

(No Model.)

J. H. CLOYES & E. B. GRAY.

TWO WHEELED VEHICLE.

No. 377,848.

Patented Feb. 14, 1888.

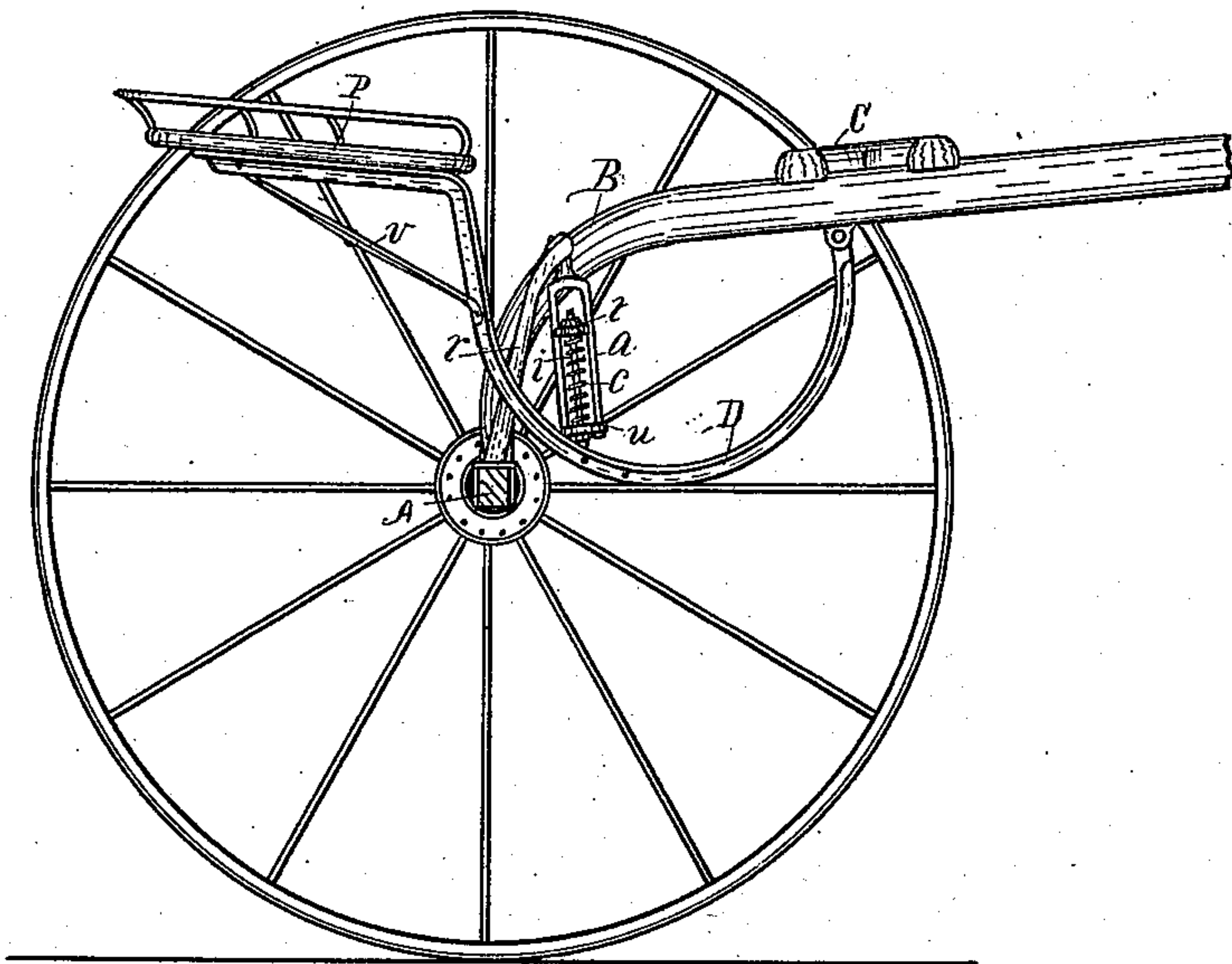


Fig. 1

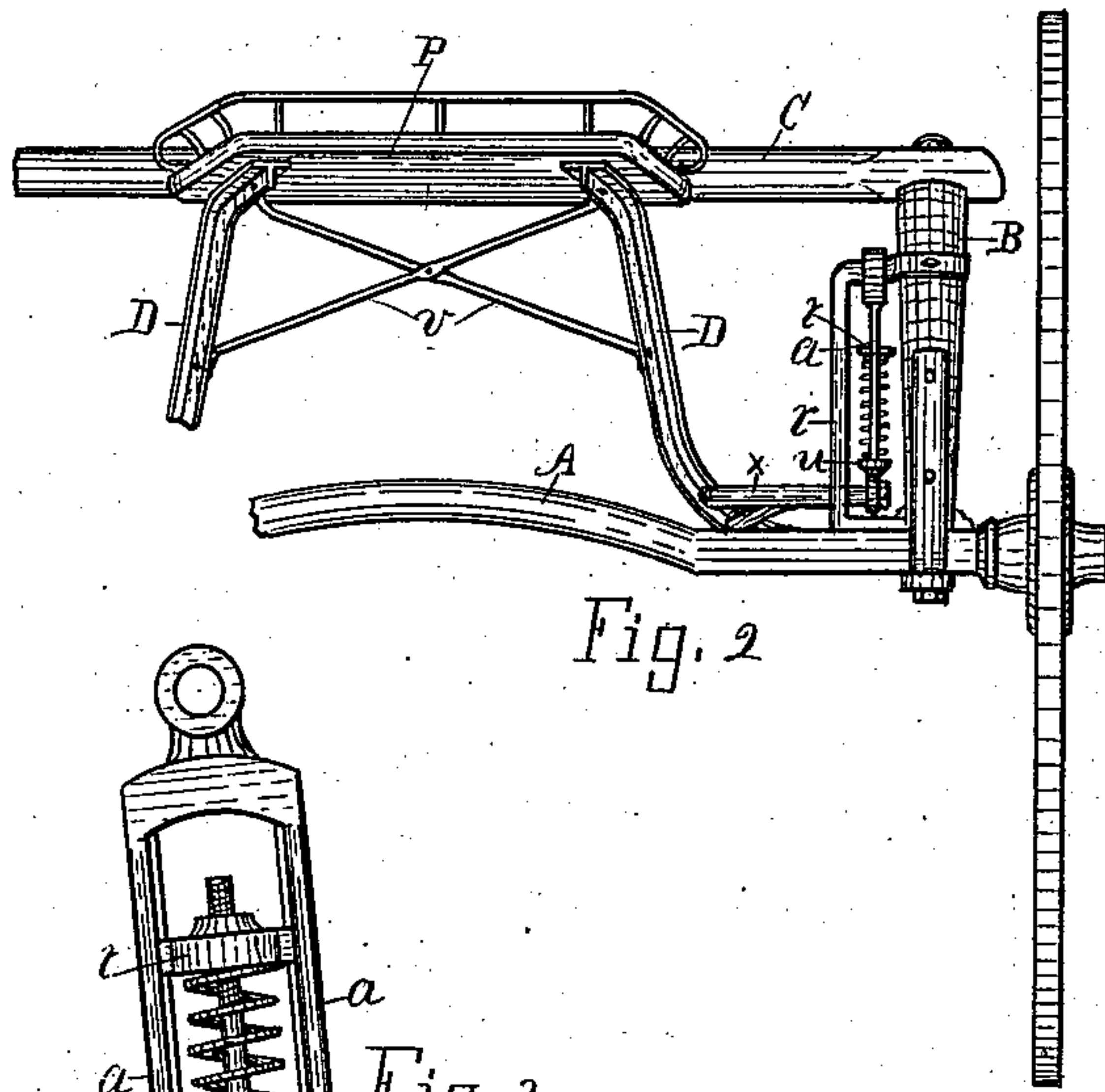


Fig. 2

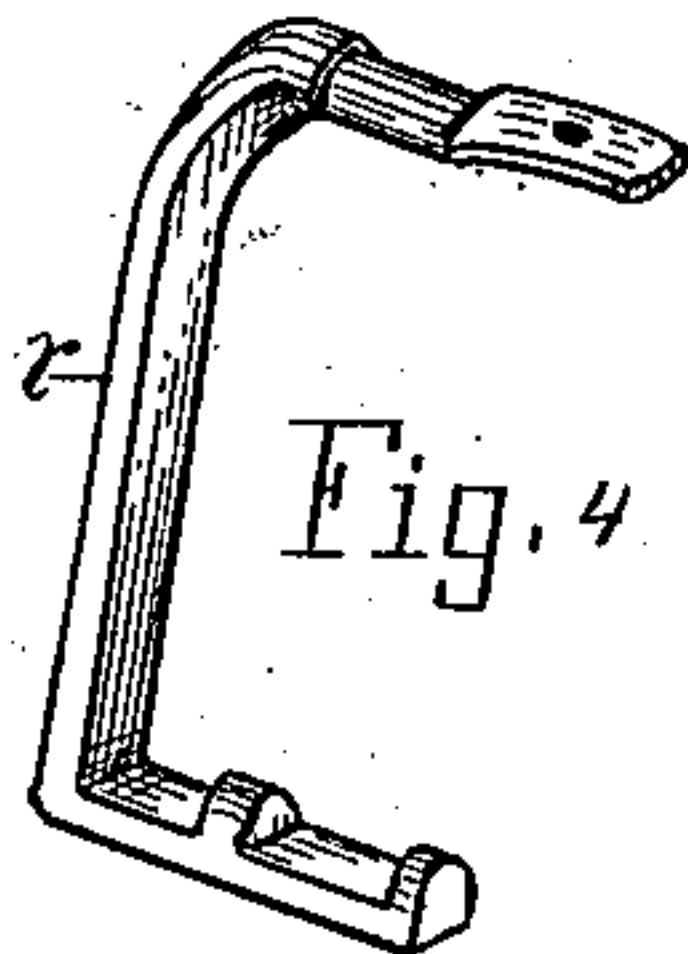


Fig. 4

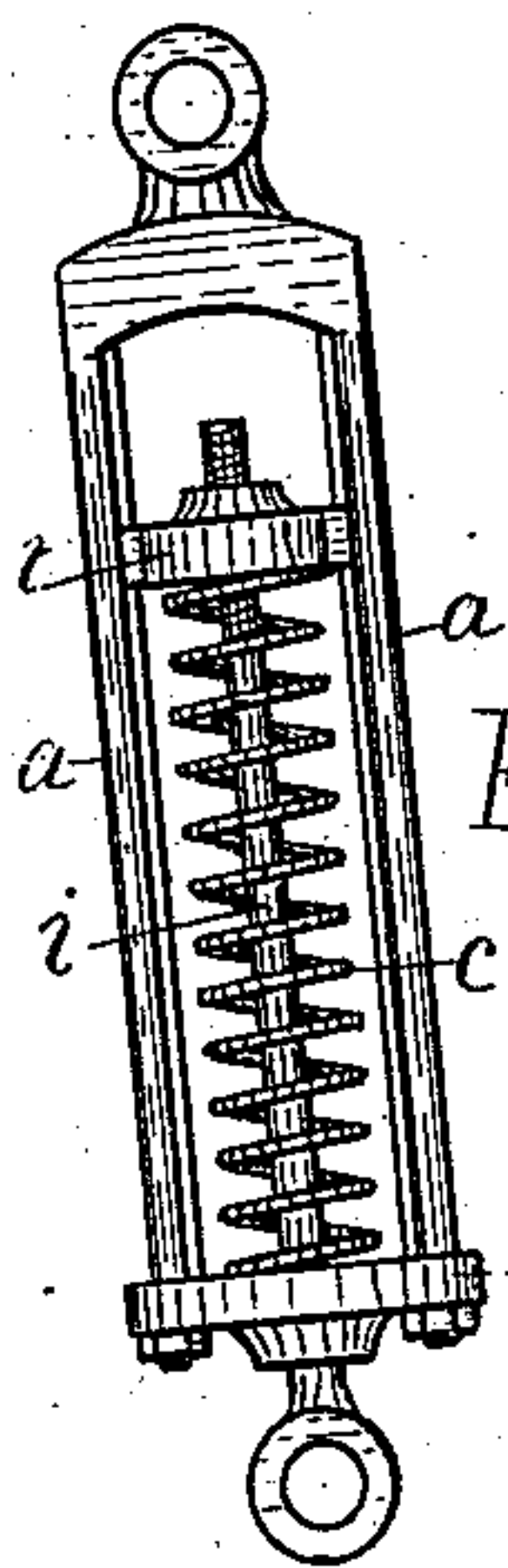


Fig. 3

Witnesses.

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UNITED STATES PATENT OFFICE.

JAMES H. CLOYES AND EDGAR B. GRAY, OF KALAMAZOO, MICHIGAN, ASSIGN-
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TWO-WHEELED VEHICLE.

SPECIFICATION forming part of Letters Patent No. 377,848, dated February 14, 1888

Application filed July 1, 1887. Serial No. 243,099. (No model.)

To all whom it may concern:

Be it known that we, JAMES H. CLOYES and EDGAR B. GRAY, citizens of the United States, residing at Kalamazoo, county of Kalamazoo, State of Michigan, have invented a new and useful Two-Wheeled Vehicle, of which the following is a specification.

This invention relates to that class of two-wheeled vehicles which has a body fulcrumed at the forward end and supported over the axle by spiral springs; and it has for its object certain improvements, below described and claimed.

In the drawings forming a part of this specification, Figure 1 is a side elevation, one wheel being removed; Fig. 2, a rear elevation with one side broken away; Fig. 3, lettered details enlarged from Fig. 1; and Fig. 4 is an enlarged detail from Fig. 2, in perspective.

Referring to the lettered parts of the drawings, B is the thill, C the cross-bar of the thill, D the body fulcrumed at the forward end, P the seat, and A the axle, all substantially as heretofore made.

Of course both sides of the vehicle are like the side here shown. At *r* is shown a bracket made integral with the lugged plate which is used between the end of the thill and the axle to retain the thill in place. By this means the lower end of the bracket is held firmly without additional means for the purpose; but the bracket may be otherwise attached, so as to be supported by the axle. These brackets *r* extend upward just inside of the rear portion of the thill, thence turn at right angles, and are bolted to the thills, Fig. 2. The attachment of the upper end of the brackets to the thills is merely to retain them from lateral displacement, as the entire weight of the body and the means for suspending the body are supported by the axle.

In Fig. 3, *a* is a frame, and through the end *u* is passed loosely a rod, *i*, having an eye at the lower end and threaded at the upper end. A nut, *t*, receives the threaded end of the rod *i*, and said nut has sliding bearings in the frame *a*. The frame *a* has an eye at the upper end.

Between the end *u* of the frame *a* and the sliding nut *t* is a spiral spring, *c*, surrounding the rod *i*. This device constitutes the hanger which sustains the body D, one being employed on each side. The lower end is pivotally attached to the body or to some lateral projection, as at *x*, Fig. 2, and the upper end is loosely attached to the upper bar of the bracket *r*. When the body is borne down, the spring is contracted, and the sliding nut *t* guides the rod *i*. Any style of spring-hangers suitable may be employed in connection with the bracket *r* in like relation. The spring is made stiffer for heavier persons by screwing the rod *i* farther through the nut *t*. To prevent that portion of the seat-rails which supports the seat from bending down, the X-brace *v* is employed. The rear end is bolted to the rear end of the seat-bars, and the forward end to the rear side of the body beneath the seat, Figs. 1 and 2. By this means the ends of the seat-bars are also braced laterally.

Having thus described our invention, what we claim is—

1. A fulcrumed body or seat-bars, the brackets, each end being turned at right angles, the lower end provided with the lugs and attached to the axle, the upper end attached to the thills, and spiral spring hangers pivotally attached to the sides of the body and to the upper bar of the brackets, in combination, substantially as set forth.

2. In combination, a fulcrumed body or seat-bars, the axle, and brackets mounted thereon, the thills, and the hangers consisting of the frame, the sliding nut, the rod screw-threaded in said nut, and the spiral spring on said rod, substantially as set forth.

In testimony of the foregoing we have hereunto subscribed our names in presence of two witnesses.

JAMES H. CLOYES.
EDGAR B. GRAY.

Witnesses:

JOE. V. TALLMAN,
W. S. WHITEHEAD.