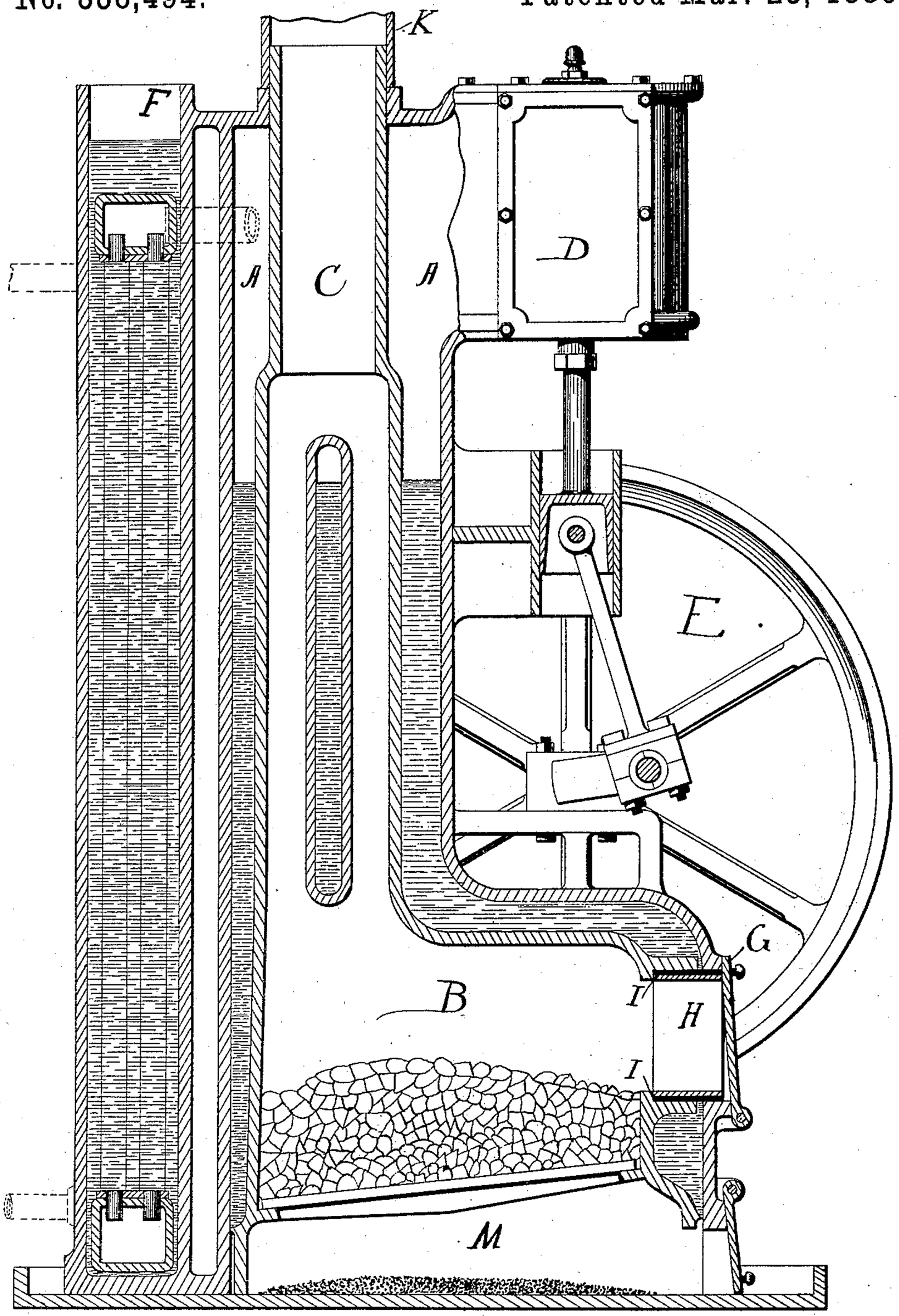
(No Model.)

H. DAVEY.

LOW PRESSURE STEAM BOILER.

No. 338,494. Patented Mar. 23, 1886.



Witnesses

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UNITED STATES PATENT OFFICE.

HENRY DAVEY, OF LEEDS, COUNTY OF YORK, ENGLAND.

LOW-PRESSURE STEAM-BOILER.

SPECIFICATION forming part of Letters Patent No. 338,494, dated March 23, 1886.

Application filed July 24, 1885. Serial No. 172,502. (No model.)

To all whom it may concern:

Be it known that I, HENRY DAVEY, a citizen of England, residing at Leeds, county of York, England, have invented a new or Improved Construction of Low-Pressure Steam-Motor, of which the following is a specification.

My invention relates to and has for its object a cheap and simple construction of steam-motor applicable where small power is required. The motor being worked by steam at a pressure rarely exceeding that of the atmosphere, the boiler is of a simple character, requiring no loaded safety-valves, gages, or appliances for feeding against pressure, and safe from all risk of explosion.

The particular features to which my invention relates are the connection between the internal fire-box and flue and the surrounding boiler; and my invention consists in the features of construction hereinafter described.

In the drawing, A represents the boiler; B, the fire-box; C, the flue; D, the cylinder; E, the driving-wheel; F, the tank containing the condenser-pipes; G, a door to the fire-box; H, a ring or box for connecting the boiler and internal fire-box and flue at the door of the fire-box; I, a fire and water proof cement; K, the stove-pipe, and M the ash-box.

In constructing my improved low-pressure steam-motor I take such a motor as is described and shown in my United States Patent No. 310,387, of January 6, 1885, or the motor shown and described in my English Patent No. 15,185, of November 18, 1884, or such a motor as is described and shown in my English Patent No. 3,833, of February 23, 1884, as an initial or starting-point. I place the fire-box and flue on the inside of the boiler, so that they will be surrounded by water, as shown, and in order to connect such internal parts with the shell or casing of the boiler at the door or opening into the fire-box I insert a ring or box, made preferably of cast-iron, which I have designated as H in the drawing. To securely retain or fasten this ring or box in place, and thus securely connect the parts together and close the joint, I take a cement, I, which should be fire and water proof—such as is well known in the manufacture of furnaces and other articles which are subjected to great heat—and insert a layer of it immediately between the ring H and the casting of the boiler and fire-box. This layer of cement should be sufficiently thick to securely fasten the parts together when it becomes set, and to prevent the water from being forced through it by the pressure of the steam or from leaking at the joint. In this way I attach the parts firmly and securely together, and secure all the beneficial results that would follow the casting of the parts together.

The ring for connecting the shell of the boiler and the fire-box together may be round or square or other form, to suit the view of the constructor.

What I claim is—

In a low-pressure steam-motor, the combination of an internal fire-box and flue, a surrounding boiler shell or case, a connecting box or ring by which the parts are connected at the entrance of the fire-box, and a layer of fire and water proof cement between such connecting-ring and the shells of the boiler and internal fire-box and flue, whereby the parts are securely united and the joint between the same rendered water or steam proof, substantially as described.

HENRY DAVEY.

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