

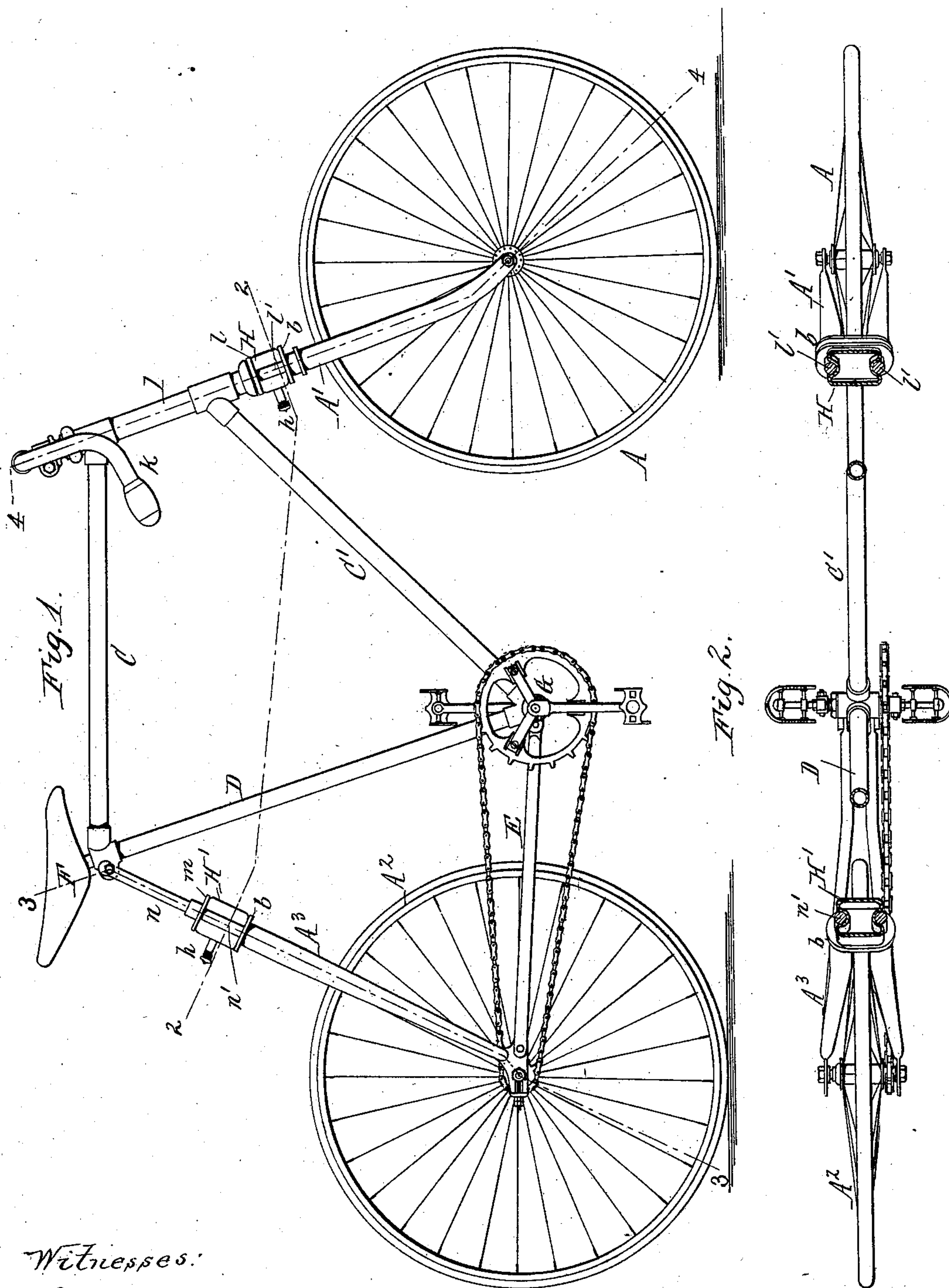
(No Model.)

2 Sheets—Sheet 1.

C. B. ADRIANCE.
VELOCIPEDÉ.

No. 603,418.

Patented May 3, 1898.



Witnesses:

Ernest Puleford.
Henry L. Decker.

C. B. Admance Inventor.

By Wilhelm Thonnet
Attorneys.

(No Model.)

2 Sheets—Sheet 2.

C. B. ADRIANCE.
VELOCIPEDE.

No. 603,418.

Patented May 3, 1898.

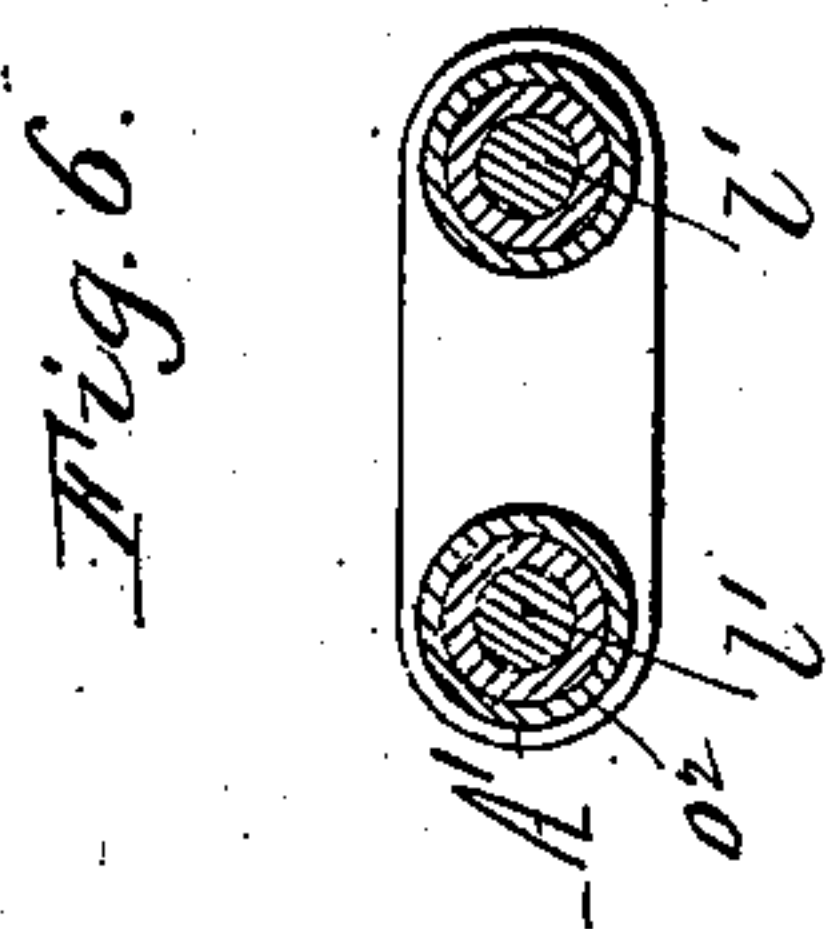
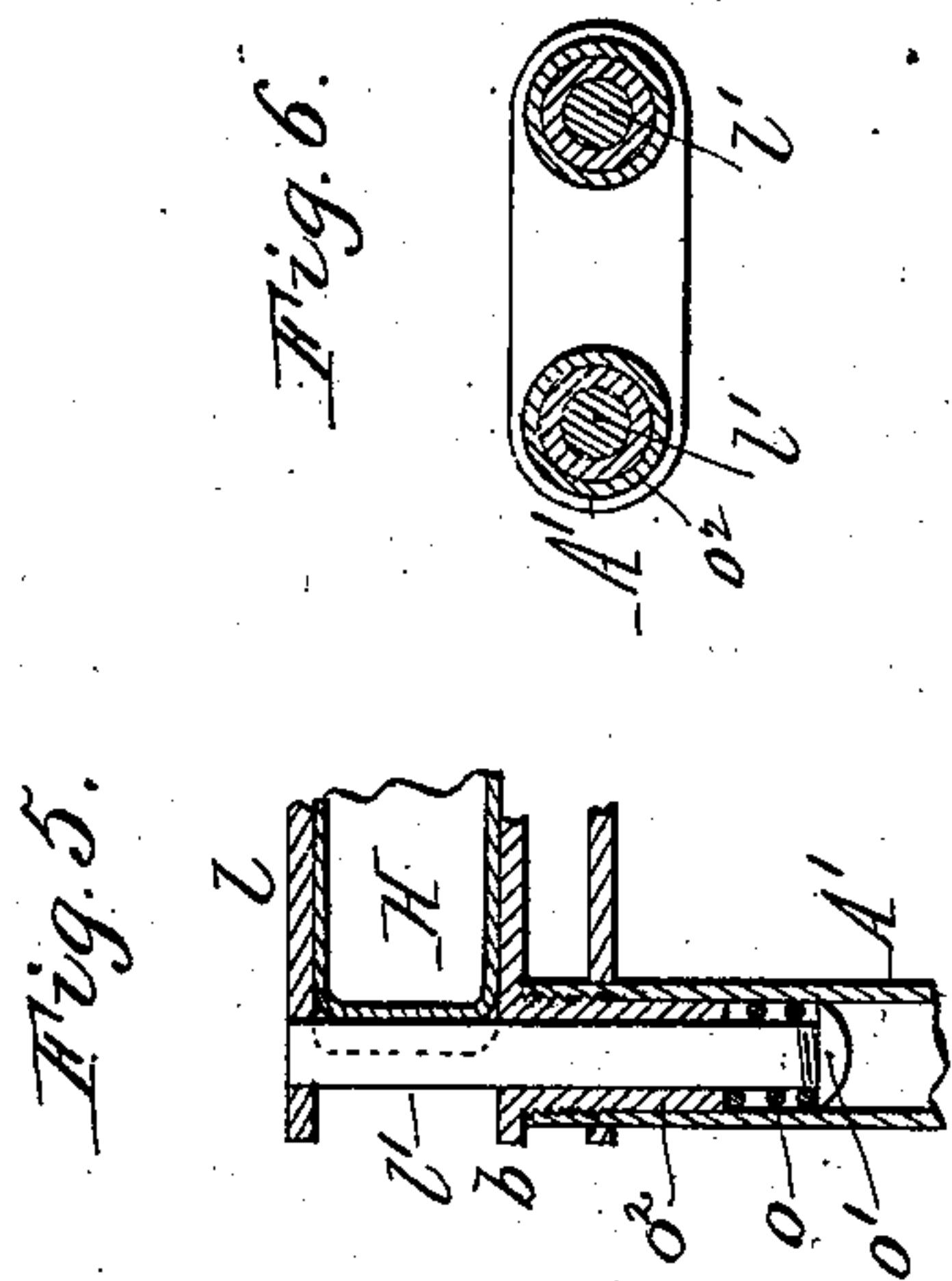
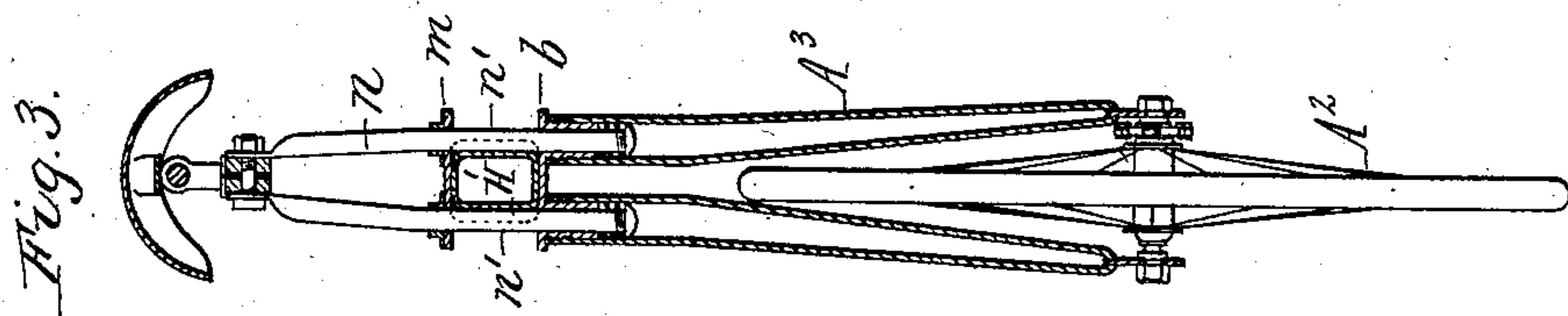
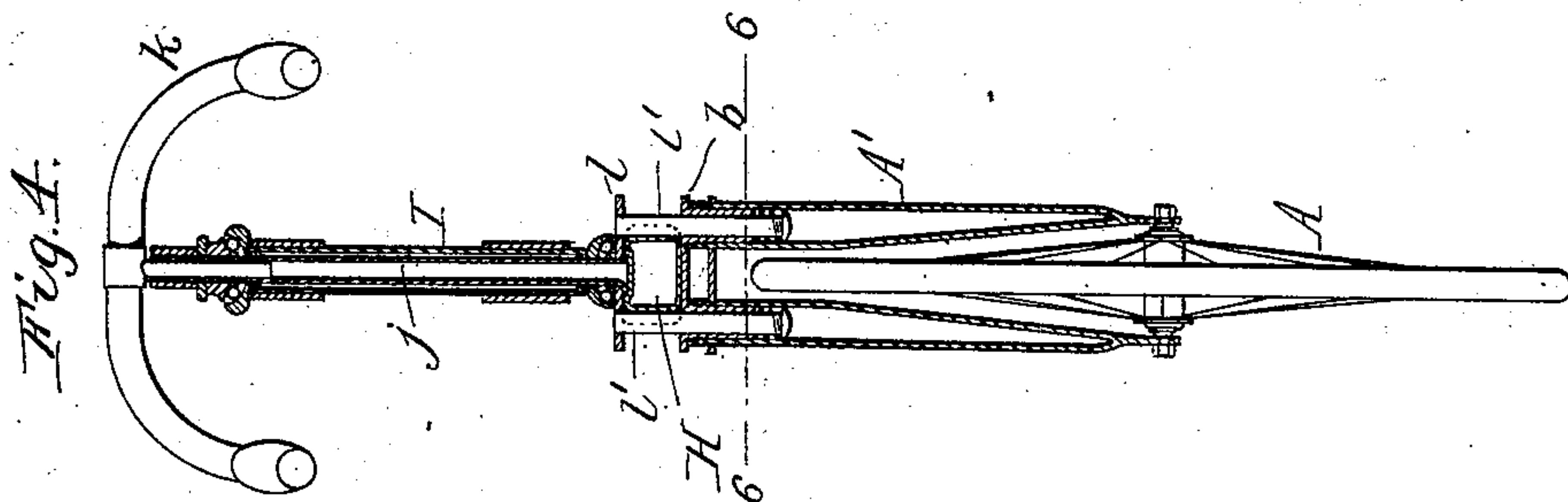
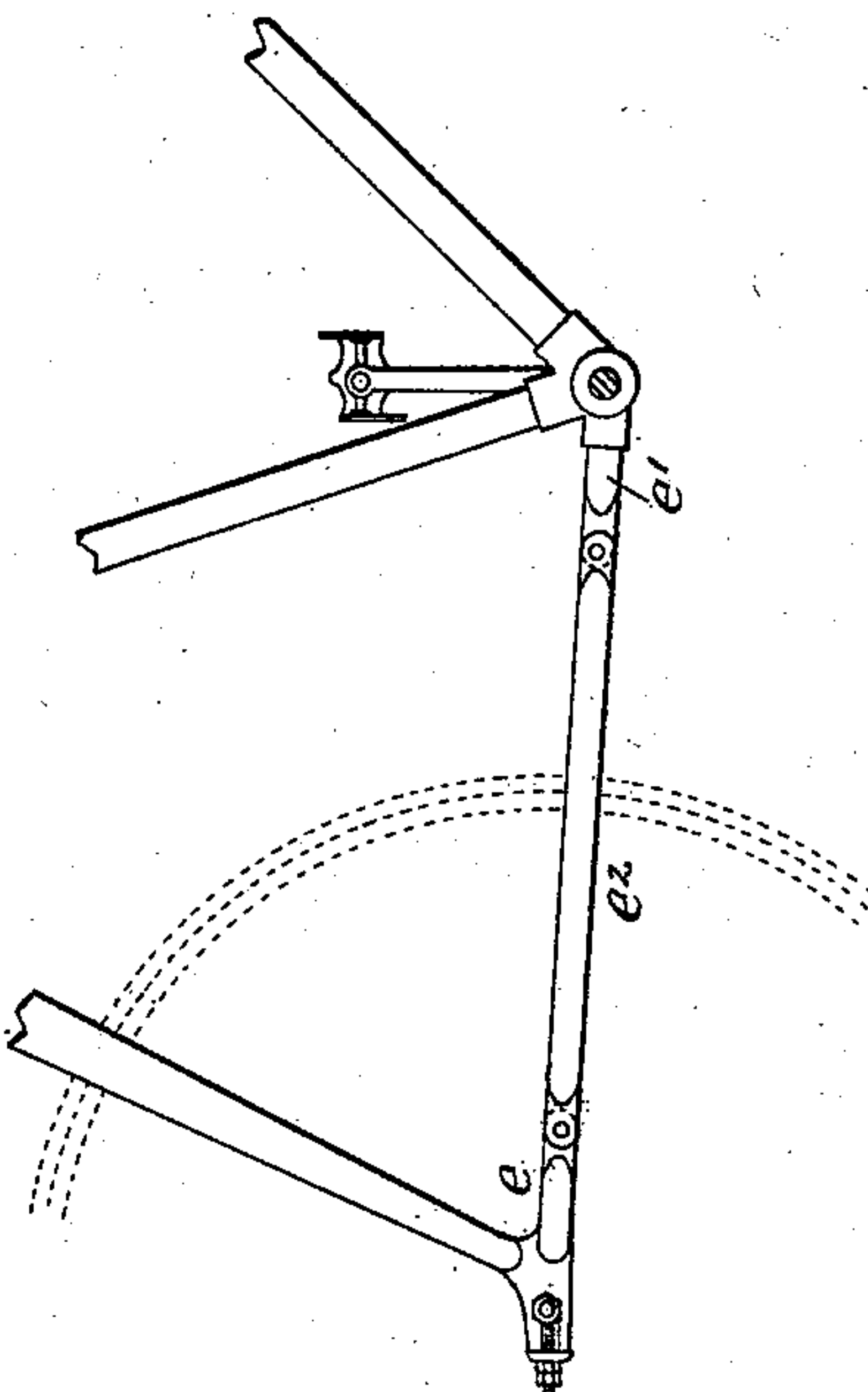


Fig. 7.



Witnesses:

Emmett Pulsford.
Henry L. Deck.

C. B. Adriance Inventor.

By Wilhelm R. Rumer.

Attorneys.

UNITED STATES PATENT OFFICE.

CORNELIUS B. ADRIANCE, OF EDEN, NEW YORK, ASSIGNOR OF ONE-HALF
TO EMMIT D. RUMSEY, OF CATTARAUGUS, NEW YORK.

VELOCIPEDÉ.

SPECIFICATION forming part of Letters Patent No. 603,418, dated May 3, 1898.

Application filed November 20, 1896. Serial No. 612,801. (No model.)

To all whom it may concern:

Be it known that I, CORNELIUS B. ADRIANCE, a citizen of the United States, residing at Eden, in the county of Erie and State of New York, have invented a new and useful Improvement in Velocipedes, of which the following is a specification.

This invention relates to that class of velocipedes in which the frame which connects the wheel-forks and carries the saddle and the crank-shaft is separate from such forks and capable of yielding independently of the same.

My invention has for its object to provide a construction of the bicycle-frame which permits the use of solid-rubber wheel-tires, or such as are not rendered unserviceable by punctures, while at the same time affording practically the advantage of pneumatic tires.

In the accompanying drawings, consisting of two sheets, Figure 1 is a side elevation of my improved velocipede. Fig. 2 is a horizontal section thereof in line 2 2, Fig. 1. Figs. 3 and 4 are vertical cross-sections in lines 3 3 and 4 4, Fig. 1. Fig. 5 is a fragmentary transverse section of the upper portion of one of the forks on an enlarged scale. Fig. 6 is an enlarged horizontal section in line 6 6, Fig. 4, looking upward. Fig. 7 is a fragmentary side elevation showing a modified construction of the lower rear fork.

Like letters of reference refer to like parts in the several figures.

A is the usual front or steering wheel; A', its fork; A², the rear or driving wheel, and A³ the upper fork thereof. The arms of the forks are hollow and may be constructed of the usual tubing, and each fork is provided at its crown or upper end with a rigid platform or supporting-plate *b*.

The remaining portion of the bicycle-frame, which comprises the upper and lower reach members C C', the saddle-post D, and the lower rear fork E, and which carries the seat or saddle F and the crank-shaft hanger G, is constructed separate from the wheel-forks A' and A³ and supported thereon by air cushions or chambers H H', interposed between

the forks and the adjacent front and rear portions of said independent seat-carrying frame. These air-cushions rest upon the platforms or plates *b* of the front and rear forks, respectively, and each preferably consists of a flexible inflatable bag or chamber constructed of rubber or other suitable material and having a valved nozzle *h* for inflating it.

I is the steering-head, secured to the front end of the reach members C C'. *j* is the steering-spindle, journaled in the head in any ordinary or suitable manner, and *k* are the handle-bars, secured to the upper end of the spindle. The spindle is provided at its lower end with a follower or plate *l*, coinciding with the platform *b* of the front fork and resting loosely upon the adjacent air-cushion H. This follower is provided with depending guide-rods *l'*, secured thereto and passing through openings formed in the platform *b* and into the hollow arms of the front fork, as shown in Fig. 4, whereby the follower is guided in its vertical movements.

The independent seat-supporting frame is provided at its rear end with a similar follower or plate *m*, which coincides with the platform *b* of the upper rear fork and is connected with said frame by bars or rods *n*. The lower portions *n'* of these rods form guides which extend downward from the rear follower and pass through openings formed in said platform and into the hollow arms of the upper rear fork, as shown in Fig. 3. If desired, the guide-rods *n'* may be separate from the rods *n*.

The guide-rods of the front and rear follower-plates may be confined in the hollow fork-arms by any suitable stop device; but each of these rods is preferably held therein by a spiral spring *o*, which surrounds the rod between a head or nut *o'*, arranged at the lower end thereof, and a collar *o''*, depending from the under side of the follower-plate and secured in the upper end of the hollow fork-arm by a screw-thread or any other suitable means. These springs serve not only to retain the guide-rods in the fork-arms, but also act as cushions which check the upward move-

ment of the seat-carrying frame in recoiling from the inflated air-chambers $H H'$ after the machine passes over an obstruction.

A suitable size for the front platforms or plates b and follower-plates l is about four and one-half inches by two and one-half inches, and a suitable size for the rear platform and follower-plates is about three and one-half inches by two inches. The guide-rods l' and n' are arranged near the ends of the followers, and the air-chambers $H H'$ in their deflated state are preferably of such a size as to fit snugly between these rods, so that upon inflating the same they expand beyond the rods, on opposite sides thereof, as shown in Fig. 2, thereby retaining the chambers in position.

It will now be understood that the seat-carrying frame is supported upon the air-cushions through the intervention of the followers, and this frame is therefore free to yield vertically independently of the front fork and the upper rear fork, while these forks are free to rise over obstructions and descend without materially affecting the superposed seat-carrying frame. The air-cushions absorb the jars received by the wheels and relieve the rider in the same manner as do the usual pneumatic tires. This construction permits the substitution of solid-rubber tires for pneumatic tires and produces a machine having the advantages of one provided with pneumatic tires, while obviating the expense and inconvenience incident to the puncture of pneumatic tires.

In order to permit the necessary vertical play of the seat-carrying frame with reference to the front fork and the upper rear fork, and vice versa, the arms of the lower rear fork E are pivoted at their rear ends to the lug or fitting which supports the rear axle and at their front ends to the crank-shaft hanger, as shown in Fig. 1, or, if desired, said forks may each consist of two short rigid sections $e e'$, secured, respectively, to the upper fork and the crank-shaft hanger, and an intermediate

link or rod e^2 , pivoted at its ends to said fork-sections, as shown in Fig. 7.

I claim as my invention—

1. The combination with a wheel-fork provided at its upper end with a platform, of a vertically-movable seat-carrying frame provided with a corresponding platform and guide-stems having a telescopic connection with the arms of the wheel-fork, a cushion interposed between said platforms for checking the downward movement of said frame, and an auxiliary spring or cushion arranged to check the upward movement of said frame, substantially as set forth.

2. In a velocipede, the combination with the front and rear forks having hollow arms and each provided at its upper end with a platform, of a seat-carrying frame provided at opposite ends with followers arranged above said platforms, respectively, and with guide-rods which slide in the hollow fork-arms, springs applied to said guide-rods and checking the upward movement of the same in the fork-arms, and air-cushions interposed between said platforms and followers, substantially as set forth.

3. In a velocipede, the combination with the front and rear forks having hollow arms provided at or near their upper ends with internal stops or shoulders, platforms arranged at the upper ends of said forks, a seat-carrying frame provided at its front and rear ends with follower-plates and with guide-rods sliding in the hollow fork-arms and provided within the fork-arms with heads or shoulders, springs applied to said guide-rods between their heads and the internal shoulders of the fork-arms, and cushions interposed between said platforms and said follower-plates, substantially as set forth.

Witness my hand this 14th day of November, 1896.

CORNELIUS B. ADRIANCE.

Witnesses:

CARL F. GEYER,

KATHRYN ELMORE.