C. O. GANSE & S. N. JORDAN.

METHOD OF SUSPENDING STEAM BOILERS.

No. 43,016. Patented June 7, 1864

Fig. 1.

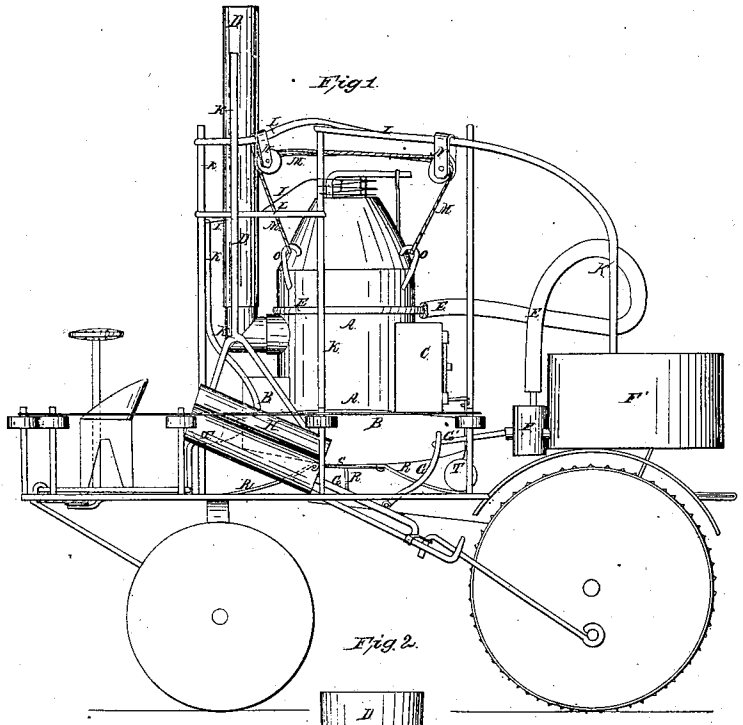
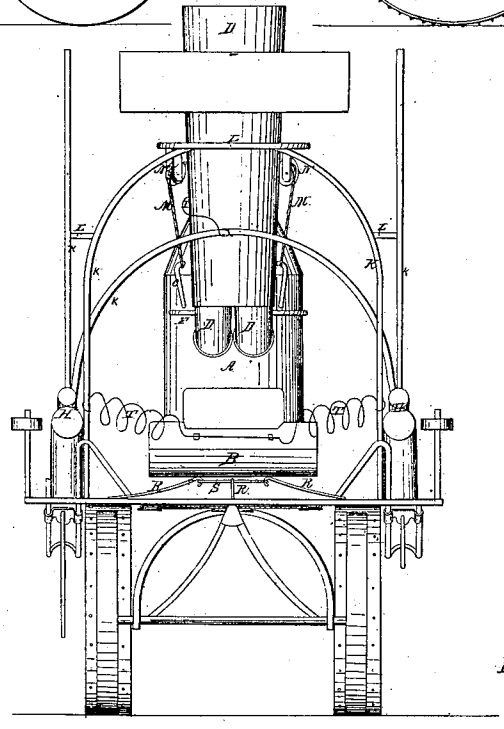


Fig. 2.



Witnesses:

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UNITED STATES PATENT OFFICE.

C. O. GANSE AND S. N. JORDAN, OF OSSAWATOMIE, KANSAS.

IMPROVED METHOD OF SUSPENDING STEAM-BOILERS.

Specification forming part of Letters Patent No. **43,016**, dated June 7, 1864.

To all whom it may concern:

Be it known that we, C. O. GANSE and S. N. JORDAN, of the firm of Ganse & Jordan, of Ossawatomie, in the county of Miami, in the State of Kansas, have invented a new and useful Improvement in Steam-Boilers for Locomotives and Steam-Carriages for Common Roads; and we do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, in which—

Figure 1 represents a side elevation of our improved locomotive, and Fig. 2 a front elevation of the same, the same letters being used in each figure to represent the same parts of the locomotive.

The object of our invention is to construct a locomotive the boiler of which will remain in a perpendicular position whatever may be the inclination of the locomotive or the inequality of the road upon which it runs.

To enable those skilled in the art to understand its construction and operation, we will proceed to describe it.

A represents the furnace and boiler of the locomotive, having attached to it a chamber, B, for the purpose of receiving the cinders, ashes, &c., from the furnace, and having the furnace-door at C and the smoke-pipe at D. The chamber B, which is beneath the furnace and boiler and supports them, rests upon, without being attached to, a platform, S, which is itself supported by four or more stout springs, R R R R, by which arrangement the boiler A is allowed an easy equal motion over the inequalities of the road. The boiler is further supported by being suspended by strong ropes or chains M M M M, attached to it at O O O O, and moving easily through the pulleys N N N N, which serve to hold it in a perpendicular position, whatever may be the inclination of the road and of the carriage, it being suspended at the top and swinging freely in any direction at the bottom.

In order to prevent constant swinging of the boiler, we attach to it, or to the chamber B, as shown in the drawings, strong spiral springs or their equivalents T T, fastening the springs firmly both to the boiler or chamber B, and to some substantial part of the carriage. In the drawings accompanying this specification the springs are attached to the upright posts K K. These posts serve the double purpose of furnishing a strong support to the springs T T and of holding the boiler in position. They are connected together, held in position, and strengthened by braces L L. The pulleys N N are attached either to the upright posts K K or to the braces L L, as may be desirable. The posts K K K, being situated around the boiler, and at the proper distance from it, restrain its swinging within certain limits, as it cannot swing past them in any direction.

H H represent the steam-cylinders, which are fed by pipes leading from heaters, (not shown in the drawings,) which in their turn receive the steam from the boiler through the pipe I I, shown at the top of the boiler. This pipe is thoroughly scraped and pitched, in order to prevent the condensation of the steam on its passage to the heaters. The steam piston-rod G is connected with the piston-rod G′ G′ of the cylinder F, which communicates with the water-tank F′. By this arrangement the motion of the piston-rod G is communicated to the piston G′, and the water is forced from the cylinder F through the tube E, of gutta-percha, or other flexible but strong material, into the metallic feed-pipe E′, and through that into the boiler. The feed-pipe E′ runs around the boiler and in contact with it, as represented in the drawings, receiving of its heat and imparting that to the water on its passage to the boiler.

The other parts of the locomotive which are shown in the drawings need not be specifically described here, as we claim none of them as our invention. Our invention may be used in connection with them or with any other forms of locomotive or carriage, and may be attached to any engine whether designed for use on land or water.

What we claim as new, and desire to secure by Letters Patent, is—

1. The springs R R R R, the ropes or chains M M M M, and the pulleys N N, in combination with the boiler, substantially as and for the purpose set forth.

2. The spiral springs T T, in combination with the boiler or chamber B, as described and shown.

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