

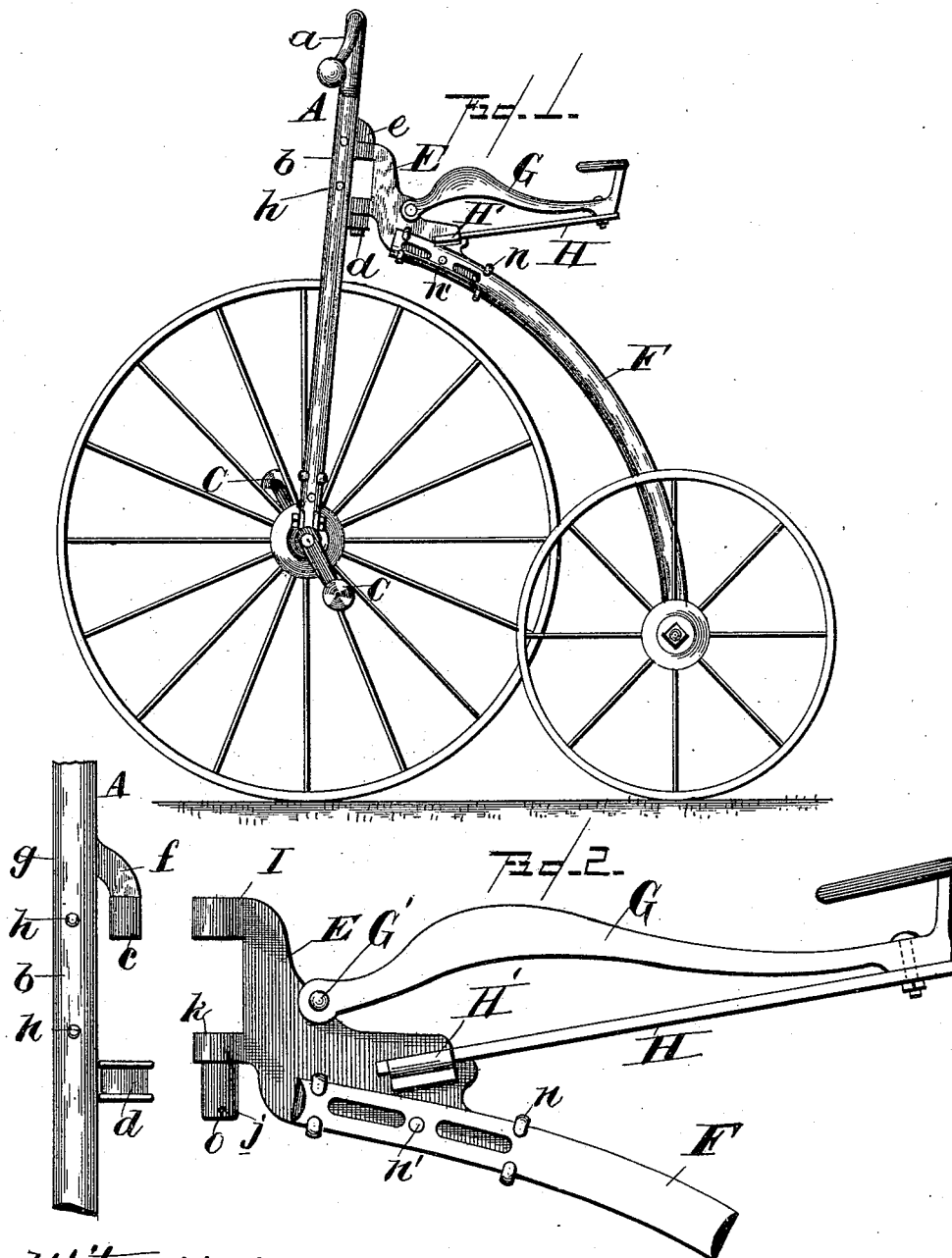
(No Model.)

2 Sheets—Sheet 1.

F. NEWHOUSE.  
VELOCIPEDE.

No. 420,826.

Patented Feb. 4, 1890.



Witnesses

Fred. R. Cornwall,  
L. S. Bacon,

Inventor

Frederick Newhouse  
by James Whittemore  
his atty.

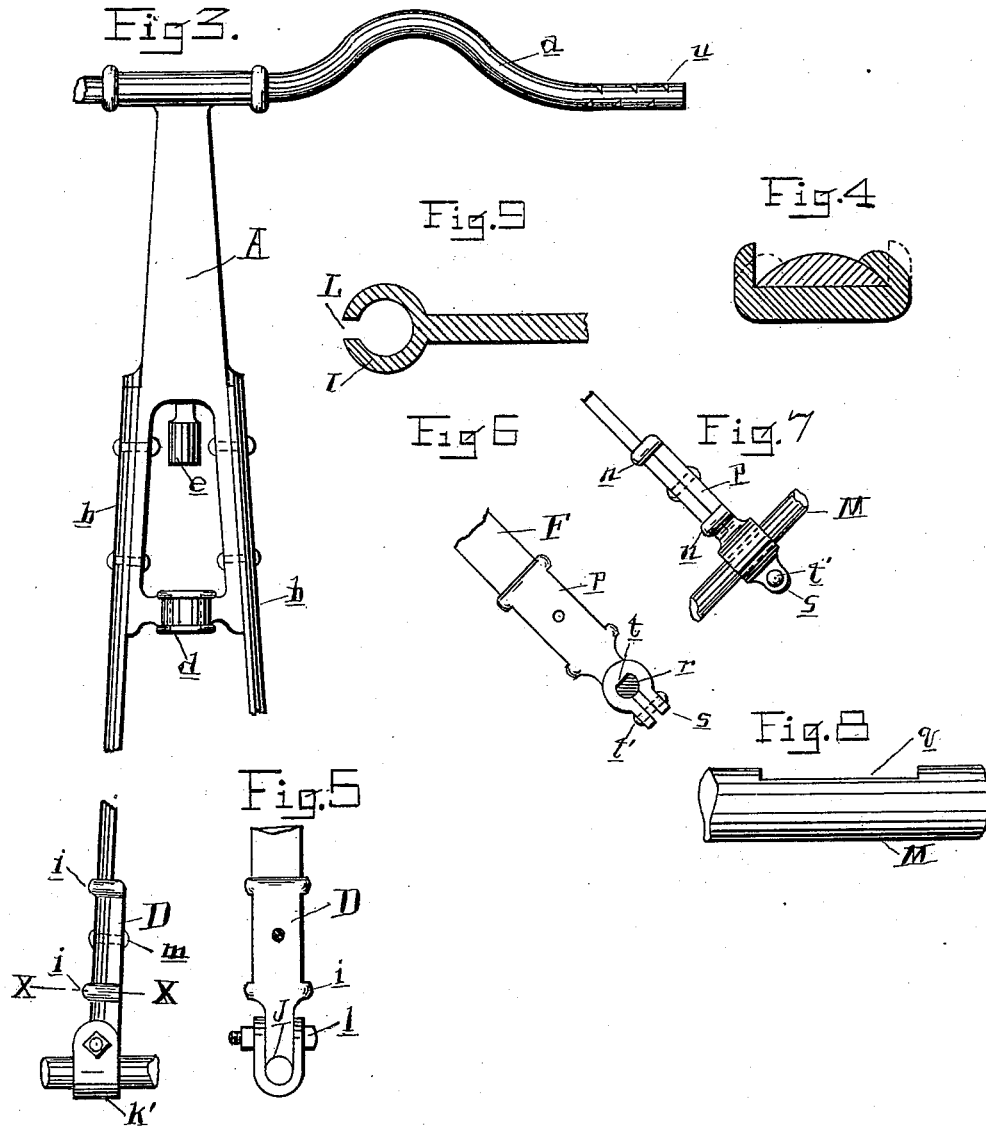
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Witnesses:  
W. E. Gilbert  
James B. May

Inventor:  
Frederick Newhouse  
By James Whittenmore  
Atty.

# UNITED STATES PATENT OFFICE.

FREDERICK NEWHOUSE, OF TOLEDO, ASSIGNOR TO THE HARRIS METAL WHEEL COMPANY, OF AUBURNDALE, OHIO.

## VELOCIPEDE.

SPECIFICATION forming part of Letters Patent No. 420,826, dated February 4, 1890.

Application filed October 1, 1889. Serial No. 325,731. (No model.)

*To all whom it may concern:*

Be it known that I, FREDERICK NEWHOUSE, a citizen of the United States, residing at Toledo, in the county of Lucas and State of Ohio, have invented certain new and useful Improvements in Velocipedes, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to new and useful improvements in velocipedes; and the invention consists in the peculiar construction of the various parts, whereby the machine is simplified and at a reduced cost, and whereby the velocipede is more easily put in a "knock down" position for shipping, effecting at the same time the construction of a velocipede of great strength and durability, and, further, in the construction, arrangement, and combination of the various parts, all as more fully hereinafter described.

In the drawings which accompany this specification, Figure 1 is a side elevation of my improved velocipede. Fig. 2 is a side elevation, partly in section, of the upper portion of the standard and backbone-head with the parts in position ready to be coupled together. Fig. 3 is an enlarged elevation of the standard detached. Fig. 4 is a section on line *x x* in Fig. 3. Fig. 5 is a side elevation of the lower end of one of the bifurcations of the standard. Fig. 6 is a section through the rear axle, showing the connection of the backbone therewith in elevation. Fig. 7 is an elevation of the backbone-connection to the rear axle at right angles to Fig. 6. Fig. 8 is an elevation of the rear axle at the points at which the backbone is connected, and Fig. 9 is a section on line *y y* of the backbone-head detached.

A is the stem of the standard, having cast integral therewith the handle *a*, and provided at its lower end with the inclined bearings *b*. These bearings are preferably connected at their lower ends by a web *c*, extending rearwardly and carrying the sleeve *d*. Between the bearings *b* and projecting rearwardly is the pin *e*, connected with the stem by means of the contracted lug *f*.

*g* are shoulders at the upper end of the inclined bearings *b*, against which the upper

ends of the side pieces *B* impinge. These side pieces are secured by suitable rivets *h* to the inclined bearings *b*, and extend downwardly and outwardly, having formed on their outer ends bearings for the axle of the drive-wheel, which is provided with the usual cranks and pedals *C*.

The bearings at the lower end of the side pieces consist of the bearing-pieces *D*, preferably cast of malleable iron and provided with the outwardly-projecting lugs *i*, which are adapted to be bent over upon the side pieces to firmly secure the bearing-pieces thereto, as shown in dotted lines in Fig. 4. The lower end of this bearing-piece has a suitable curved face *j*, resting upon the upper side of the axle of the drive-wheel, and a U-shaped strap *k* passes around the lower side of the axle and is secured to the bearing-piece by the bolt *l*. If desired, for greater security a rivet or rivets *m* may be used to connect the two parts together.

E is the backbone-head, having secured thereto the bifurcated backbone *F*. I preferably secure the bifurcations of the backbone to the backbone-head by casting suitable lugs *n* upon the backbone-head, which are adapted to be turned down upon the bifurcations of the backbone, as shown in Fig. 2, and suitable rivets *n'* may be used, if desired, to more securely fasten the parts together.

G is the seat, pivotally secured at *G'*, by means of a bolt, to the head of the backbone.

H is a spring secured to the outer end of the seat in any desired manner, and slidingly engaging in a suitable aperture *H'* in the backbone-head. The forward end of the backbone-head is provided at its upper side with the split sleeve *I* and at its lower side with the pin *J*, having a flange *K*. The aperture *L* in the sleeve *I* is of suitable width to engage over the lug *f* of the pin *e* at the same time that the pin *J* is opposite the aperture in the sleeve *d*. By lowering the parts it is evident that the sleeve *I* will engage over the pin *e* at the same time that the pin *J* enters the sleeve *d*, the parts being arrested in their downward movement by the flange *k* striking upon the top of the sleeve *d*.

A suitable pin may be put through the eye O in the pin J to prevent the accidental disengagement of the parts.

The bifurcations F of the backbone are provided at their lower ends with the bearing-pieces *p*, which are secured to the parts F in the same manner as the bearing-pieces *d* are secured to the side pieces *b*, before described, by means of lugs or rivets.

The rear axle M is provided with the cut-away portions *q* at the points where the bearing-pieces *p* engage. These bearing-pieces are provided at their lower ends with the lugs *q'*, which form between them the apertures *r* and extend downwardly in the clamping-lugs *s*. The aperture *r* has the squared portions *t* on its upper side adapted to engage into the cut-away portion *q* of the axle.

To secure the parts together, the axle is engaged through the aperture *r* until the squared portion *t* engages in the cut-away portion *q*, when the clamping-lugs *s* are brought together and clamped in position by means of a suitable rivet *t'*, firmly holding the bifurcations of the backbone upon the rear axle, which is prevented from turning by the construction described.

The handles *a* are provided upon their ends with suitable notches *u*, the handle *u'* being driven thereon, no further securing devices being required than the notches *u*.

To put my velocipede thus constructed in a knockdown condition all that is necessary to be done is to remove the pin *o*, allowing of the disengagement of the standard and the backbone, and the bolt G, which allows of the disengagement of the seat from the backbone. The hind wheels, seat, and standard are now separated, and the device is in the most convenient shape for packing or shipping. The reverse operation enables the operator to combine the machine.

By using the lugs upon the bearing-pieces the fewest possible rivets are required, together with the greatest strength of the parts, as it is evident that the bearing-pieces, as

shown in the drawings, have three points of bearing upon the backbone and side pieces, which prevents any danger of their being twisted off or otherwise damaged, as is the case when they are simply riveted on by a single rivet, without the use in addition of the lugs.

What I claim as my invention is—

1. In a velocipede, the backbone having a split sleeve and a pin, a standard having projecting rearwardly a pin, and a sleeve, the former connected to the standard by a contracted lug, substantially as described.

2. In a velocipede, the standard consisting of the stem having inclined sides forming bearings for side pieces, side pieces secured thereto, a bearing for the front wheel formed on the lower ends of the side pieces, and consisting of the upper half secured by lugs to the side pieces, and a U-shaped lower half bolted thereto, substantially as described.

3. In a velocipede, the rear axle having a cut-away portion, the side pieces secured to the rear ends of the bifurcations of the backbone, provided with an aperture to receive the axle, and squared portions *t*, adapted to enter the cut-away portion of the axle, and clamping-lugs *s*, substantially as described.

4. In a velocipede, the combination of the following elements: the backbone-head E, the bifurcated backbone F, secured to the backbone-head by lugs *n*, the bearing-pieces *p*, secured to the lower ends of the backbone by means of clamping-lugs, apertures through said bearing-pieces having the squared portion *t*, the rear axle having a cut-away portion adapted to bear against the squared portion *t*, and the clamping-lugs *s*, substantially as described.

In testimony whereof I affix my signature, in presence of two witnesses, this 19th day of September, 1889.

FREDERICK NEWHOUSE.

Witnesses:

JAMES STRATTON,  
H. NORDEN.