

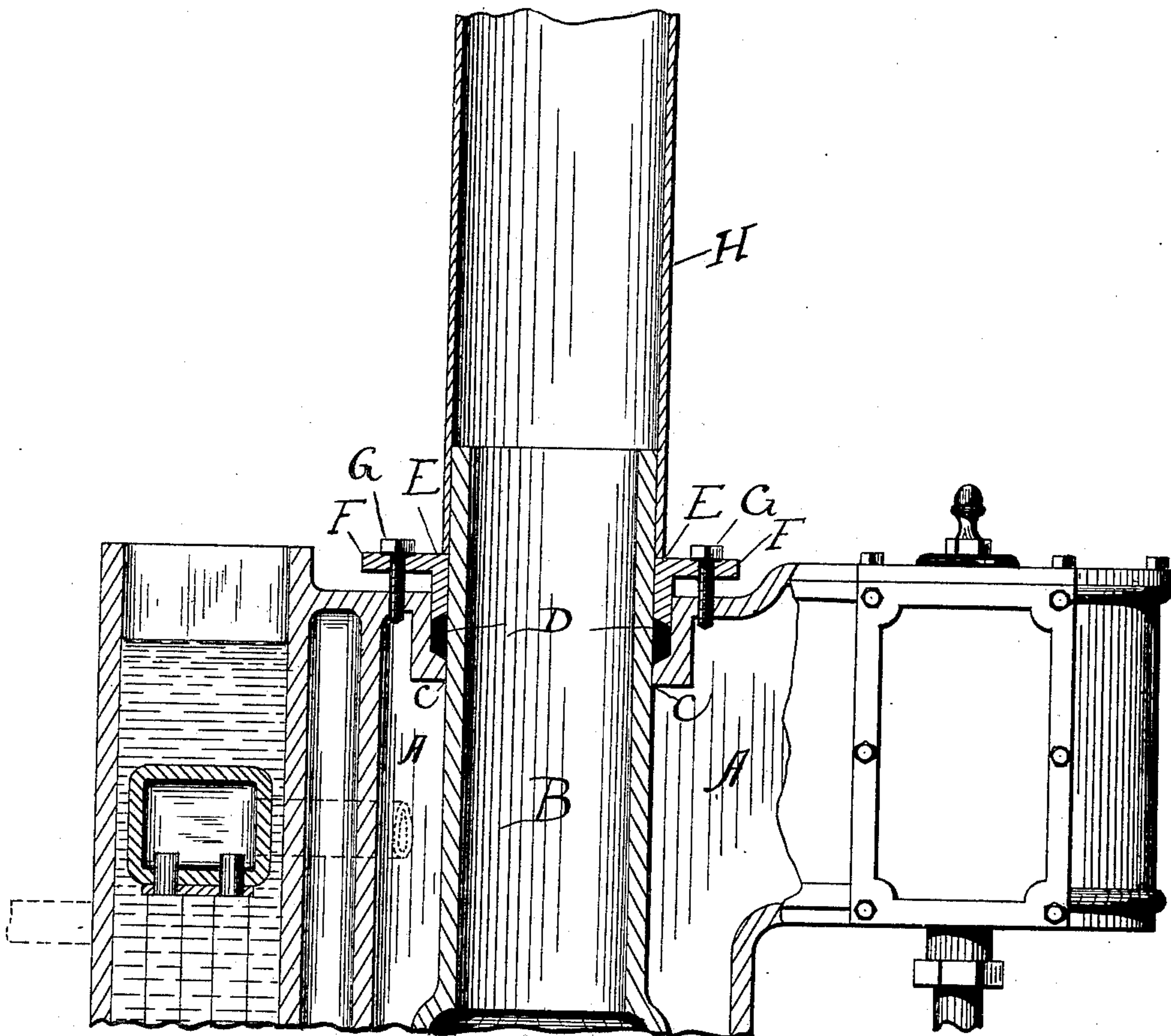
(No Model.)

E. J. HOSKINS.

STEAM PACKING.

No. 339,100.

Patented Mar. 30, 1886.



WITNESSES

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UNITED STATES PATENT OFFICE.

EDWIN J. HOSKINS, OF AUSTIN, ASSIGNOR TO CHARLES P. WILLARD, OF CHICAGO, ILLINOIS.

STEAM-PACKING.

SPECIFICATION forming part of Letters Patent No. 339,100, dated March 30, 1886.

Application filed July 2, 1885. Serial No. 170,453. (No model.)

To all whom it may concern:

Be it known that I, EDWIN J. HOSKINS, a citizen of the United States, residing at Austin, Cook county, Illinois, have invented certain new and useful Improvements in Steam-Packing, of which the following is a specification.

My invention relates more particularly to that class of low-pressure steam-engines in which the fire-box and flue are placed inside of the boiler; and the object of my invention is to make a simple and secure packing that will prevent the escape of steam at the joint where the flue of the fire-box emerges from the shell or case of the boiler; and it consists in the features of construction hereinafter described.

The drawing represents the upper portion of a low-pressure steam-motor engine having the fire-box and flue on the inside of the boiler, like that shown and described in Letters Patent of the United States No. 310,387, of January 6, 1885, to Henry Davey.

A represents the boiler; B, the internally-located flue from the fire-box; C, the point of contact between the shell of the boiler and the flue; D, the packing; E, a ring around the flue; F, flanges on such ring; G, bolts for attaching the flanges to the shell of the boiler, and H the smoke-stack of the boiler.

In making and applying my improved packing I take such a low-pressure steam-motor as is described and shown in Letters Patent of the United States to Henry Davey, No. 310,387, of January 6, 1885, 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 the water. In order to make the connection between the flue and the shell of the boiler at the point where the shell extends out from the boiler-shell so tight and secure that no water or steam can escape, I make the shell of the boiler to fit snugly around the shell of the flue, with an annular space between just above the point of contact, which I have indicated by the letter C. Within this annular space I place packing material—such as asbestos or other substance that will make a tight joint and stand a high temperature—and just above such packing I place a ring, E, which is provided with flanges F, and which fits inside the

annular space above mentioned. The flanges on this ring are connected with the shell of the boiler by bolts, as shown. I prefer that the shell of the boiler just above the point of contact with the flue and the lower edge of the ring E should each slant or flare somewhat away from the flue and toward each other, the one upward and the other downward, so that the space for the packing when the parts are together will be wider next the flue than away from it, so that as the ring is forced down by the bolts it will tend to press the packing more firmly and securely against the shell of the flue. The same result in a less degree will be secured if only one of these parts flares, or if neither of them does; but I prefer them both to flare. The smoke-stack H fits loosely around the upper portion of the flue D, which extends above the boiler shell or case and rests upon the ring E, so that it is raised and lowered as the ring E is raised and lowered. By this arrangement the flue can move up or down in the smoke-stack as it expands or contracts independently of the smoke-stack. By screwing the flanges further down from time to time as may be needed, the packing will be more firmly and compactly pressed against the shell of the flue. By thus making this ring adjustable the packing may be pressed tightly or loosely against the flue, as desired. At the same time the flue will be permitted to move upward or downward in its position as it may be required to do as it expands or contracts. In this way I secure a perfect, simple, and securely-packed joint that will be both water and steam tight between the shell of the boiler and the flue.

What I claim is—

1. In a steam-boiler, the combination of an internal fire-box and flue, a surrounding boiler shell or case, a packing in the annular space between such shells where the flue-shell extends out of or above the boiler-shell, and a ring around the flue-shell, on which ring the smoke-stack is placed and rests, extending into such annular space and adjustable up or down, pressing the packing with more or less tightness against the flue-shell, as desired, whereby the joint between the two shells at the point where the flue-shell emerges from the boiler-shell is rendered steam-tight, and the

flue-shell allowed to move up and down as expanded or contracted, substantially as described.

2. In a steam-boiler, the combination of an
5 internal fire-box and flue, a surrounding boiler
shell or case, an annular space around the flue-
shell above the point of contact between the
boiler and flue-shell, a ring around the flue-
10 shell, on which the smoke-stack is placed and
rests, adjustable up and down, and extending
into such annular space, the boiler-shell or the
ring flaring away from the flue-shell, and leav-
ing room for the packing wider next to the flue-
shell than away from it when the parts are to-

gether, and a packing in the annular space be- 15
tween the boiler and the flue-shell, and packed
with more or less tightness against the flue-
shell as the ring is adjusted up or down, where-
by the joint between the two shells at the point
where the flue-shell emerges from the boiler- 20
shell is rendered steam-tight and the flue-shell
allowed to move up and down as expanded or
contracted, substantially as described.

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Witnesses:

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