

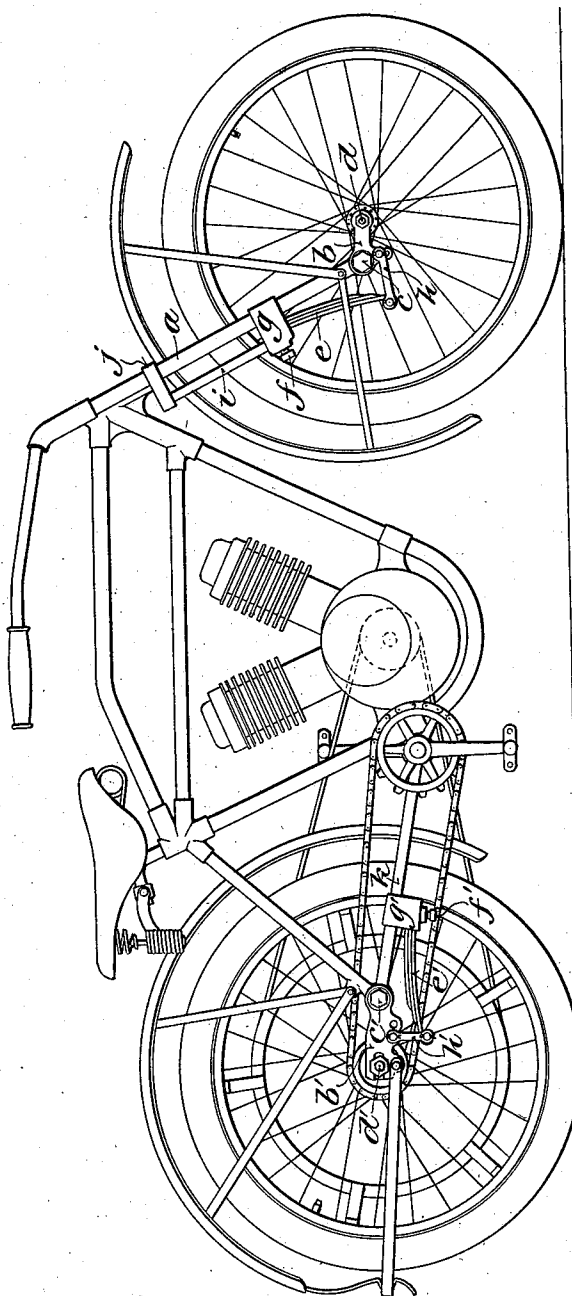
SPRING FRAME FOR VELOCIPEDES.
APPLICATION FILED JAN. 29, 1912.

Patented June 4, 1912.

2 SHEETS—SHEET 1.

1,028,470.

Fig. 1.



Witnesses:

Chas. L. Good.

Tred Palm

Inventor:

Frank Kittitschko.

By Flanders Rottum Fawcett Rottum
Attorneys.

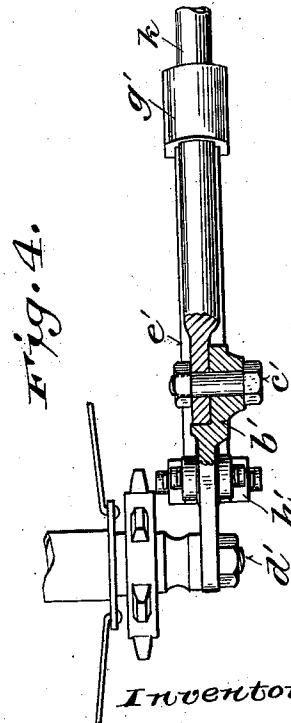
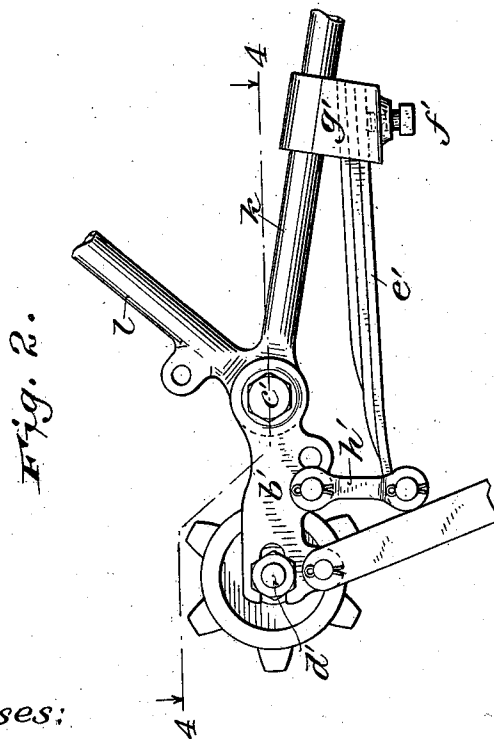
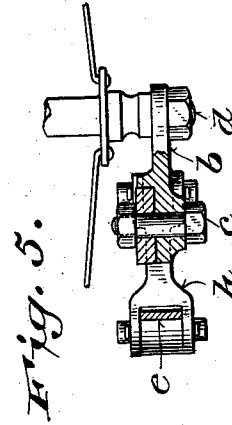
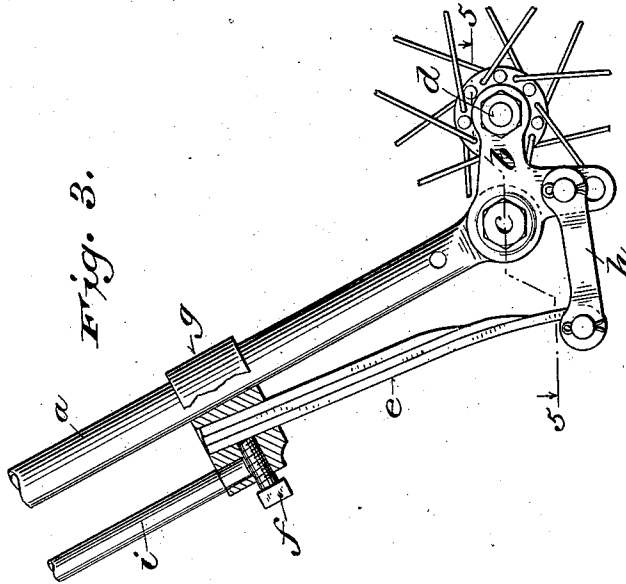
Attorneys.

F. KITLITSCHKO.
 SPRING FRAME FOR VELOCIPEDES.
 APPLICATION FILED JAN. 29, 1912.

1,028,470.

Patented June 4, 1912.

2 SHEETS—SHEET 2.



Witnesses:

T. Ed. Palm
 Chas. L. Goss.

Inventor:

Frank Kittlitschko

By Flanders Pottum Fawcett Pottum
 Attorneys.

UNITED STATES PATENT OFFICE.

FRANK KITLITSCHKO, OF MILWAUKEE, WISCONSIN, ASSIGNOR TO WAVERLEY MANUFACTURING COMPANY, OF JEFFERSON, WISCONSIN, A CORPORATION OF WISCONSIN.

SPRING-FRAME FOR VELOCIPEDES.

1,028,470.

Specification of Letters Patent.

Patented June 4, 1912.

Application filed January 29, 1912. Serial No. 674,138.

To all whom it may concern:

Be it known that I, FRANK KITLITSCHKO, a citizen of the United States, residing at Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented certain new and useful Improvements in Spring-Frames for Velocipedes, of which the following is a specification, reference being had to the accompanying drawing, forming a part thereof.

This invention relates more particularly to the construction of the wheel supports for motorcycles. Its main objects are to relieve the riders of such vehicles from the discomfort and to prevent injury to the motors and other parts mounted on the frames, incident to shocks and jars in running at high speed over rough or uneven roads, and for the attainment of these objects to provide means of such construction and design as will be strong and durable in service as well as attractive in appearance.

It consists in the construction and arrangement of parts as hereinafter particularly described and defined in the claims.

In the accompanying drawing like characters designate the same parts in the several figures.

Figure 1 is a side elevation of a motorcycle supplied with yielding wheel supports in accordance with the invention; Fig. 2 is an enlarged side elevation of one of the rear wheel supports; Fig. 3 is a similar view of one of the front wheel supports; Fig. 4 is a plan view and horizontal section on the line 4 4, Fig. 2, of one of the rear wheel supports; and Fig. 5 is a plan view and horizontal section on the line 5 5, Fig. 3, of one of the front wheel supports.

Referring to the drawing, *a* designates the front wheel fork, to the lower free ends of which are pivoted at their elbows by bolts *c*, angular or elbow-shaped levers *b*, having forwardly and downwardly projecting parallel arms. The front wheel axle *d* is fastened at its ends in the front ends of the forwardly projecting arms of said levers parallel with the pivot bolts *c*. Leaf springs *e* are rigidly fastened at their upper ends by set screws *f* in clips or collars *g*, which are mounted on the members of fork *a* at a distance above their lower ends, the arrangement on each side being a duplicate of that on the other. The springs *e*, which are located on the rear side of the fork,

curve or diverge normally from the fork members toward their lower ends, and are connected at their lower ends by links *h* with the downwardly projecting arms of the levers *b*. The lateral strain to which the springs *e* are subjected is distributed between different points on the fork members, to prevent bending them and to render the clips or collars *g* more firm and stable, by stay rods or braces *i*, which are fastened at their ends parallel with the fork members in the clips or collars *g* and in clips or collars *j* secured on said members at some distance above the clips or collars *g*. The supports for the rear wheel are constructed and arranged in a like or similar manner.

To the rear ends of the rear wheel fork *k* and the lower ends of the adjoining braces *l*, are pivoted at their front ends normally in approximate alinement with the fork members, forked or longitudinally slotted levers *b'* in the rear forked or slotted ends of which are adjustably fastened the ends of the rear axle *d'* parallel with the pivot bolts *c'*. Leaf springs *e'* secured at their front ends by set screws *f'* and clips or collars *g'* to the fork members on the under side thereof, and curving or diverging normally therefrom toward their rear ends, are connected by links *h'* with the levers *b'* between the pivot bolts *c'* and the axle *d'*. The rear fork *k* being made stronger or stiffer than the front fork *a*, stay rods or braces such as are shown in connection with the front wheel supports, may be dispensed with.

To adjust the bearings so that they will yield more or less freely for riders of different weights, the downwardly projecting arms of the front levers *b* and the rear levers *b'*, are each formed with two or more holes for the connection therewith of the links *h* and *h'* at different distances from the pivot bolts *c* and *c'* or fulcrums of said levers.

In the operation of a motorcycle or bicycle equipped with wheel supports as herein shown and described, the axles *d* and *d'* will yield upward more or less against the tension of the springs *e* and *e'* as the wheels pass over rough or uneven road, and thereby relieve the rider as well as the frame of the machine and parts mounted thereon, from the jolting and jarring and possible injury to which they would otherwise be subjected.

Various modifications in the minor details

of construction and arrangement of parts may be made within the scope of the appended claims, without departing from the principle of the invention.

5 I claim:

1. The combination with a wheel fork, of levers pivoted to the ends of the fork members and connected at a distance therefrom by a wheel axle, leaf springs fastened to the
10 fork members and normally diverging therefrom toward their free ends, and links connecting the free ends of the springs with said levers so as to allow the axle to yield upwardly against the tension of the springs.

15 2. The combination with a wheel fork, of levers pivoted to the free ends of the fork members, a wheel axle carried by said levers at a distance from and parallel with their pivot connections with the fork members,
20 leaf springs rigidly secured to the fork members and normally diverging therefrom toward the free ends of said members and of the springs, and links connecting the free ends of the springs with said levers, the connections between said links and levers being
25 adjustable toward and from the pivot connections between the levers and fork members.

3. The combination with a front wheel
30 fork, of elbow-shaped levers pivoted at their elbows to the free ends of the fork members, and having forwardly and downwardly extending arms, an axle connected with and carried by the forwardly extending arms
35 of said levers, leaf springs secured at their upper ends to the fork members on the rear sides thereof and diverging normally there-

from toward their lower ends, and links connecting the lower free ends of said springs with the downwardly extending
40 arms of said levers.

4. The combination with a front wheel fork, of elbow-shaped levers pivoted at their elbows to the lower free ends of the fork members and having forwardly and down-
45 wardly projecting arms, an axle carried by said forwardly projecting arms, leaf springs secured by clips at their upper ends to the rear sides of the fork members, stay rods fastened at their lower ends to said clips and
50 at their upper ends to said fork members for distributing the strain on the springs between different parts of the fork members, and links connecting the lower ends of the springs with the downwardly projecting
55 arms of said levers.

5. The combination with a rear wheel fork, of levers pivoted to the rear ends of the fork members and extending rearwardly therefrom, an axle carried by said levers,
60 leaf springs secured at their front ends to the fork members on the under side thereof, and diverging normally therefrom toward their free ends, and links connecting the rear ends of the springs with said levers between
65 said axle and their pivot connections with the fork members.

In witness whereof I hereto affix my signature in presence of two witnesses.

FRANK KITLITSCHKO.

Witnesses:

W. S. HENRY,
ROY PUERNER.