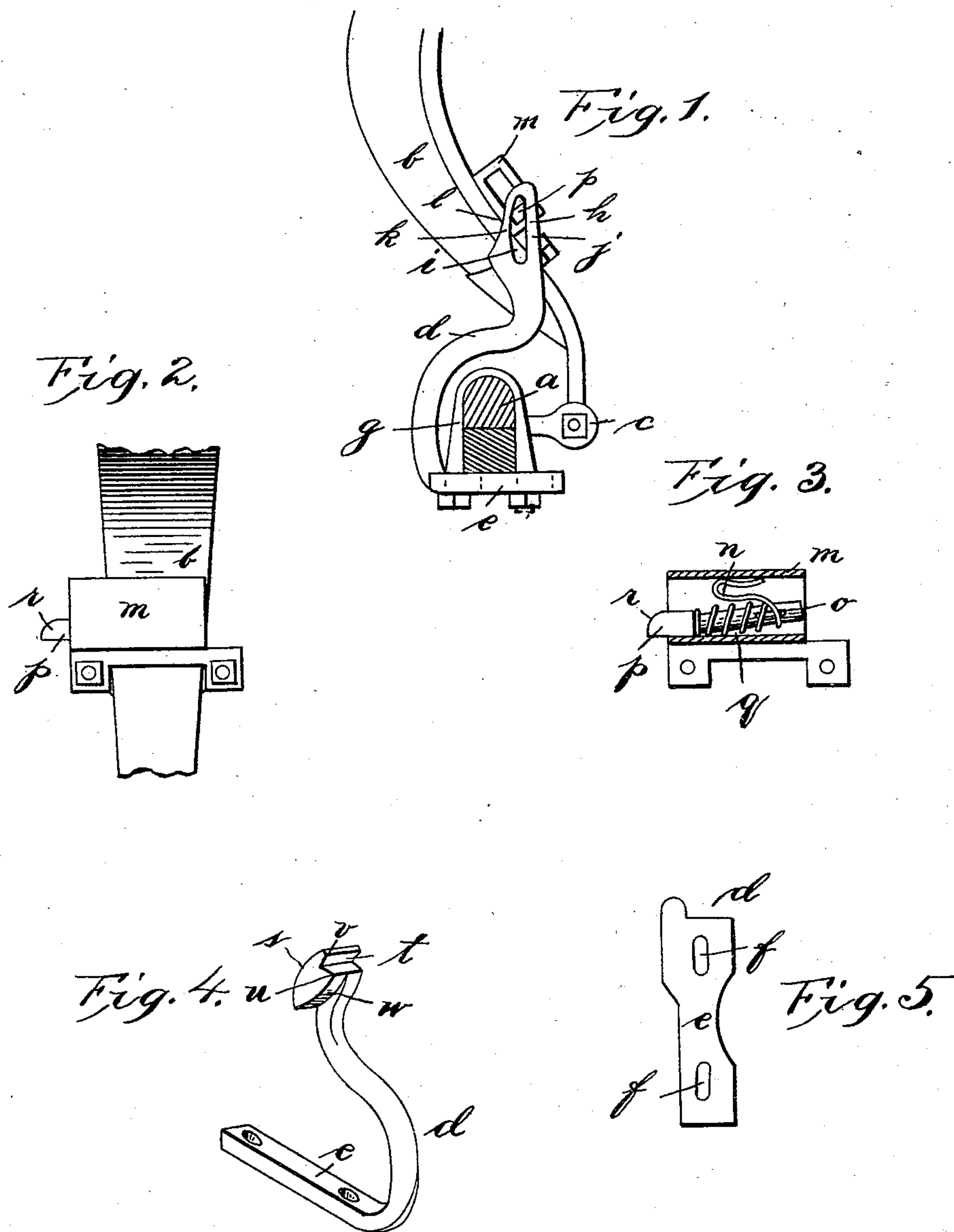


(No Model.)

D. B. MORGAN.
THILL SUPPORT.

No. 488,130

Patented Dec. 13, 1892.



WITNESSES:

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UNITED STATES PATENT OFFICE.

DANIEL B. MORGAN, OF WABASH, INDIANA.

THILL-SUPPORT.

SPECIFICATION forming part of Letters Patent No. 488,130, dated December 13, 1892.

Application filed March 30, 1892. Serial No. 427,048. (No model.)

To all whom it may concern:

Be it known that I, DANIEL B. MORGAN, of the city of Wabash, in the county of Wabash and State of Indiana, have invented certain new and useful Improvements in Shaft Holders or Supports; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form part of this specification.

This invention relates to certain improvements in shaft-holders.

The object of the invention is to provide an improved shaft-holder for vehicles, simple and durable in construction and positive and reliable in action and composed of a minimum number of strong parts.

The invention consists in certain novel features of construction and combinations of parts more fully described hereinafter, and particularly pointed out in the claims.

Referring to the accompanying drawings, Figure 1 is a side elevation of part of a vehicle sufficient to illustrate the application of my invention, the shaft being shown held in a raised position. Fig. 2 is a detail bottom plan of the portion of the shaft provided with the catch. Fig. 3 is a sectional view of the casing carrying the catch. Fig. 4 is a detail view of the different form of holding-arm for attachment to the axle, and Fig. 5 is a detail view of the clip-tie of the holding bracket or arm.

In the drawings, the reference-letter *a* indicates an axle.

b indicates a shaft secured to the axle by a suitable coupling *c*.

d indicates the holding-bracket, at its lower end having the clip-tie *e*, provided with longitudinal slots *f*, through which the ends of the clip *g*, embracing the axle, pass. The clip clamps the holding-bracket in position by means of nuts, and the longitudinal slots permit the bracket being secured to axles of different sizes. The holding-bracket extends upwardly above the axle and in the construction shown in Fig. 1 is provided with the upwardly-extending end having the rearwardly-inclined front edge *h*, the central opening *i*,

having the front straight edge *j* and the rear inclined or curved edge *k*, and the rear curved cam edge *l*.

m indicates a box open at the inner end and suitably clamped or clipped to the under side of the axle, so that one edge will project on the side next to the holding-arm secured to the axle. A swinging and longitudinally-movable catch or bolt *p* is located in this box. The shank of the bolt *p* is slotted longitudinally and is secured by a pin *o*, thereby permitting the swinging and longitudinal movement of the bolt *p*. A coiled spring *q* embraces the shank of the bolt between the head thereof and said pin, so as to constantly force the bolt to its limit of outward movement. The rear end of this spring is bent to form another spring *n*, bearing against the opposite wall of the box and so bent and formed as to yieldingly hold the free end of the bolt against the lower edge of the box, so that when the head of the bolt is swung toward the opposite edge of the box said spring *n* will be compressed and will immediately return the bolt to its normal position upon its release.

In operation when the shaft is raised the head *r* of the bolt, which is beveled on its upper edge, as shown, strikes the front edge *h* of the holding-bracket, thereby moving the bolt inwardly longitudinally, so as to slip by said edge *h* and spring into the opening *i*, with the square end of the bolt engaging the square edge *j* of the holding-bracket. The shaft is thus rigidly held in elevated position. When it is desired to throw off or lower the shaft, it is pushed back and the beveled edge of the bolt-head engages the edge *k* of the holding-bracket, thereby throwing the bolt-head longitudinally, so as to slip by the holding-bracket and spring out behind the edge *l*, which edge *l* is curved upwardly and forwardly, so that when the shaft is quickly moved forward the front lower edge of the bolt-head will engage the edge *l*, which will swing the bolt laterally in its box, so as to slip over the top of the holding-bracket against the tension of the spring *n*, thereby releasing the shaft.

In Fig. 4 a different form of holding-bracket is shown, provided with the curved front edge *s*, which engages the bolt as the shaft is

swung back and swings the same up over the bracket into the notch *t* in the upper rear end thereof, which has a front square shoulder which holds the shaft elevated. When it is
 5 desired to release the shaft from this holder, the shaft should be pressed backwardly and then quickly moved forward and the edge *w* will swing the bolt downwardly over the holding-bracket and release the shaft. In
 10 using this form of holding-bracket it is not necessary that the bolt should have the longitudinal movement.

It is evident that the part attached to the shaft and axle can be readily adjusted and
 15 that the device as a whole is very simple and and effective in construction.

Some of the parts have been very specifically described; but I do not limit myself to such specific construction.

20 Having thus fully described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

1. In a shaft-holder, the combination of a laterally-swinging spring-catch or bolt, a box
 25 or casing therefor secured to the shaft, and the holding bracket secured to the axle and having the holding and cam edges to coact with said bolt, as and for the purpose set forth.

2. In a shaft holder, the combination of a
 30 box secured to the shaft, a spring catch or bolt mounted therein to swing laterally within the box, a spring yieldingly holding the bolt at one edge of the box, and a holding arm secured to the axle and provided with curved and straight
 35 edges, as set forth.

3. In a shaft-holder, the combination of a box secured to the shaft, a bolt in said box mounted to move longitudinally and swing
 40 laterally, a spring formed in a single piece to yieldingly hold the bolt in its normal longitudinal position and also yieldingly against

lateral swing, and means carried by the axle, substantially as described, to engage said bolt and hold the shaft raised, in the manner substantially as set forth.

4. In a shaft-holder, the combination of a
 45 laterally-swinging spring-bolt carried by the shaft, and a holding-arm carried by the axle and provided with a rearwardly-facing holding-edge to hold the shaft raised through the
 50 medium of said bolt or catch and with a curved edge to throw the bolt laterally up over the end of the arm and release the shaft, substantially as set forth.

5. In a shaft-holder, the combination of the
 55 longitudinally and laterally movable spring-bolt carried by the shaft, and a holding-arm rigid with the axle, having a rearwardly-facing holding-edge and a front edge to operate the bolt to slip by, so as to engage said holding-
 60 edge, and a rear curved edge to swing the bolt upwardly over the holding-arm and release the shaft when the same is moved forwardly, substantially as described.

6. In combination, the laterally and longi-
 65 tudinally movable spring-bolt carried by the shaft, having the beveled head, and the holding-arm rigid with the axle and having the front edge to throw the bolt longitudinally, the opening provided with the front holding-edge,
 70 and the rear edge to throw the bolt longitudinally, the rear edge of said arm being curved upwardly and forwardly to throw the bolt up over the same, substantially as described.

In testimony that I claim the foregoing as
 75 my own I affix my signature in presence of two witnesses.

DANIEL B. MORGAN.

Witnesses:

JOHN H. DICKEN,
 BERTHA DICKEN.