

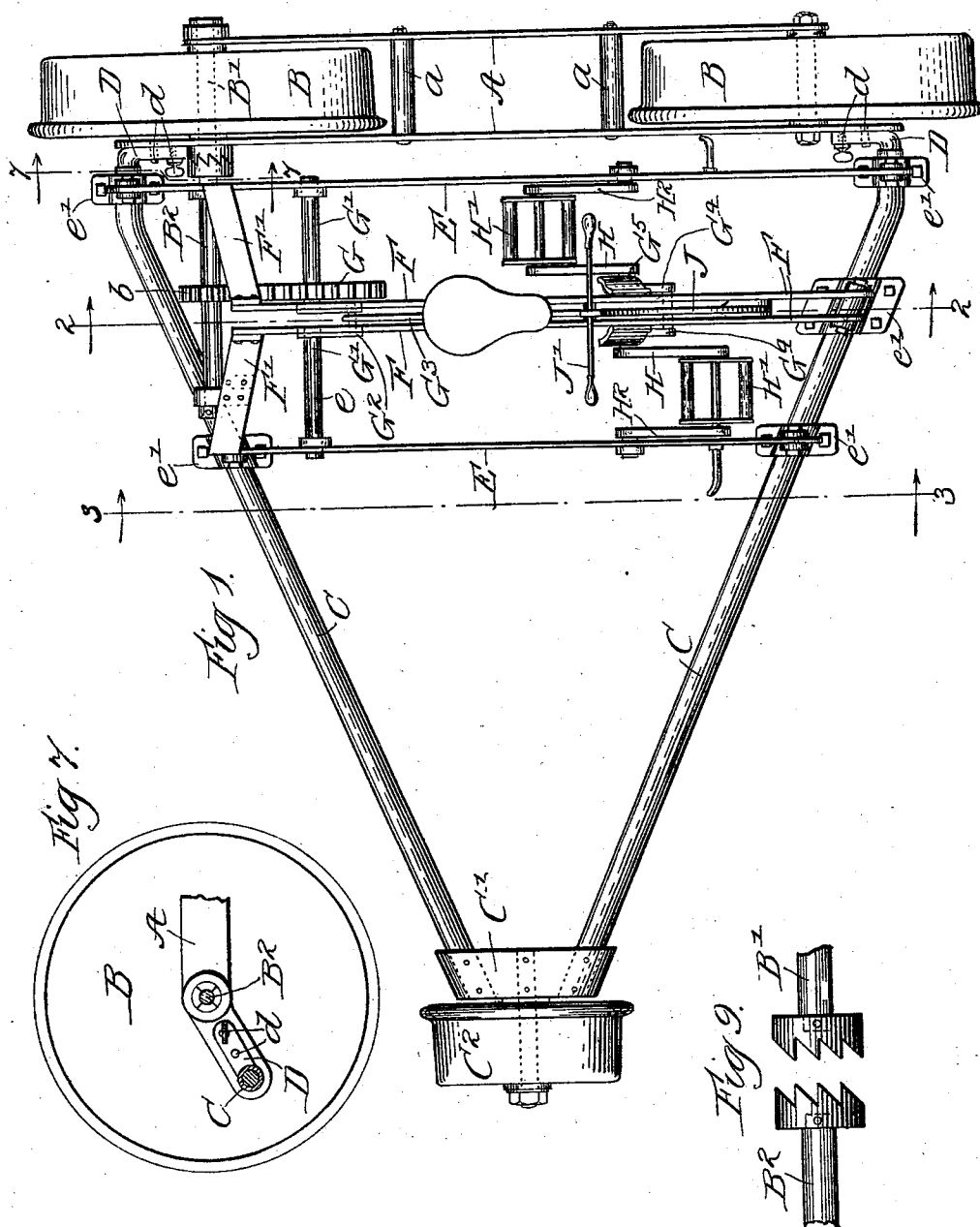
(No Model.)

3 Sheets—Sheet 1.

F. BRADY.
RAILWAY VELOCIPEDE.

No. 542,327.

Patented July 9, 1895.



WITNESSES:
Wm. L. Fleming
Jno. L. Condon

INVENTOR
Frank Brady
BY
Raymond & O'Connell
ATTORNEYS.

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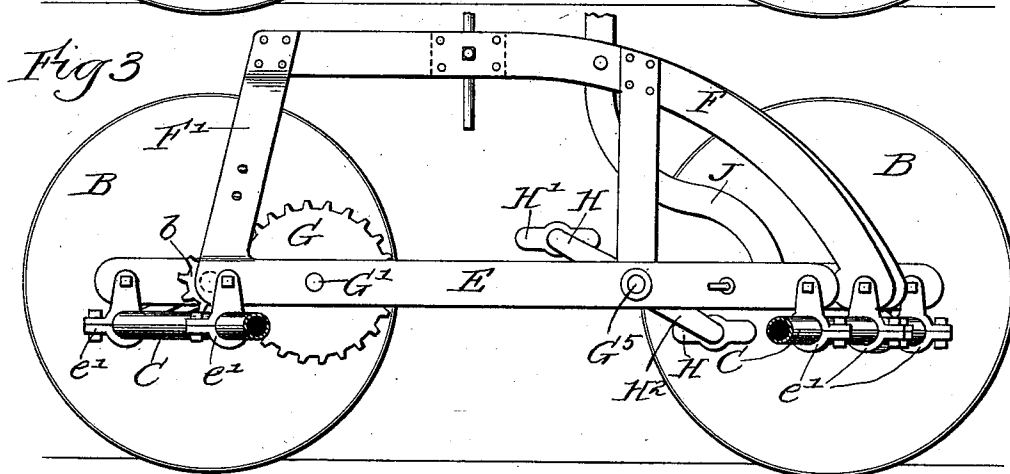
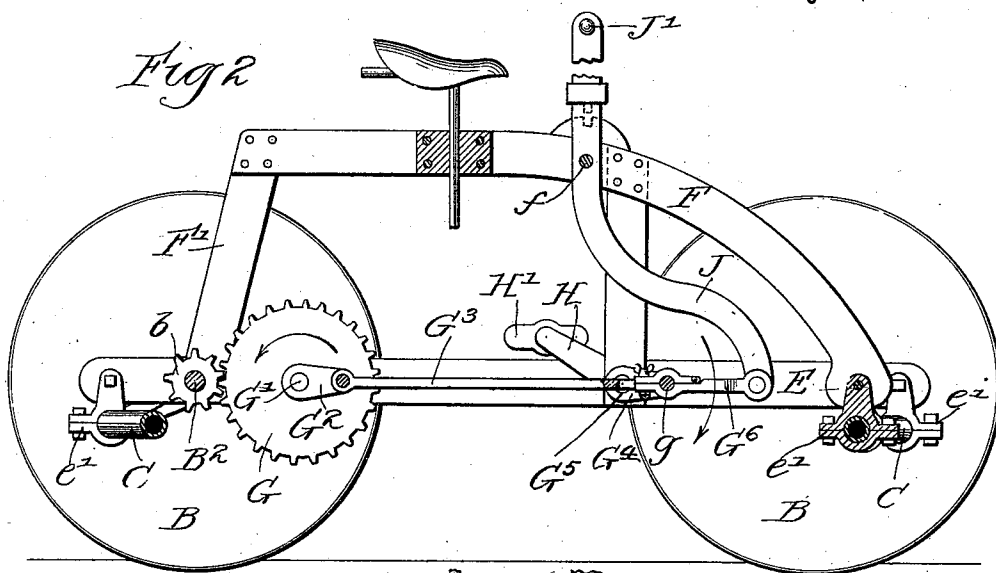


Fig. 4.

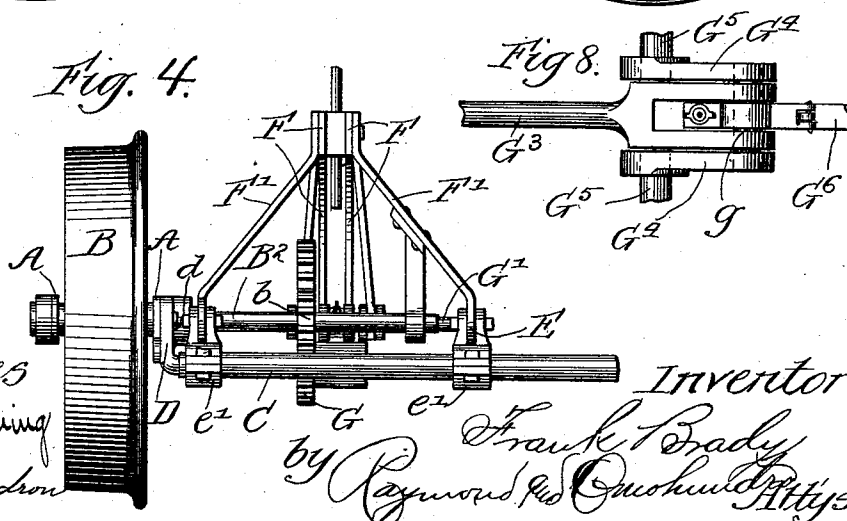
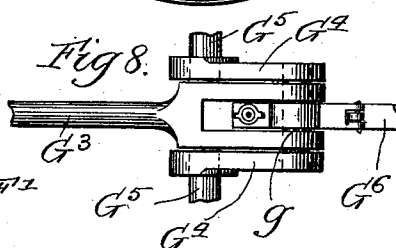


Fig 8.



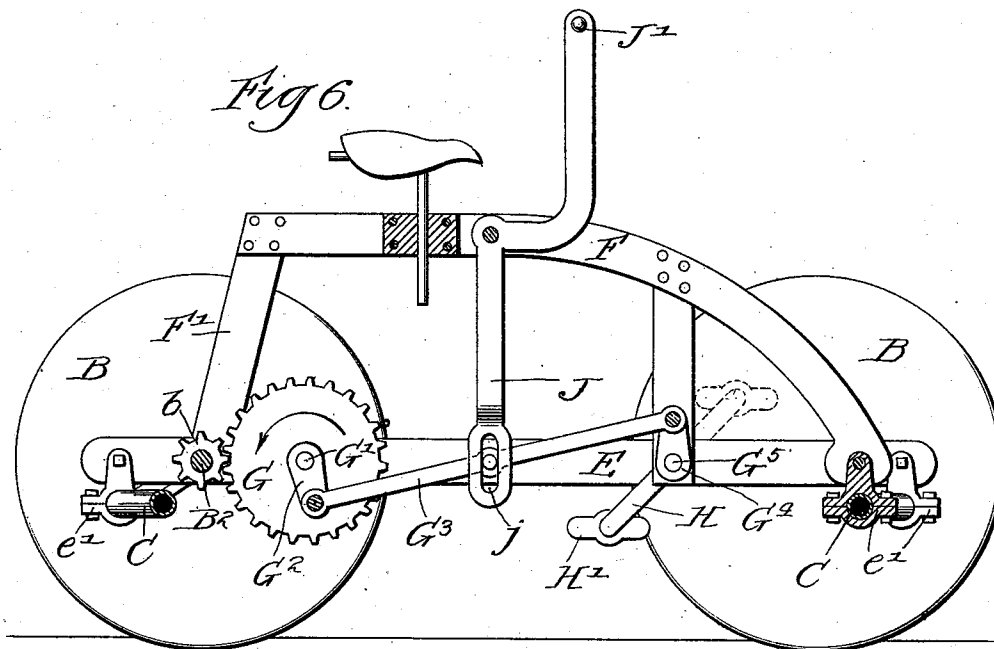
Witnesses
Wm. J. Fleming
Jno. L. Condon

Inventor
Frank Brady
by Raymond & Co. Attys

3 Sheets—Sheet 3.

No. 542,327.

Patented July 9, 1895.



Inventor
Frank Brady
by Raymond W. Ouchumbe, Jr.
Attys.

UNITED STATES PATENT OFFICE.

FRANK BRADY, OF CHICAGO, ILLINOIS.

RAILWAY-VELOCIPED.

SPECIFICATION forming part of Letters Patent No. 542,327, dated July 9, 1895.

Application filed May 26, 1894. Serial No. 512,526. (No model.)

To all whom it may concern:

Be it known that I, FRANK BRADY, a citizen of the United States, and a resident of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Railway-Velocipedes, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

My invention relates to improvements in railway-velocipedes, and has among its primary objects that of producing a railway-tricycle which shall be strong, durable, compact, and light in its construction, easy to propel, and capable of being at all times perfectly controlled, and which shall effectively apply the maximum amount of power developed by either or both the arms and legs of the rider.

The above-stated and such other objects as may appear from the ensuing description are attained by the construction illustrated in the accompanying drawings, in which—

Figure 1 is a plan view of my machine. Fig. 2 is a sectional view on the line 2 2 of Fig. 1. Fig. 3 is a sectional view on the line 3 3 of Fig. 1. Fig. 4 is a rear elevation of a portion. Figs. 5 and 6 are sectional views illustrating variations. Fig. 7 is a sectional view on the line 7 7 of Fig. 1. Fig. 8 is a detail of a part. Fig. 9 is a detail of the clutch.

In carrying out the invention, A represents two parallel bars or frames secured together and suitably spaced by bolts *a*, forming a framework in which the wheels B are journaled.

Are two outwardly-projecting arms or bars, preferably hollow or tubular in form, one engaged to each end of the frame A and their outer ends converging and engaged together by a block C'. In or to this block is journaled the wheel C², the latter being adapted to travel on the rail opposite to that traveled upon by the main wheels B. These bars C may be engaged to the frame A in any suitable manner; but I prefer to engage them by elbow arms D, one portion of which is detachably engaged to the frame A by bolts *d*, while the other portion enters the tubular end of

the bar C and is sweated or otherwise engaged thereon.

E represents bars extending from one bar C to the other, which form the supporting-frame for the seat and driving mechanism. These bars are suitably spaced by bolts *e* and are engaged to the tubular frame-bars by fittings *e'*.

F are two parallel seat-bars extending from one bar C at the front to the upright bars F' at the rear, the latter extending down to and engaged to the frame-bars E. The bars E F F' thus form a framework for supporting the driving-gear and seat mechanism.

B' is the axle of one of the main wheels D, preferably the rear wheel, and B² is an extension of the same, the axles B' B² being engaged together by any suitable clutch mechanism, preferably by a clutch formed of intermeshing teeth. (See Fig. 9.) It will thus be seen that by loosening the bolts *d* the entire seat and driving mechanism and frame C may be detached from the frame A, carrying the main wheels.

On the axle B² is a gear *b* which meshes with a gear G on the axle G', the latter journaled in the frame-bars E. On this axle is a crank-arm G². (See Fig. 2.)

G³ is a pitman connecting the crank-arm G² with the crank-arm G⁴ on the shaft or axle G⁵.

G⁶ is an extension of the pitman pivoted to the pitman, as at *g*, Fig. 8. On the shaft G⁵ are crank-arms H, and on the ends of these crank-arms are the foot-pedals H'. Pivoted to the outer end of the extension G⁶ is the arm J, which extends upward and is pivoted to the frame-bars F, as at *f*. This arm J is provided at its upper end with a handle-bar J'. It will thus be seen that by a revolution of the crank-arms H from foot-power, or from the reciprocation of the handle bar J' by hand-power, the gear G is revolved, and through it the small gear *b* and axle B² are revolved, thus driving the machine. To strengthen the parts the crank-arms H² may, if desired, be provided to support the outer ends of the pedals.

In Figs. 5 and 6 I have shown modifications of the invention, wherein instead of the bar J being pivoted to the outer end of the pitman

G⁶ it is pivoted intermediate between the foot-pedal crank-arm and the crank-arm G³, and in this case the pitman is hinged at this pivotal point to permit the movement of the parts.

5 In Fig. 7, instead of the pitman being divided and pivoted, the lower end of the arm J is provided with a slot j.

It will be seen by the above description that I have provided a railway-velocipede in which
10 the main carrying-wheels and frame can be easily and readily detached from the balance of the framework and from the driving-gear and seat mechanism; one in which but two
15 gears are employed for the driving mechanism; one in which both hand and foot power, or either one independently, may be employed to drive the machine, and one in which the parts, because of their peculiar construction, form a light, simple, and compact framework.

20 What I claim is—

1. In a railway velocipede, the combination with the main frame, of the detachable frame mounted thereon, the crank-shaft and foot
25 pedals, mounted thereon, the pitman-rod connected to said crank shaft, the gear operated

by said pitman the pitman and clutch mechanism, all arranged substantially as shown and described.

2. In a railway velocipede the combination with the main wheel, carrying frame and tubular radial arms carrying the auxiliary wheel
30 and driving mechanism, of elbow arms, one portion of which enters the tubular frame arms and the other portion of which is detachably bolted to the main wheel frame, sub-
35 stantially as described.

3. In a railway velocipede, the combination with the main and detachable frames, of the crank shaft, gear and pinion, the pitman connecting the crank shaft and gear, the foot
40 pedals mounted upon the crank shaft, and a hand-lever pivoted upon the detachable frame and connected with the pitman, whereby either hand or foot power, or both, may be
45 used, substantially as shown and described.

FRANK BRADY.

Witnesses:

W. R. OMOHUNDRO,
M. E. SHIELDS.