a laterally extending U-shaped shaft receiving bearing 6. One of the arms of this bearing is provided with a rectangular opening to receive the squared portion 8 of the transverse supporting bolt 9. The threaded end of this bolt extends through a circular opening in the other of the bearing arms and has a nut 10 threaded thereon. The squared end portion of the bolt is formed with a rectangular

head 11 and between this head and the shaft bearing a locking plate 12 is arranged on the transverse bolt, said plate being centrally provided with a rectangular opening 13 to receive the bolt. The plate 12 is formed with an extension which is notched to provide a shoulder 14, for a purpose which will more fully hereinafter appear. This notch provides a recess the edge of which is curved for a portion of its length, as shown at 14'. A spring plate 15 is also provided with a rectangular opening 16 through which the squared portion 8 of the bolt 9 extends. This plate is rigidly secured to the shaft supporting plate 12 at a point adjacent to the bolt by means of the rivet 17. The end of the spring plate 15 is attenuated, as clearly shown in Fig. 1, and is extended at right angles to the body thereof, as at 18, and disposed slightly in advance of the notched extension of the supporting plate 12 and adjacent to the rounded edge 14' of the recess therein. By providing the squared openings in the plates 12 and 15, and the squared portion on the shaft 9, the plates are prevented from rotating upon said bolt and independent longitudinal movement of said plates is also overcome by means of the rivet 17 which connects the same.

To the under side of the buggy or wagon shaft S, a resilient metal bar 19 is secured. This bar is formed with a longitudinal slot 20 and an opening 20' in one end. The other end of the bar is disposed at right angles to the body portion, as shown at 21, and is adapted to engage on the shoulder 14 formed in the plate 12 by the provision of the notch. When the shaft is in its elevated position and the parts arranged as shown in Fig. 1, the end 18 of the plate 15 has a slight inward pressure upon the end of the bar 19, said bar being in its normal position with respect to the shaft. It will be observed that the plate 18 is curved so that when the shaft is raised to dispose the end 21 of the bar 19 above the upper end of the plate 18, said bar will be placed under tension and caused to move outwardly beyond the upper end of the plate 18 when raised above the same, said plate springing inward slightly.

In the operation of my improved shaft supporting device, when the shaft is elevated and the parts are disposed in the positions illustrated in Fig. 1, in order to lower

the shaft, the same is first raised slightly until the lower end of the spring bar 19 is disposed above the end of the spring plate 15. The shaft is then allowed to drop, the plates 12 and 15 remaining stationary and the shaft turning upon the transverse bolt 9. Upon this downward movement of the shaft, the angular end 21 of the bar 19 is engaged with and moves upon the outer surface of the end 18 of the plate 15, said end of the bar 19 engaging closely thereon owing to its tendency to spring inwardly to its normal position as shown in Fig. 1. When the shaft is elevated, the end of the bar 19 moves between the end 18 of the plate 15 and the edge of the plate 12 and forces the end 18 of the plate 15 outwardly until the angular end 21 of the bar 19 reaches a point above the shoulder 14 of the plate 12. The shaft is then released and the end of the bar 19 engages upon the shoulder 14 so that the shaft is supported in its raised position. The bar 19 is provided with the longitudinal slot so that it may be readily applied to shafts of different forms in use upon vehicles of various characters. One of my improved supporters may be utilized on each shaft if desired or but one of them may be relied upon for the support of both of the shafts.

From the foregoing it is believed that the construction and operation of my improved shaft supporting device will be readily understood. It is simple, may be easily and quickly applied and is extremely strong and durable in practical use.

While I have shown and described the preferred construction and arrangement of the various parts, it will be obvious that they may be greatly modified without departing from the essential feature or sacrificing any of the advantages of the invention.

Having thus described the invention what is claimed is:

1. In a shaft support, the combination of a bearing, a transverse bolt mounted therein having a squared end portion, a shaft mounted at one end upon the bolt for pivotal movement, a plate mounted upon the squared portion of the bolt and recessed to provide a shoulder therein, one edge of the recess being curved, a resilient bar secured to the under side of the shaft having one end angularly disposed for engagement on the shoulder of said plate, and a spring plate mounted at one end on the bolt extending into the recess of said first named plate and adapted to be engaged by the end of said resilient bar to direct the same upon the shoulder of said plate.

2. In a shaft support, the combination of a bearing, a transverse bolt mounted therein, a shaft mounted on said bolt at one end for pivotal movement, a supporting plate on one end of the bolt having a shoulder formed therein, a slotted resilient bar secured to the under side of the shaft, one end of said bar being angularly disposed and adapted for engagement upon the shoulder of said plate, a spring plate arranged on the transverse bolt and rigidly secured to the supporting plate at a point adjacent to the bolt, the other end of said spring plate being transversely disposed above the shoulder of the supporting plate and adapted to be engaged by the end of the resilient bar to direct the same upon the shoulder of said plate to support the shaft in an elevated position.

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

WALTER M. SMITH.

Witnesses:

W. F. TAYLOR,

THOS. M. LOGAN.