

(No Model.)

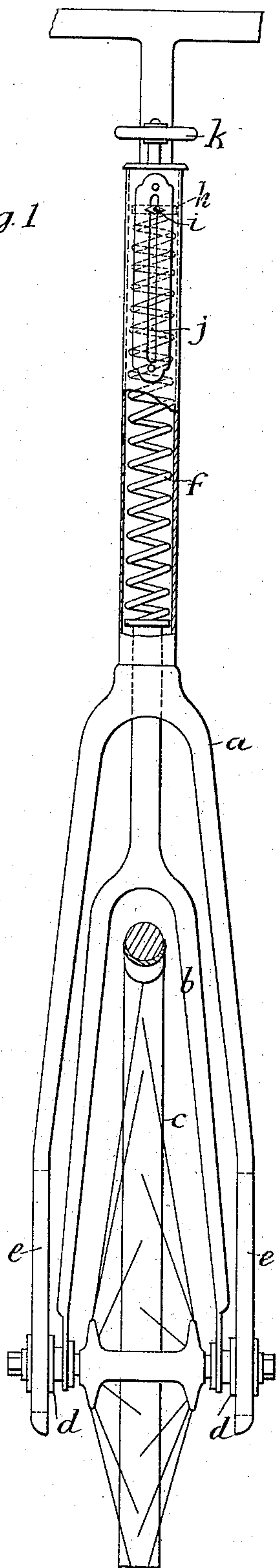
3 Sheets—Sheet 1.

T. REDMAN.
VELOCIPEDE.

No. 385,136.

Patented June 26, 1888.

Fig. 1



Witnesses:
E. Swales
S. P. Whitaker

Inventor:
Thos. Redman.
By his attys.
Whitaker & Brewster.

(No Model.)

3 Sheets—Sheet 2.

T. REDMAN.
VELOCIPÈDE.

No. 385,136.

Patented June 26, 1888.

Fig. 3a.

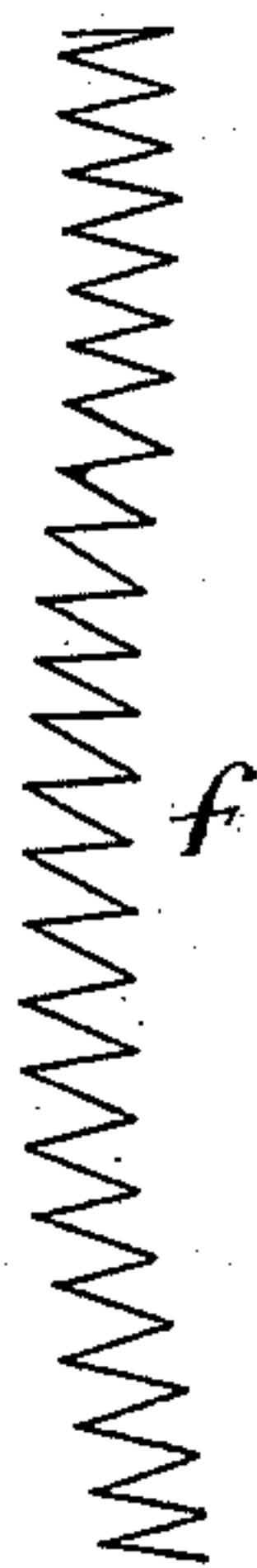
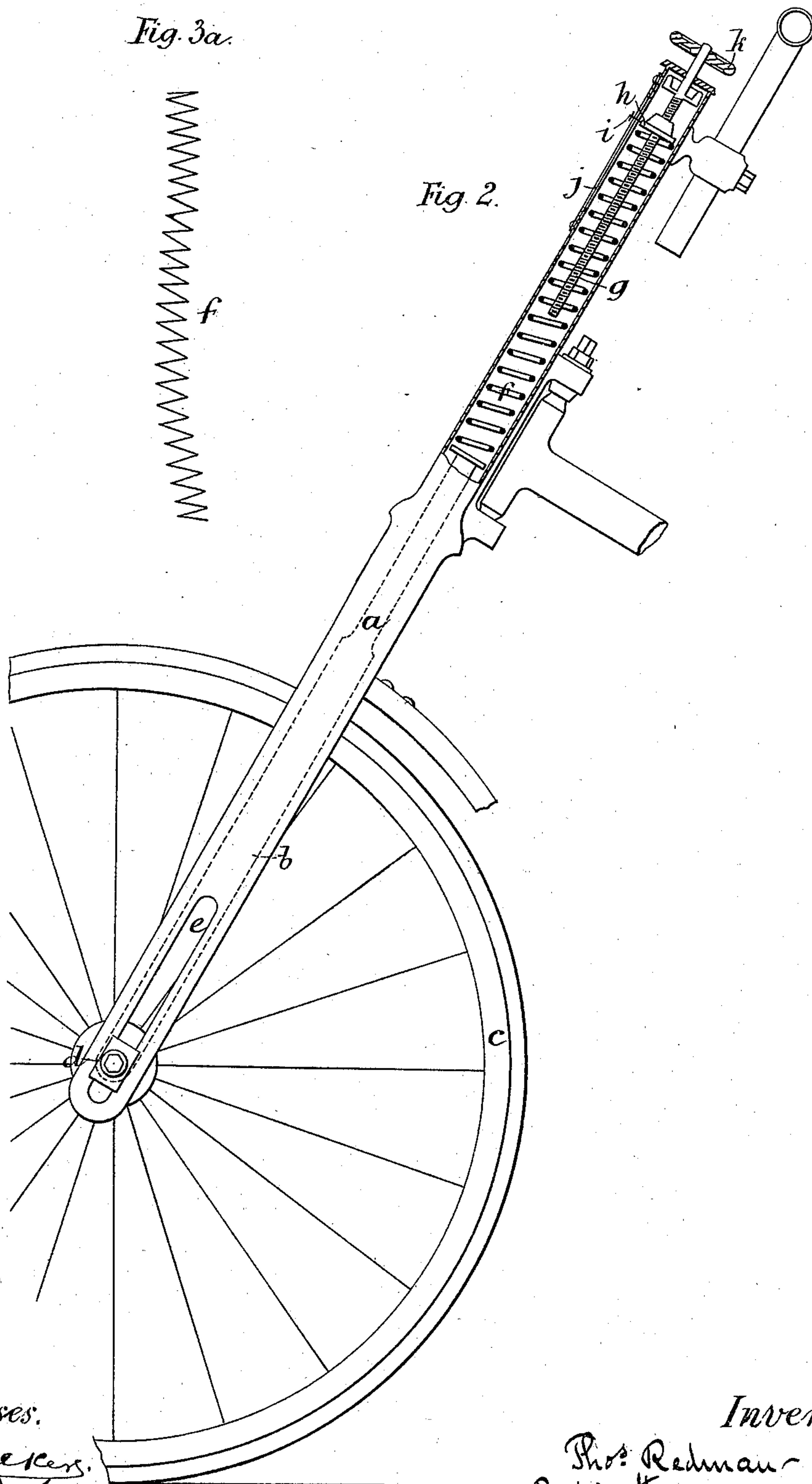


Fig. 2.



Witnesses.
E. Waeskers.
L. B. Whitaker.

Inventor:
Thos. Redman
By his attys.
Whitaker & Brown

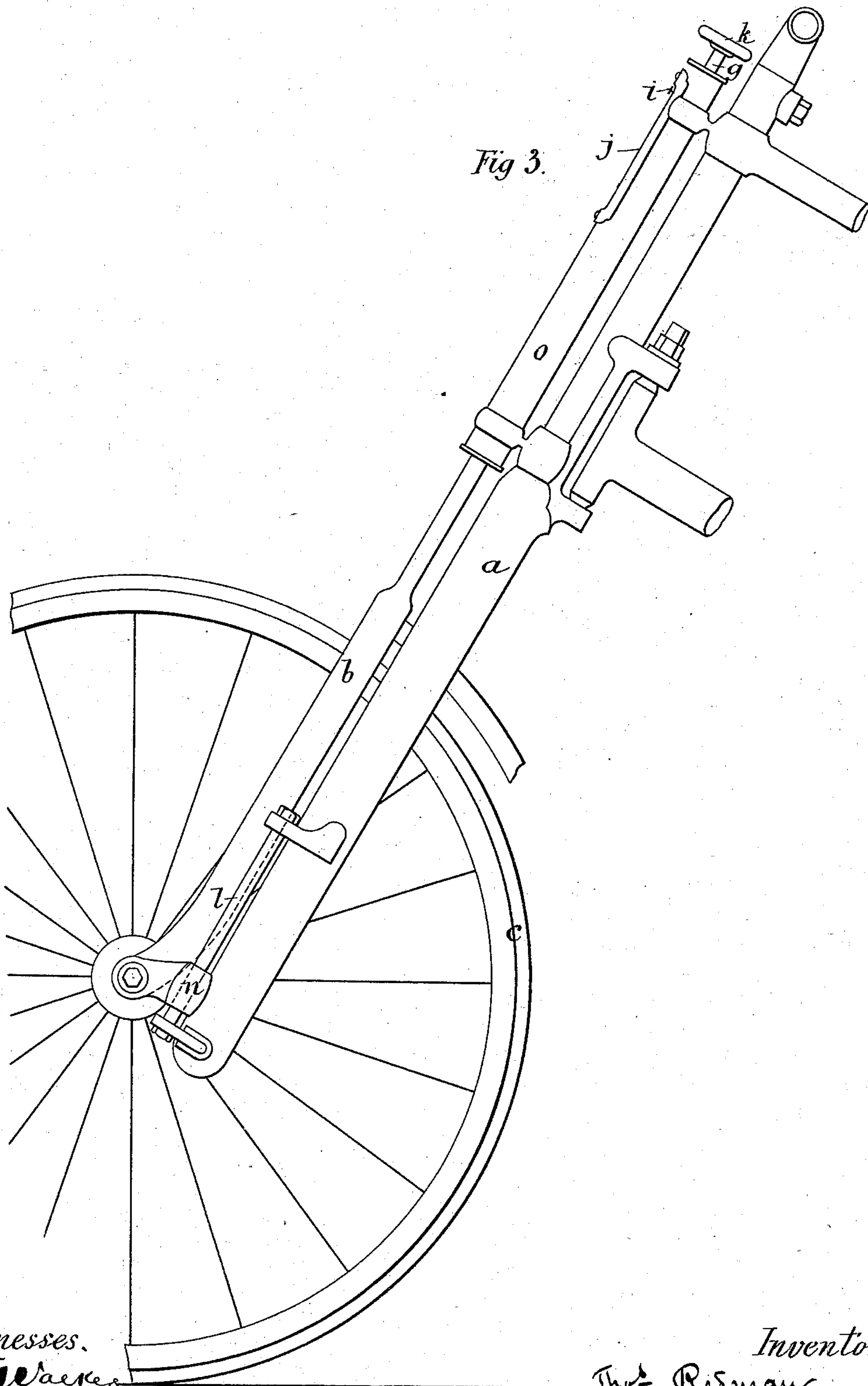
(No Model.)

T. REDMAN.
VELOCIPEDE.

3 Sheets—Sheet 3.

No. 385,136.

Patented June 26, 1888.



Witnesses.

E. W. Wailes
L. B. Whitaker

Inventor.

Thos Redman
By his attys
Whitaker & Brewster

UNITED STATES PATENT OFFICE.

THOMAS REDMAN, OF BRADFORD, ENGLAND.

VELOCIPEDE.

SPECIFICATION forming part of Letters Patent No. 385,136, dated June 26, 1888.

Application filed December 1, 1887. Serial No. 256,714. (No model.)

To all whom it may concern:

Be it known that I, THOMAS REDMAN, a subject of the Queen of Great Britain, residing at Bradford, England, have invented new and useful Improvements in Velocipedes, of which the following is a specification.

My invention relates to velocipedes, and chiefly to rear-driving safety-bicycles and bicycle-steering tricycles and tandems, and has for its chief objects to provide improved means for more effectually than heretofore preventing or reducing the shocks caused by the wheels of velocipedes coming into contact with stones and inequalities usually met with on common roads, and to render such means adjustable to riders of different weights.

My said invention consists, essentially, in combining with the main fork of a wheel a second fork in which the wheel is supported, the said second fork being adapted to slide relatively to the main fork, the latter serving as a guide for the former.

In the accompanying drawings, Figure 1 is a sectional front elevation showing the adaptation of my improvements to the front or steering wheel of a rear-driving safety-bicycle, bicycle-steering tricycle, or tandem, and Fig. 2 is a side elevation of the same, partly in section. Fig. 3 is a side elevation showing a modification of my invention, and Fig. 3^a the spring.

a indicates a steering-fork of the kind usually employed in velocipedes of the class hereinbefore referred to.

b is the auxiliary fork, hereinafter termed the "vibrating fork."

c is the wheel carried in the vibrating fork. *d d* are bearings in which the axle of the said wheel are journaled, and *e e* are slots in the lower ends of the fork *a*, in which the projecting ends of the bearings *d d* slide, and which serve as guides for the lower end of the fork *b*. The upper end or shank of the fork *b* is guided in the shank of the fork *a*, which latter contains a spring, *f*, against which the upper end of the shank of the fork *b* or a collar thereon bears.

By arranging the two forks relatively to each other in the manner hereinbefore described the wheel is prevented from coming into contact with the fork, as has heretofore frequently been the case when arrangements for neutralizing

the vibrations of velocipedes have been employed.

In order to provide for regulating the tension of the spring *f* to suit riders of varying weights, I provide the screw-rod *g*, which passes through the head or cap of the shank of the fork *a*. Upon the screw-rod *g* is a collar, *h*, which bears upon the upper end of the spring *f*, which collar is prevented from revolving by a pin, *i*, passing through a slot, *j*, in the shank of the fork *a*. Alongside this slot is placed a graduated scale, over which a pointer or finger secured to the pin *i* is adapted to travel, so as to enable the spring to be set to support a rider of any specified weight by turning the screw in one or the other direction, as desired.

k is a wheel or handle by which the screw is turned.

The spring *f* must be of less diameter than the interior of the hollow shank of the fork *a*, as otherwise when the spring is compressed it will not work freely, owing to the increase in its diameter under compression. In order to prevent the spring from rattling against the internal side of the hollow shank, and thereby making a noise, I preferably make the same of a somewhat distorted shape—for instance, as shown in Fig. 3^a—so that it will bear against the shank at one or more points without its free movement being thereby impeded.

In the modification of my invention shown in Fig. 3 the vibrating fork is adapted to slide at its lower end upon guides *l*, outside the fork *a*, by means of sockets *m*, and the shank of the said vibrating fork is contained in a cylinder, *o*, attached to the shank of the fork *a*.

In some cases the cylinder *o* is dispensed with, the spring being then retained in position around the shank.

I wish it understood that I do not limit myself to the precise construction hereinbefore described, as it is obvious that I may considerably modify the same without departing from the nature of my invention.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is—

1. In a velocipede, the combination, with the backbone or frame, of two forks, one provided with wheel-bearings and the other movably

mounted upon the bearing-fork and pivoted to the frame, a spring interposed between the two forks, and a stationary rotating screw and movable nut for adjusting the force of said
5 spring, substantially as described.

2. In a velocipede, the combination, with the backbone or frame, of two forks, one provided with wheel-bearings and the other movably
10 mounted upon the bearing-fork and pivoted to the frame and provided with a tubular portion, a coiled spring within said tubular portion, and a stationary rotating screw and movable
15 nut for adjusting the force of said spring, the said movable nut bearing against the upper end of said spring, and the upper end of the bearing-fork bearing against the lower end of the spring, substantially as described.

3. In a velocipede, the combination, with the backbone or frame, of two forks, one provided
20 with wheel-bearings and the other pivoted to the frame and provided near its upper end with

a tube parallel therewith, and a coiled spring within said tube, said fork being also provided with guides, said bearing-fork being provided with ears engaging said guides, and having its
25 upper end extending within said tube and engaging the lower end of said spring, substantially as described.

4. In a velocipede, the combination, with the backbone or frame, of two forks, one provided
30 with wheel-bearings and the other movably mounted on the bearing-fork and pivoted to the frame, a spring interposed between the two forks, a stationary rotating screw and movable nut for adjusting the force of said
35 spring, a dial-plate, and a pointer connected with the movable nut, substantially as described.

THOS. REDMAN.

Witnesses:

WM. CLARK,
ALBERT SMITH.