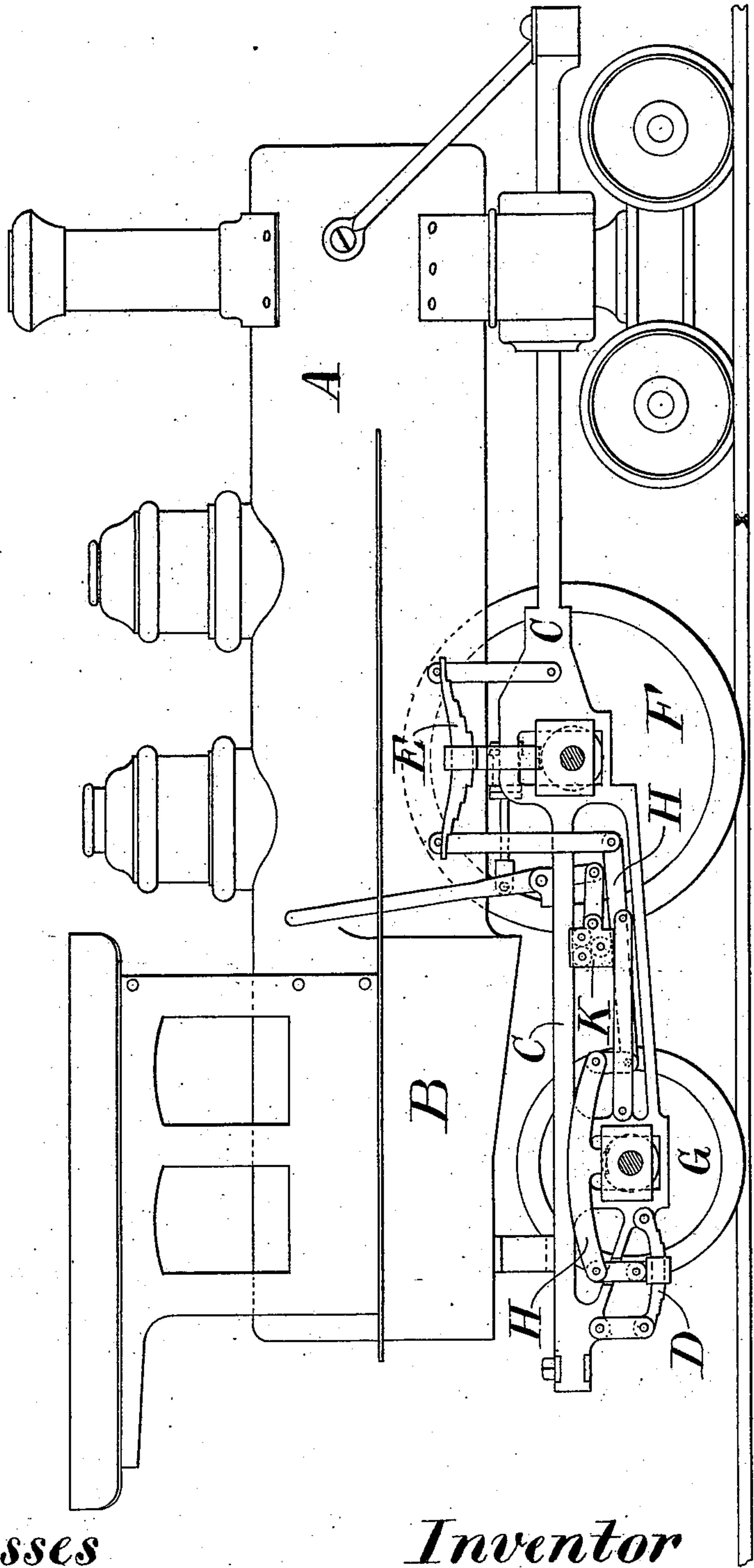


W. P. HENSZEY.
Locomotive Engine.

No. 227,778.

Patented May 18, 1880.

Fig. 1



Witnesses
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Fig. 3

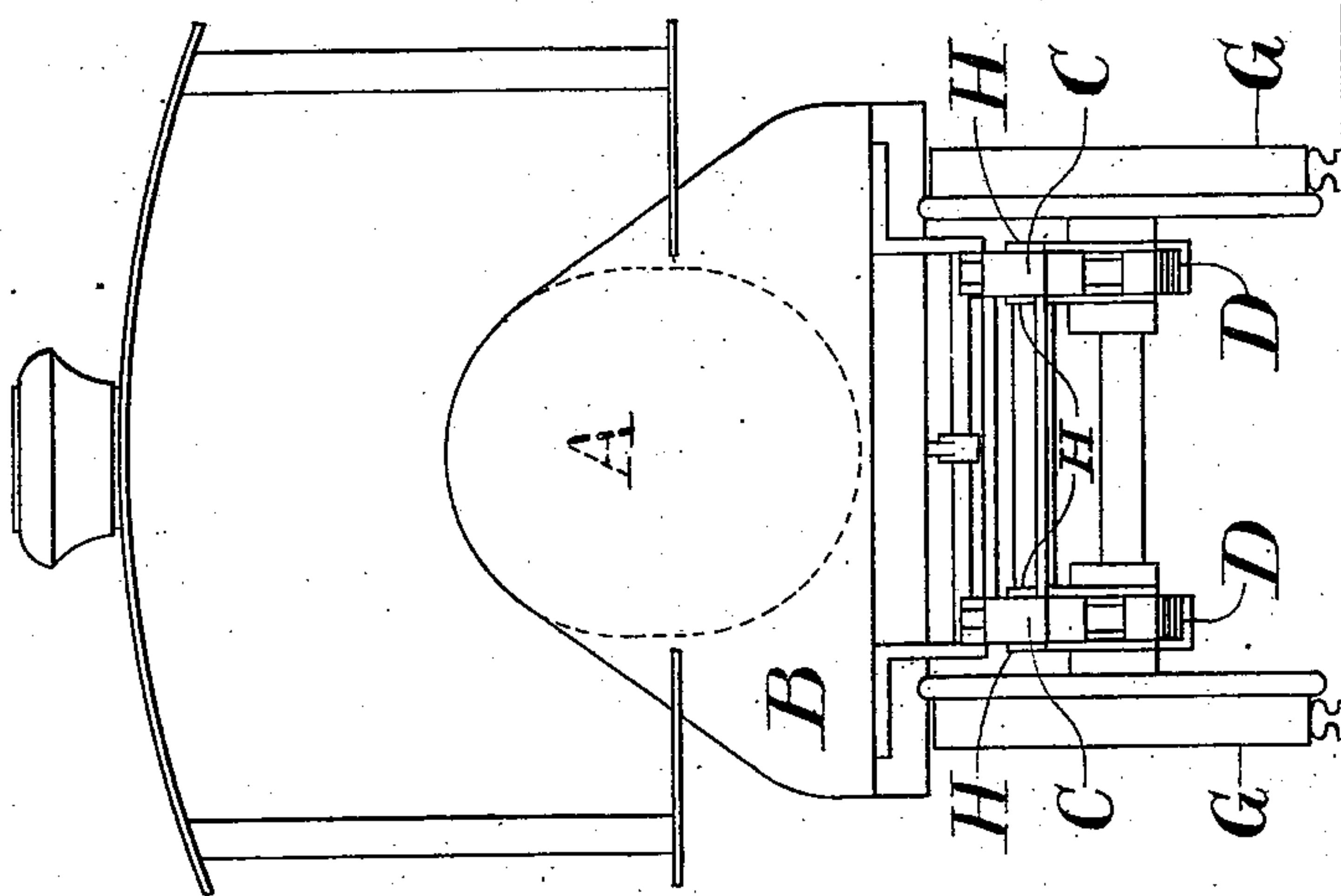
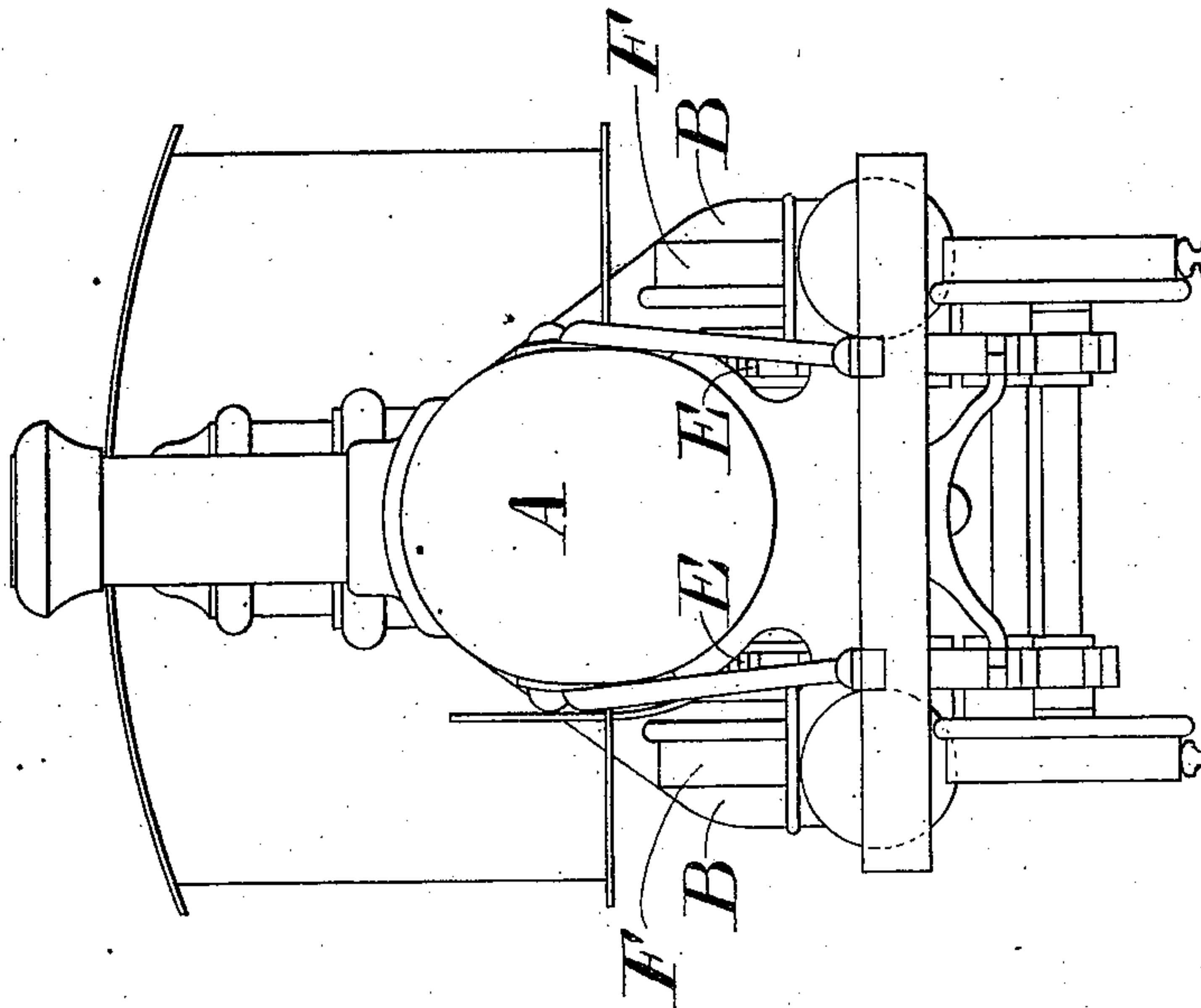


Fig. 2



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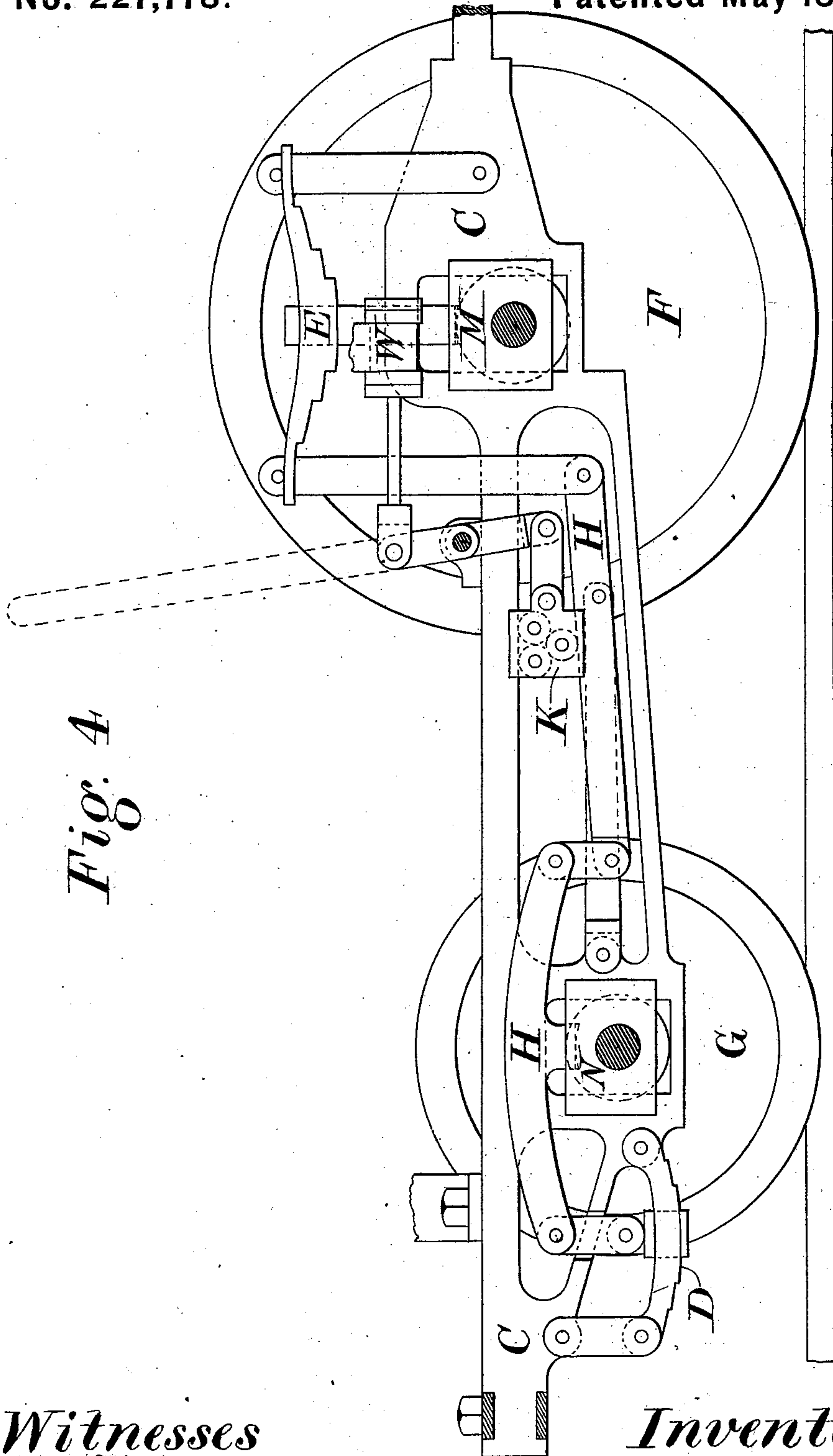


Fig. 4

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UNITED STATES PATENT OFFICE.

WILLIAM P. HENSZEY, OF PHILADELPHIA, PENNSYLVANIA.

LOCOMOTIVE-ENGINE.

SPECIFICATION forming part of Letters Patent No. 227,778, dated May 18, 1880.

Application filed February 3, 1880.

To all whom it may concern:

Be it known that I, WILLIAM P. HENSZEY, a citizen of the United States, residing in Philadelphia, Pennsylvania, have invented certain Improvements in Locomotive-Engines, of which the following is a specification.

My invention relates to that class of locomotive-engines in which one pair only of driving-wheels is used; and the object of my invention is to enable the engineer to readily increase the weight upon the said driving-wheels, so that they may have the proper adhesion for starting the engine and train, and after they are in motion to transfer part of the weight to the trailing wheels, which take the place of the usual second pair of driving-wheels.

In the accompanying drawings, Figure 1 is a side view of a locomotive-engine with my improvements; Fig. 2, a view of the smoke-box end of the engine; Fig. 3, a view of the fire-box end of the same, and Fig. 4 part of Fig. 1 drawn to an enlarged scale.

The barrel or body A of the boiler is of the oval form shown by dotted lines in Fig. 3, and the fire-box B is much wider than those of ordinary locomotive-boilers. As these features do not form the subject of my present application, it will suffice to remark here that, as the locomotive is intended to run at a high speed, and as this demands increased heating-surface, the fire box and grate are enlarged in width; and in order that the aggregate tube-area may be proportionate to the increased heating-surface of the fire-box, I make the body or barrel of the boiler in the form of an oval the major axis of which is vertical, so that an appropriate number of tubes may be contained in the contracted space between the driving-wheels.

It will be seen that the locomotive has but one pair of driving-wheels, F, and that in place of the ordinary rear driving-wheels I use a pair of trailing wheels, G G, the object of this arrangement being to dispense with the connecting-rods by which two pairs of drivers are coupled together, for one of the great sources of danger in locomotives running at a high speed is the breaking of these connecting or coupling rods. In a locomotive with but one pair of driving-wheels, however, it is essential that there should be sufficient weight upon them to insure the proper adhesion for starting the

engine and train; but this excessive weight on the driving-wheels is not only unnecessary when the engine and train are in motion, but is injurious to the track; hence the invention which I will now proceed to describe, and by which the excess of weight on the driving-wheels required in starting the engine and train may be transferred to the trailing wheels.

In Fig. 4, C represents part of one of the frames of the engine; F, one of the pair of driving-wheels on the driving-axle M; G, one of the trailing wheels on the axle N. The boxes of these axles are adapted to guides in the frames in the usual manner, and carry the springs on which the engine rests, E being the spring for one of the boxes of the driving-axle and D the spring for one of the boxes of the axle N of the trailing wheel.

A compensating-beam, H, is connected at one end to the spring E by an ordinary link, the opposite end of the beam being connected to the spring D through the medium of links a and a lever, H', against the under side of which bears the box of the axle N. To the frame C is adapted a movable fulcrum, K, for the compensating-beam H. The nearer this fulcrum is to the driving-axle the greater will be the weight on the driving-wheels and the less will be the weight on the trailing wheels, the weight on the latter increasing as the fulcrum is moved away from the driving-axle and toward the axle of the trailing wheels.

One frame only and its attachments are shown in Fig. 4; but the other and opposite frame of the engine is precisely the same, and is provided with appliances exactly like those described above.

The two fulcrums of the beams must be under the control of the engineer, who must be able to change their positions by any appropriate system of levers and rods or other appliances; or the fulcrums may be operated by the aid of a small steam-cylinder, W, the valve of which must be controllable by the engineer, who can, by changing the position of the fulcrums, impart a greater weight to the driving-wheels on starting the engine and train, and after the latter is running can transfer the excess of weight to the trailing wheels, so that the latter and the driving-wheels will sustain the same weight.

I claim as my invention—

1. The combination, in a locomotive-engine,
of a pair of driving-wheels and a pair of trail-
ing wheels with mechanism, substantially as
5 described, whereby weight may be transferred
from the said trailing wheels to the driving-
wheels, and vice versa, as set forth.
2. The combination, in a locomotive-engine,
of a pair of driving-wheels and a pair of trail-
ing wheels with beams H H, movable fulcrums
10 for the said beams, and devices whereby the
position of the fulcrums can be changed, all
substantially as set forth.

3. The combination, in a locomotive-engine,
of beams H H, attached at one end to the 15
springs of the driving-axle and at the opposite
end to the springs of the axle of the trailing
wheels, with fulcrums for the said beams and
with devices for altering the position of the
said fulcrums, substantially as specified.

WM. P. HENSZEY.

Witnesses:

R. C. WRIGHT,
R. H. SANFORD.