No. 840,442. PATENTED JAN. 1, 1907.

G. G. DAVIS.

LOCOMOTIVE.

APPLICATION FILED FEB. 16, 1906.

2 SHEETS—SHEET 1.

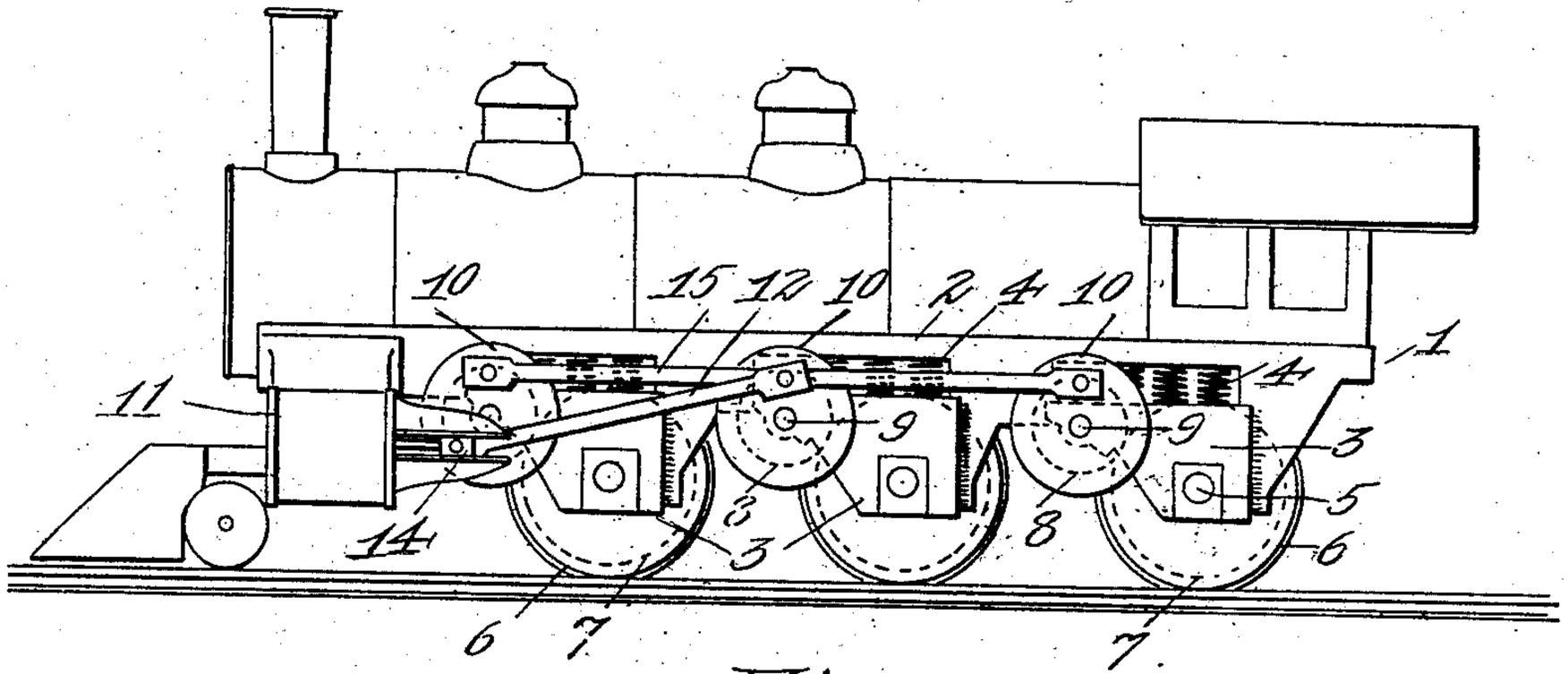



Fig. 1

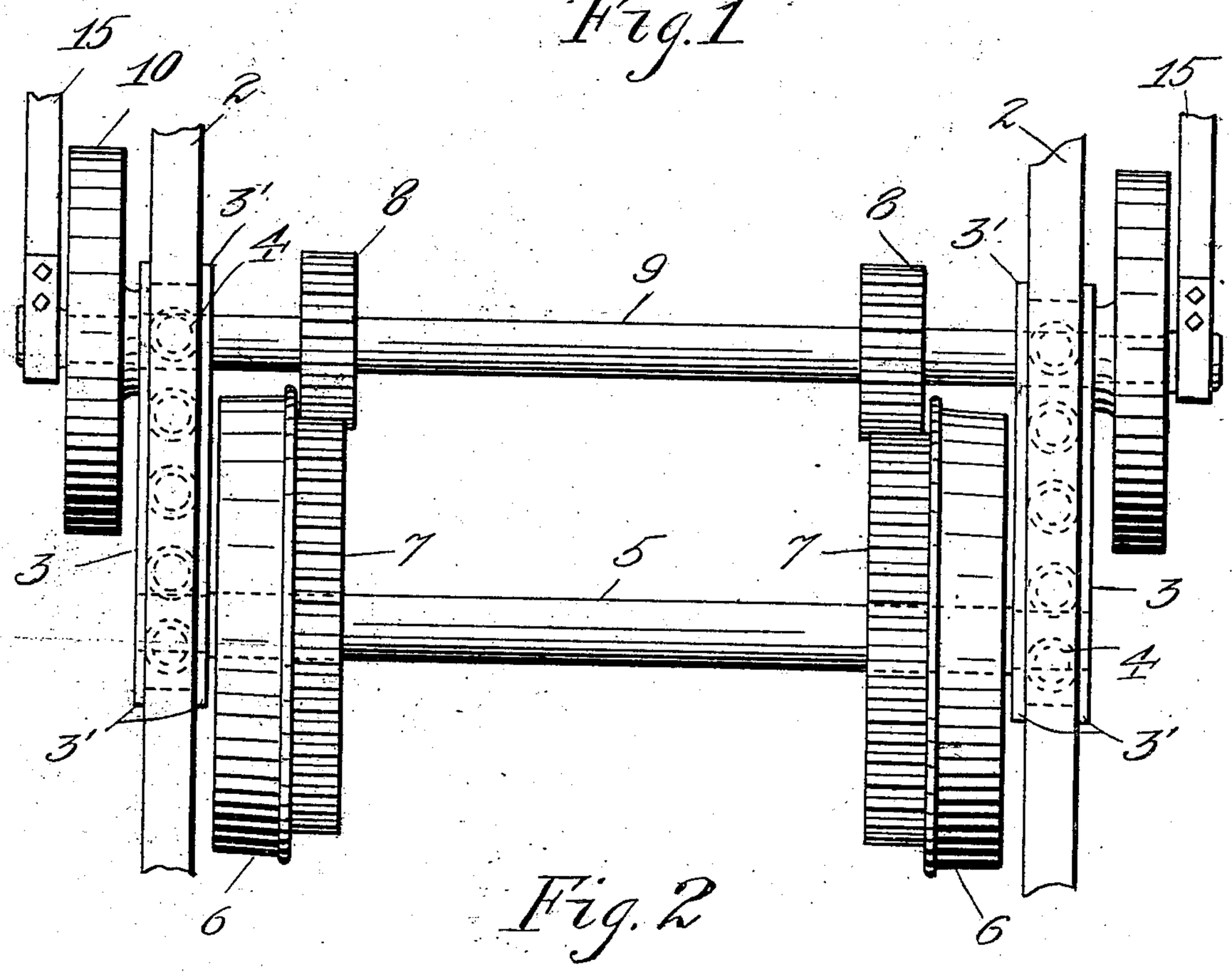



Fig. 2

Witnesses
Arlita Adams
Edward H. Cressman

Inventor
Gilbert G. Davis

By Adams & Brooks

Attorneys

No. 840,442. PATENTED JAN. 1, 1907.

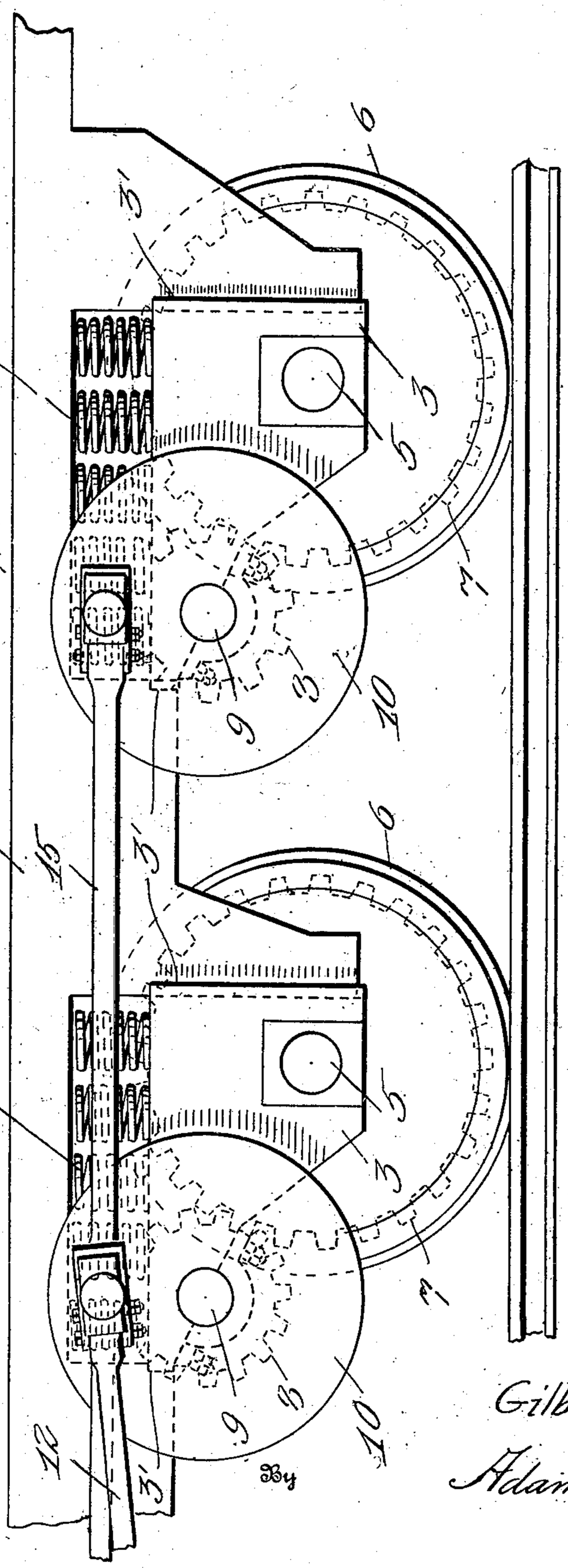
G. G. DAVIS.

LOCOMOTIVE.

APPLICATION FILED FEB. 16, 1906.

2 SHEETS—SHEET 2.

Fig. 3.




Witnesses
Arleta Adams
Edward W. Bressman.

Inventor
Gilbert G. Davis
Adams & Brooks
By

# UNITED STATES PATENT OFFICE.

GILBERT G. DAVIS, OF MUKILTEO, WASHINGTON.

## LOCOMOTIVE.

No. 840,442. Specification of Letters Patent. Patented Jan. 1, 1907

Application filed February 16, 1906. Serial No. 301,456.

*To all whom it may concern:*

Be it known that I, GILBERT G. DAVIS, a citizen of the United States of America, and a resident of the town of Mukilteo, in the county of Snohomish and State of Washington, have invented certain new and useful Improvements in Locomotives, of which the following is a specification.

My invention has for its primary object to provide simple and efficient connecting mechanism between the driving means and traction-wheels of locomotives or the like for increasing the tractive power.

With the above and other desirable objects referred to in the following in view my invention resides in the constructions, combinations, and arrangements of parts, as set forth in this specification and defined in the appended claims.

With reference to the accompanying drawings, in which similar reference-numerals designate corresponding parts throughout, Figure 1 is a view in side elevation of a locomotive embodying my invention. Fig. 2 is a fragmentary plan view on large scale, and Fig. 3 is fragmentary side view.

In the drawings reference-numeral 1 designates a main frame including side pieces, as 2, suitably formed to slidably embrace journal members, as 3, formed with vertical flanges 3′, which embrace said side pieces snugly but slidably, the said frame being yieldingly supported on the journal members by means of suitable springs, as 4.

Journaled in the members 3 are axles 5, upon which are mounted traction-wheels 6, which are rotatable with respective gears, as 7, consisting of spur-wheels conveniently formed integral with their respective traction-wheels. Meshing with the gears 7 are driving-gears 8, consisting of spur-pinions fixedly mounted on respective shafts 9, which are journaled each in its respective members 3 at opposite sides of the frame, thus insuring proper engagement of the gears at all times irrespective of horizontal movements of the main frame.

Secured to the shafts 9 are suitable cranks, as 10, which are preferably disposed at the outer side faces of their respective journal members 3, while the gears 7 and 8 are disposed at the inner sides of said members, thereby equalizing the strain imposed upon said journal members by their respective cranks and gears 8 when operating, and thus reducing the liability of said members being forced from vertical positions and binding upon their respective side pieces of the frame.

In the construction shown three traction-wheels are employed at each side of the main frame and likewise three cranks 10, which are connected with the means employed for driving the locomotive, the said means consisting of fluid-operative mechanisms disposed at opposite sides of said frame and each including a cylinder 11, mounted thereon.

To connect the cranks 10 with the driving means at their respective sides of the main frame, I provide at each side a connecting-rod 12, which is engaged with the intermediate crank and connected with a cross-head 14, secured to a piston in the respective cylinder 11, while a second rod 15 is connected with all three cranks at its respective side of the locomotive.

The improved connecting mechanisms above set forth can be readily embodied in constructing locomotives of the type shown without material changes being required in their general design and greater tractive power obtained by the use thereof.

Having ths described my invention, what I claim as new, and desire to protect by Letters Patent of the United States of America, is—

1. In a locomotive, the combination of a traction-wheel, a member provided with a bearing engaging the axle of said wheel, a main frame yieldingly supported on said member, and a rotatable driving element mounted on said member and operatively connected with said wheel.

2. In a locomotive, the combination of a traction-wheel, a member provided with a journal engaging the axle of said wheel, a main frame yieldingly supported on said member, a rotatable driving element mounted on said member and operatively related to said wheel, and driving means supported on said frame and connected with said element.

3. In a locomotive, the combination of a traction-wheel, a gear rotatable therewith, a member provided with a journal engaging the axle of said wheel, a main frame yieldingly supported on said member, and a toothed member rotatably mounted on said journal member and engaging said gear.

4. In a locomotive, the combination of a traction-wheel, a spur-gear rotatable therewith, a member provided with a journal engaging the axle of said wheel, a main frame yieldingly supported on said member, a

crank rotatably mounted on said member, and a spur-pinion rotatable with said crank and engaging said gear.

5. In a locomotive, the combination of a traction-wheel, a spur-gear rotatable therewith, a member provided with a journal engaging the axle of said wheel, a main frame yieldingly supported on said member, a crank rotatably mounted on said member, a spur-pinion rotatable with said crank and engaging said gear, and driving means supported on said frame and connected with said crank.

Signed at Seattle, Washington, this 27th day of January, 1906.

GILBERT G. DAVIS.

Witnesses:
FRANK E. ADAMS,
ARLITA ADAMS.