(No Model.) 2 Sheets—Sheet 1.

P. GENDRON.

VELOCIPEDE.

No. 400,074. Patented Mar. 26, 1889.

Fig. 1.

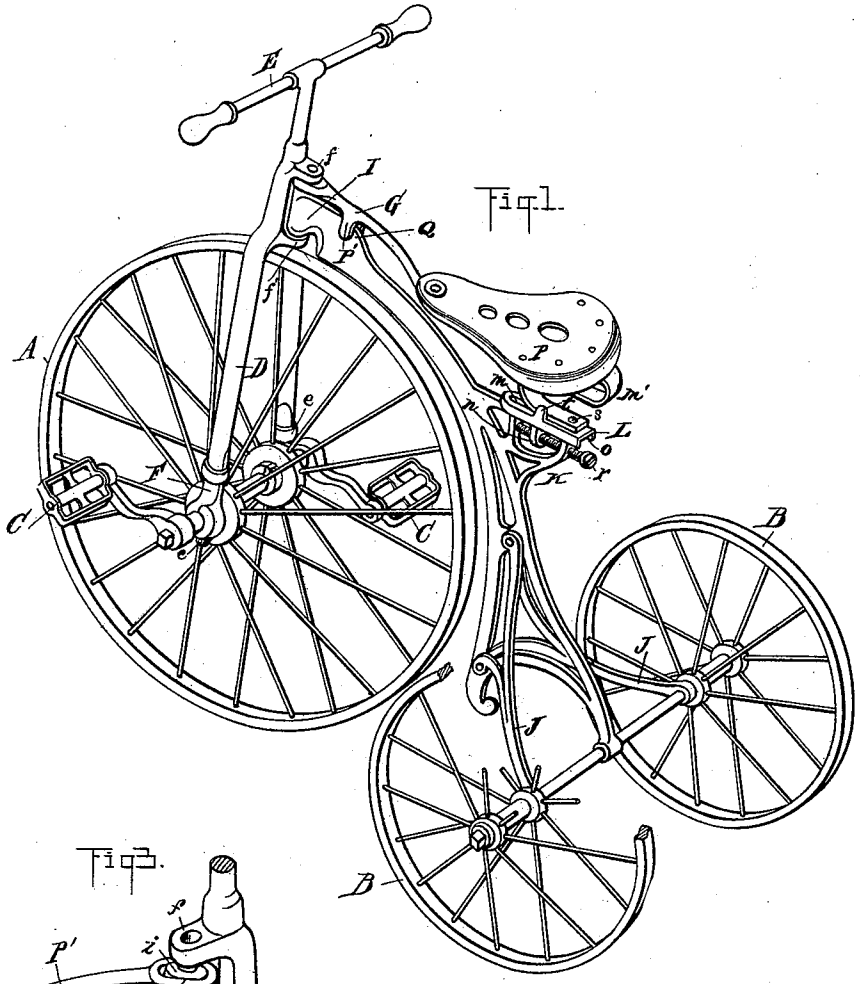


Fig. 2.

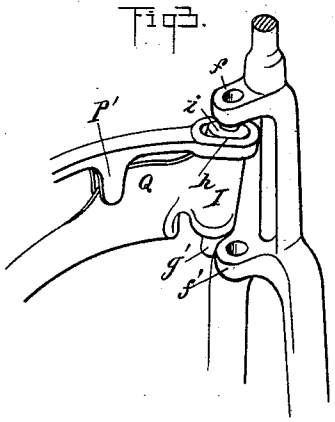
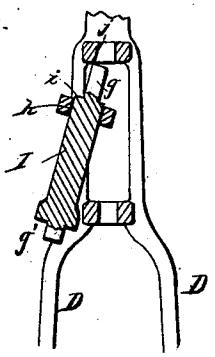


Fig. 4.



Attest.
A. J. Sprague.
P. M. Hulbert

Inventor.
Peter Gendron
By Thos. A. Sprague & Son
Attys.

N. PETERS, Photo-Lithographer, Washington, D. C.

(No Model.) 2 Sheets—Sheet 2.

P. GENDRON.

VELOCIPEDE.

No. 400,074. Patented Mar. 26, 1889.

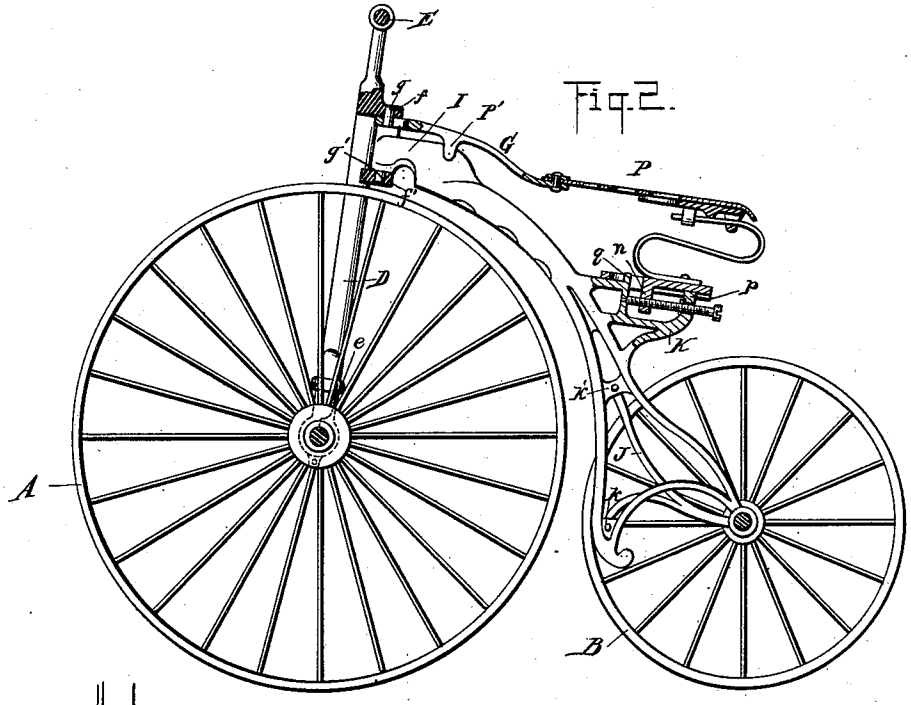


Fig. 2.

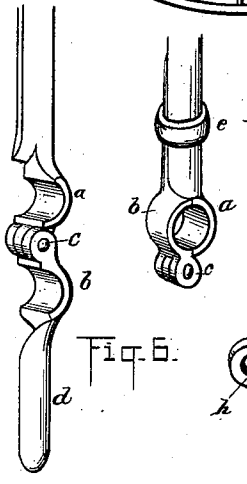


Fig. 6.

Fig. 5.

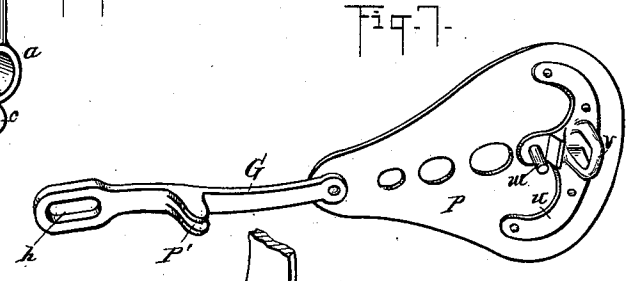


Fig. 7.

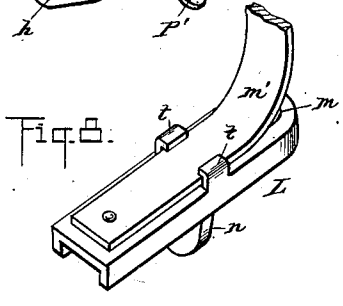


Fig. 8.

Attest.
F. J. Johnson
P. M. Hulbert

Inventor.
Peter Gendron
By Thos. D. Sprague & Son
Attys

N. PETERS. Photo-Lithographer, Washington, D. C.

UNITED STATES PATENT OFFICE.

PETER GENDRON, OF TOLEDO, OHIO, ASSIGNOR TO THE GENDRON IRON WHEEL COMPANY, OF SAME PLACE.

VELOCIPEDE.

SPECIFICATION forming part of Letters Patent No. 400,074, dated March 26, 1889.

Application filed November 15, 1887. Renewed January 23, 1889. Serial No. 297,297. (No model.)

To all whom it may concern:

Be it known that I, PETER GENDRON, 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 the construction of velocipedes; and the invention consists in the peculiar construction, arrangement, and combination of different parts, whereby provision is made to secure the parts detachably together without the use of bolts, or with a minimum of bolts, so as to avoid the annoyance of the bolts becoming loose or lost, whereby devices of this kind, as now constructed, become so frequently inoperative or out of repair; and, further, to permit of readily taking the device apart and putting it together again without the use of special tools or a mechanic's skill, and so that it may be readily shipped in the knockdown condition without a multiplicity of parts and mounted without the help of skilled artisans and with a minimum of time; and, further, to provide ample strength and security to provide safe and easy sport to the younger generation without requiring the familiarity or deftness required in the use of the high-priced instruments with their consequently delicate mechanism.

In the drawings which accompany the specification, Figure 1 is a perspective view of my improved velocipede. Fig. 2 is a vertical central longitudinal section thereof. Fig. 3 is a detail perspective showing the detachable connection between the front standard and back frame. Fig. 4 is a section of the upper end of the standard. Fig. 5 is a detached perspective view of one of the bearings formed in the lower end of the standard. Fig. 6 is a similar perspective view of said bearing dismounted. Fig. 7 is a perspective view of the saddle detached and looking at the under side thereof. Fig. 8 is a detached perspective view of the adjustable saddle-clip.

A is the front wheel, and B are the hind wheels, the former constituting the drive-wheel by being fast upon its axle and provided with the usual foot-cranks, C, and the wheels B revolve loosely upon their axle. These wheels are preferably of the kind used for this class of vehicles.

D is a bifurcated standard, provided at the upper end with the usual steering-handle, E, and at the lower end with axle-bearings F, which are constructed as shown in Figs. 5 and 6, wherein *a* and *b* are equally-divided parts of the bearing, secured together by the hinged joint *c*. The half-bearing *b* terminates in the extension *d*, which, when the part-bearings are closed together, as shown in Fig. 5, forms a complement of the lower end of the standard, which, to receive this complementary part, is suitably cut away to form in connection with it a standard of oval cross-section, or nearly so, increasing slightly in thickness toward this axle-bearing, so as to hold in position the oval locking-ring *e*, which tightly wedges when forced down on the lower end of the standard, and may be easily shoved upwardly again when desired to open the bearings for the purpose of releasing the front wheel. By making the standard and bearing as described and shown, the ring *e* cannot be slipped off the standard in any way, except after the half-bearing *b* is removed. Thus in constructing the device the ring has to be mounted upon the standard before the half-bearing *b* is secured thereon. To dismount the front wheel from the standard is therefore accomplished by simply shoving up the rings *e* on the standard far enough to permit the hinged bearing to come apart and release the axle.

Near the upper end of the standard are formed two rearwardly-projecting ears, *f* and *f'*, which form bearings for the vertical pintles *g* and *g'*, formed upon the forward end or head, I, of the back frame, and by means of which and the saddle-strap G a detachable connection is made with the standard in the following manner: The forward end or head, I, has a limited vertical play between the ears *f* and *f'*, and the saddle-strap G is provided upon its forward end with an oblong slot, *h*, which is sufficiently large to permit of its being slipped below the shoulder *i* on the upper pintle, as shown in Fig. 3, and when the for-

ward end of the strap is brought to fit into the interval between the upper ear and the shoulder *i* and kept at its proper tension it is prevented from slipping down and locks the forward end of the back frame in position against any vertical play. This vertical play is given for the purpose of detaching the parts, which is done in the following manner: The tension upon the saddle being released in the manner as hereinafter described, the slotted end of the saddle-strap is brought down over the shoulder *i*, as shown in Fig. 3. Then, by inclining the back frame and front standard relatively to each other, as shown in Fig. 4, the lower pintle may be raised out of its bearing and the parts detached laterally, as shown in Fig. 4. To this end the bearing in the upper ear is cut upon one side slanting, as shown at *j* in Fig. 4. By the reverse of the operation just described the parts can be easily re-engaged again, and there is no screw or other movable piece liable to be lost in the whole combination, nor any tools whatever needed.

The back frame forms a single curved piece at its forward end, and is preferably made hollow for the sake of lightness. From about its middle toward its rear end it bifurcates in a vertical plane, the principal bifurcation reaching in a graceful curve toward the middle of the rear axle, where it terminates in a hub or collar embracing the rear axle, and secured thereto in any suitable manner. The lower bifurcation follows the sweep of the front wheel some little distance farther down and forms a return upward bend, which arches rearwardly and integrally connects with the upper bifurcation, all so arranged that a triangular truss is thereby formed, which strengthens the theoretically weak portion of the back frame, and imparting at the same time thereto a desirable degree of airiness. In one of the lower corners of this triangular truss is formed a web, *k*, and in one of the upper corners thereof is formed the web *k'*, such web being preferably formed integrally with the back frame, and these webs serve as points of attachment, preferably by riveting thereto, for the lateral braces J, which are bifurcated at their forward ends and connect to each web, and are run up to the rear axle and connect therewith by means of suitable hubs, so as to form stationary end bearings for the hubs of the hind wheels.

K is a bracket, preferably formed integrally with the back frame, and this bracket forms a support for the saddle, which is detachably secured thereto in the following manner:

L is a bearing-plate, provided with the slot *m* near its forward end and the dependent lug *n* and longitudinal mortise *o* upon its under side. This longitudinal mortise *o* adjustably engages with the tenon *p*, formed upon the upper end of the bracket, and its slot *m* adjustably engages with the tenon *q*, also formed in the upper end of the bracket. Below these tenons *p* and *q* of the bracket an adjusting-screw, *r*, is journaled therein and engages into a screw-threaded aperture of the dependent lug *n*, all so arranged that by this means the bearing-plate L is securely and adjustably secured on top of the bracket. To the upper face of this bearing-plate is secured the saddle-spring *m*, which is of **S** shape, preferably secured thereto by means of the single rivet *s* and two lugs, *t*, which embrace the spring upon opposite sides.

P is the saddle, made of leather or other flexible material, and detachably secured upon its under side to the saddle-spring *m* in the following manner: *u* is a curved saddle-iron securely riveted to the under side of the saddle, and this is provided with the dependent loop *v* and pin *w*, as shown in Fig. 2. The free end of the saddle-spring is passed through the loop and engaged by means of a suitable hole formed in its free end with the pin *w*. This connection, it will be seen, can be easily dissolved again by pressing the saddle sufficiently upward to disengage the pin *w* from its engagement with the hole in the spring, when the saddle may be easily slipped off.

To the forward end of the saddle is secured, by suitable rivets or otherwise, the metallic rigid saddle-strap G, before described. The forward end of this saddle is engaged with the pintle *g* of the back frame in the manner before described.

P is a crotch near the forward end of the saddle-strap, and in connection therewith the back frame is provided, corresponding therewith, with an upwardly-projecting wedge-shaped fin, Q, so arranged that the crotch P embraces the fin Q and clamps the same, and thereby forms a means for steadying the saddle against lateral sway, and at the same time provide against any accidental disengagement of the connections of said saddle.

What I claim as my invention is—

1. In a velocipede, the combination, with the drive-wheel and its axle, of a bifurcated standard provided at its lower ends with half-bearings integrally formed therewith, and with half-bearings hinged thereto and provided with stubs forming complementary parts of the standard, and having jointly therewith an oval cross-section of slightly-increasing area toward the lower ends of said standard, and locking oval sleeves upon said standard, substantially as described.

2. In a velocipede, a detachable connection between the back frame and the standard, the same consisting of two rearwardly-projecting ears formed on the standard, one above the other, and provided with vertical bearings, the upper one of which is enlarged at its lower end, of a head formed on the end of the back frame and adapted to engage between the ears on the standard and have a vertical play between, of two pintles on said head engaging into the bearings formed in said ears of the standard, and of a saddle-strap provided at

its forward end with a slotted locking-plate adapted to secure the parts detachably together, substantially as described.

3. In a velocipede, the detachable connection between the back frame and the standard, the same consisting of two rearwardly-projecting ears formed on the standard, one above and one below, a head formed on the front end of the back frame and adapted to engage between the ears on the standard and have a limited vertical play between the same, of two pintles on said head adapted to engage in vertical bearings formed in the ears of the standard, the upper one of which bearings is enlarged toward its lower end, of a saddle strap provided at its forward end with a slotted locking-plate adapted to detachably secure the head of the back frame to the standard, of a wedge-shaped fin formed on top of the back frame, and a crotch formed on the metallic saddle-strap adapted to engage with said fin on the back frame, substantially as described.

4. In a velocipede, the detachable connection between the back frame and the standard, the same consisting of two rearwardly-projecting ears formed on the standard, one above and one below, a head formed on the front end of the back frame, and adapted to engage between the ears on the standard and have a limited vertical play between the same, of two pintles on said head adapted to engage in vertical bearings formed in the ears of the standard, the upper one of which bearings is enlarged toward its lower end, of a saddle-strap provided at its forward end with a slotted locking-plate adapted to detachably secure the head of the back frame to the standard, and of a saddle secured by an upwardly-dissolving connection with the back frame, substantially as shown.

5. In a velocipede, the combination, with a front drive-wheel, a bifurcated standard in which said drive-wheel is journaled, a rear axle, two rear wheels journaled upon said rear axle, and a back frame, of a triangular vertical truss in one piece pivotally connected at the forward end to the standard and secured at the rear end to the center of the rear axle, and of two lateral bifurcated braces, the bifurcated front ends of which are secured to the main frame upon opposite sides thereof, and the rear ends of which are secured to the rear axle near the outer ends thereof, substantially as described.

6. In a velocipede, the combination of a front drive-wheel, a bifurcated standard in which said drive-wheel is journaled, a rear axle, two hind wheels journaled upon said rear axle, a back frame consisting of a main frame in one piece, substantially of the form of a triangular vertical truss, pivotally connected to the standard and at the rear end secured to the center of the rear axle, and two lateral bifurcated braces upon opposite sides, with their bifurcated front ends secured to webs formed in the corners of the truss, integral therewith, and with their rear ends secured at the ends of the rear axle, respectively, substantially as described.

7. The combination, with the back frame and bracket K, of the bearing-plate L, the **S**-spring secured thereto and provided with a hole in its free end, the saddle P, and the saddle-iron *n*, provided with the pin *w* and loop *v*, all arranged to operate substantially as described.

8. The combination, with the back frame and bracket K, of the bearing-plate L, adjustably secured upon said bracket, of the adjusting-screw *r*, journaled in stationary bearings in the bracket, and of the **S**-spring secured at one end to the bearing-plate and connected at the other end to the saddle and the saddle-strap, all substantially as described.

9. The combination, with the back frame, of the bracket K, having the upwardly-projecting lugs *p q*, the adjustable bearing-plate L, carrying the saddle-slot *m*, threaded lug *n*, and mortise *o*, formed on said bearing-plate, and the adjusting-screw *r*, all arranged substantially as described.

In testimony whereof I affix my signature, in presence of two witnesses, this 19th day of September, 1887.

PETER GENDRON.

Witnesses:
H. S. SPRAGUE,
P. M. HULBERT.