

(No Model)

W. W. MADDOX.
LOCOMOTIVE.

No. 585,530.

Patented June 29, 1897.

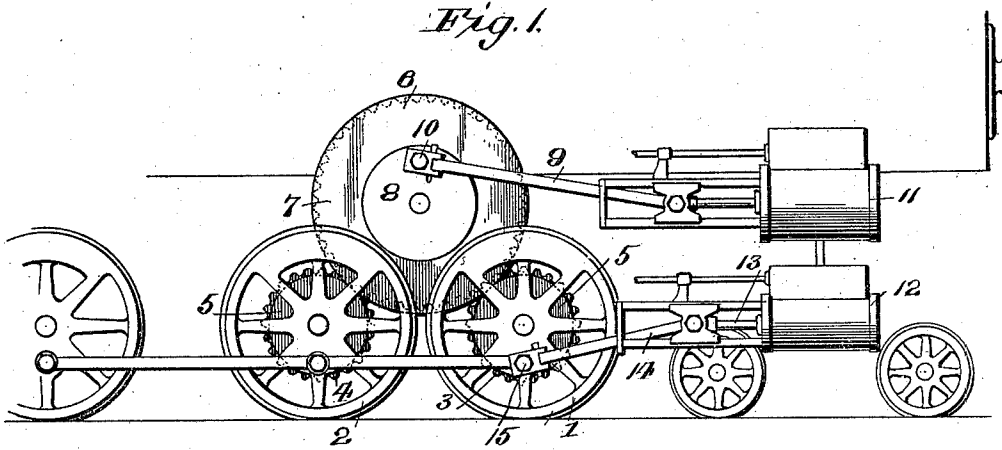


Fig. 2.

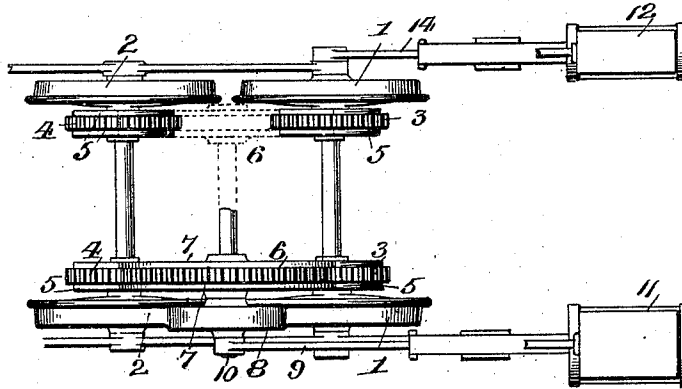
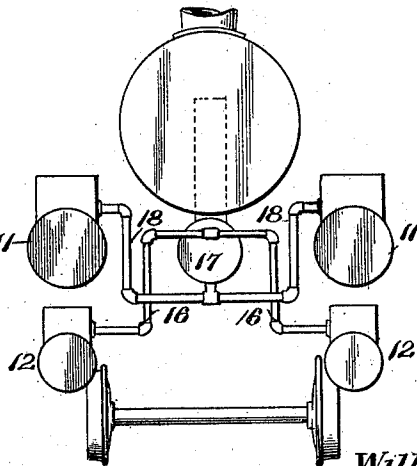


Fig. 3.



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LOCOMOTIVE.

SPECIFICATION forming part of Letters Patent No. 585,530, dated June 29, 1897.

Application filed January 29, 1897. Serial No. 621,179. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM W. MADDOX, a citizen of the United States, residing at Atlanta, in the county of Fulton and State of Georgia, have invented certain new and useful Improvements in Locomotives; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in locomotives, and has special reference to the driving mechanism, the object of the same being to so arrange the drive-wheels as to greatly accelerate the speed of the engine.

The invention consists in the relative arrangement and size of the driving-wheels, the same being arranged in pyramidal form and provided with intermeshing cogs and coacting friction-surfaces whereby a locomotive capable of a high rate of speed is provided.

In the accompanying drawings, Figure 1 is a side elevation of a portion of a locomotive, showing the arrangement of the driving mechanism. Fig. 2 is a top plan view of the same, showing the driving-wheels, the crank-disk, crank-pins, and the connecting-rods. Fig. 3 is an elevation of the front end of a locomotive.

Reference is made to the accompanying drawings, in which 1 and 2 represent the forward driving-wheels of a locomotive, upon the inner side of which and concentric thereto are the cog-wheels 3 and 4. These cog-wheels 3 and 4 have on either side of the cog portion a flange or friction surface 5. Journalled beneath the locomotive, above and at a point between said driving-wheels 1 and 2, is a power-transmitting wheel 6. This wheel 6 has its central portion cogged, as clearly shown in Fig. 2, and on either side of this cogged portion are the depending flanges 7, said cogged portion intermeshing with the cogs of the wheels 1 and 2, and said flanges 7 bearing upon the friction-surface 5 of said wheels when they are in the relative arrangement shown in Figs. 1 and 2.

Placed upon the outer surface or face of the wheel 6 is a crank-disk 8, of such size as to permit the connecting-rod 9 to work on the

outside of the driving-wheels 1 and 2 when connected to said crank-disk by the crank-pin 10. Through the medium of this connecting-rod and disk power is transmitted to the wheel 6, and from thence to the driving-wheels 1 and 2, as will be readily understood. The size of the cog-wheels may be varied, so that any desired rate of speed may be attained. In the present instance I have constructed the driving-wheel 6 twice the size of the cog-wheels 3 and 4; but it will be readily understood that the relative size may be varied at will without departing from the spirit of my invention.

Just beneath the cylinders 11 of the engine are the auxiliary cylinders 12, whose piston-rods 13 are connected to the outer faces of the wheels 1 by the connecting-rods 14 and the crank-pins 15.

Exhaust-pipes 16 extend from the cylinders 12 to the main exhaust 17, and pipes 18 connect the cylinders 11 with the same. This exhaust-pipe 17 is made large, so that a soft exhaust is secured.

It will be noticed from the above description that I have provided the driving-wheels with intermeshing cogs and also with friction-bearings, and thus their effectiveness is greatly increased.

From the above description it will be clearly understood that a locomotive constructed with my improved driving mechanism will have a rate of speed greatly in excess of the speed of any of the locomotives now in general use.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a locomotive the combination with the lower driving-wheels provided with cogged surfaces, friction-surfaces on either side of said cogged surfaces, upper driving-wheels adapted to rest upon and intermesh with the cogged portions of said lower driving-wheels, said upper wheels provided with friction-surfaces for engaging the friction-surfaces of the lower wheel, and means for transmitting power to the upper driving-wheels, substantially as described.

2. In a locomotive, the combination with the

driving-wheels arranged in pyramidal form,
the said wheels provided with coacting cogs
and friction-surfaces, and a means for trans-
mitting motion to the upper wheel of the
5 pyramid, substantially as shown and de-
scribed.

In testimony whereof I have signed this

specification in the presence of two subscri-
ing witnesses.

WILLIAM W. MADDOX.

Witnesses:

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