

(No Model.)

W. BOOTH.
OIL BURNER FOR LOCOMOTIVES.

No. 554,435.

Patented Feb. 11, 1896.

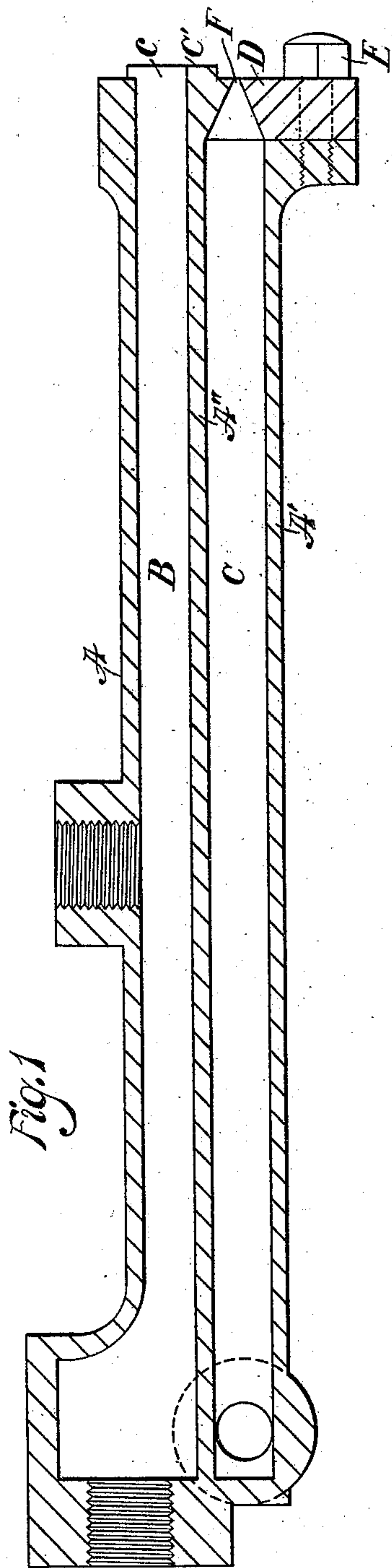


Fig. 1

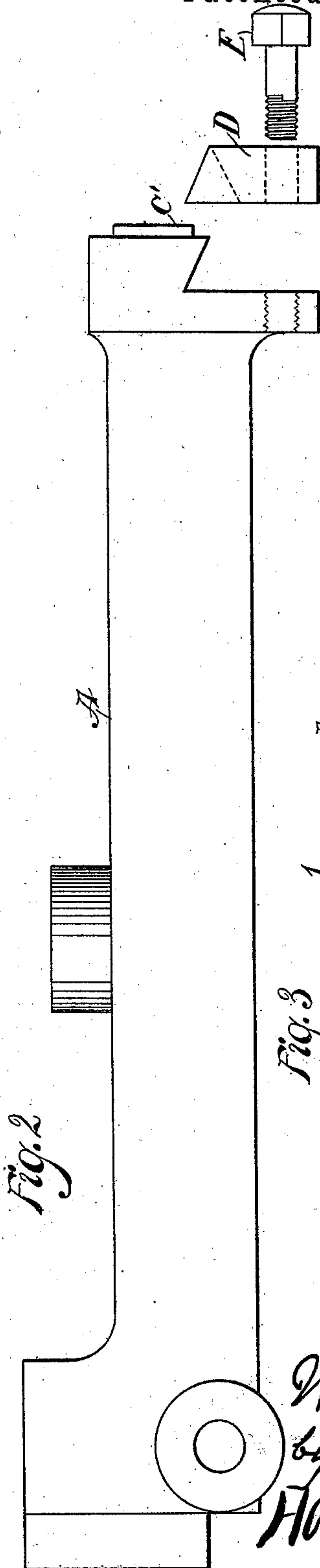


Fig. 2

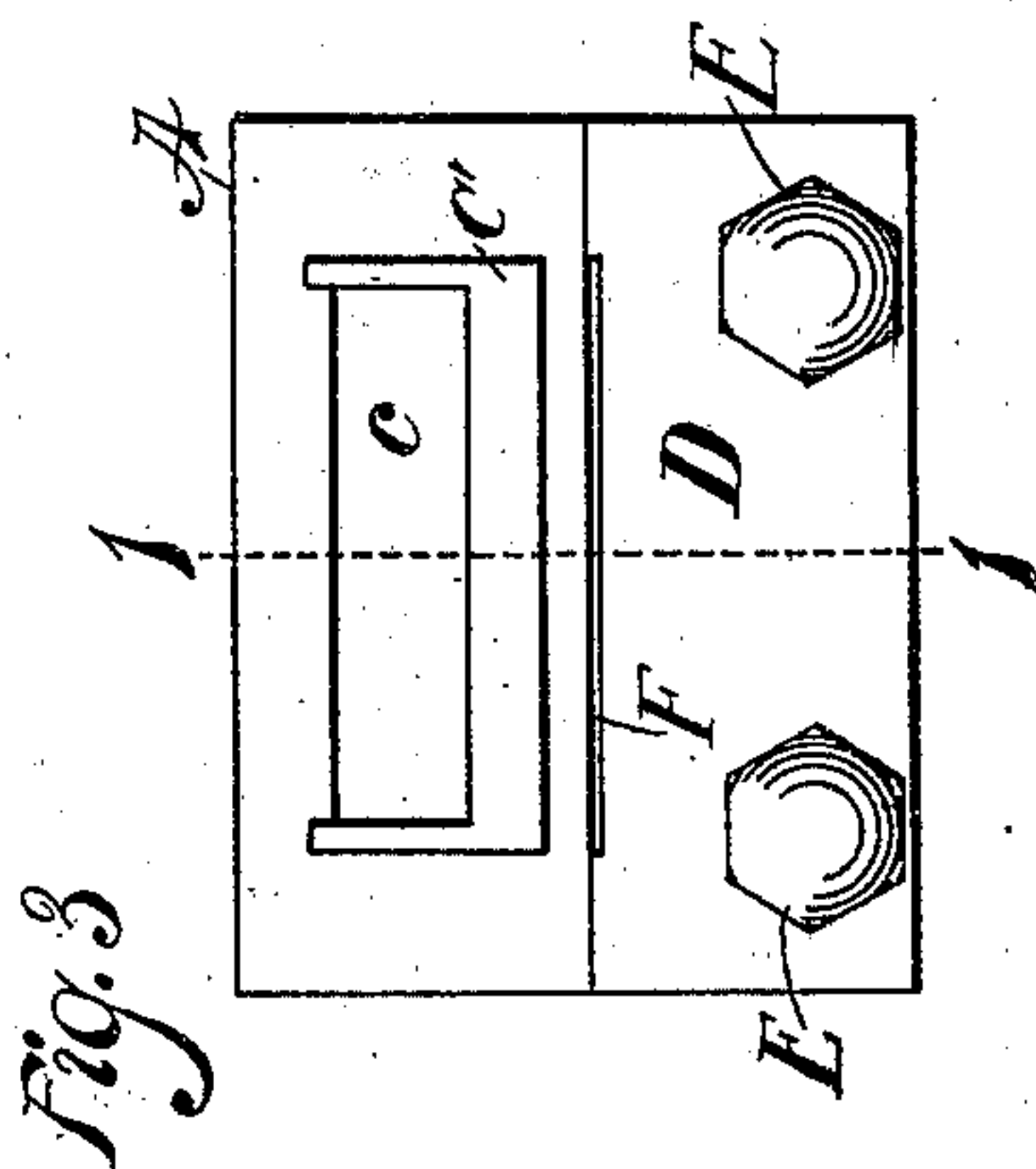


Fig. 3

Witnesses:
F. T. Johnson.
Alfred J. Townsend.

Inventor:
William Booth
by
Hayard Townsend
his attys

UNITED STATES PATENT OFFICE.

WILLIAM BOOTH, OF LOS ANGELES, CALIFORNIA.

OIL-BURNER FOR LOCOMOTIVES.

SPECIFICATION forming part of Letters Patent No. 554,435, dated February 11, 1896.

Application filed October 22, 1895. Serial No. 566,461. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM BOOTH, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented a new and useful Improvement in Oil-Burners for Locomotives, of which the following is a specification.

My invention relates particularly to an improvement upon an apparatus for burning petroleum in furnaces, fully described in Letters Patent issued to me February 5, 1895, No. 533,521.

In my former patented apparatus I employ an integral cast-metal casing having provided therein two longitudinal passages or chambers, having the outer end of such passages or chambers formed by means of a cap which extends entirely across and covers the end face of the casing and forms a continuation of the chambers, the oil-chamber extending through the cap to allow the passage therethrough of the oil, and the steam-chamber terminating in a slit for the passage of the steam, all so arranged that the oil will drip or flow upon the sheet of steam issuing from the steam-slit, and thus be atomized and driven into the fire-box in a manner suitable to insure perfect combustion. I have found in practice that with this construction the intense heat to which the end of the burner is subjected almost invariably causes the central portion of the cap, or that portion which forms the division between the oil and steam chambers, to spring or warp, thus causing the joint to open and allowing the oil to pass downward into the steam-chamber. The steam-slit is very narrow, and is only designed for the passage therethrough of the steam necessary to atomize the oil. The consequence is that when the oil enters the steam chamber, and is discharged with the steam through the steam-slit a sufficient quantity of oil and steam cannot be forced through the slit to produce the amount of heat for which the burner is designed, thus causing considerable difficulty and annoyance.

The object of my present invention is to so construct and arrange my burner that all danger of accidental escape of the oil into the steam-chamber will be avoided.

The accompanying drawings illustrate my invention.

Figure 1 is a longitudinal mid-section of my improved burner with all the parts in position. Fig. 2 is a perspective view of my improved burner with the cap removed from the end of the lower wall of the steam-chamber. Fig. 3 is a front elevation of the burner.

In the drawings, A represents the burner which is rectangular in shape, and is ordinarily made of cast-metal. This is provided with two longitudinal passages B and C, as described in my former patent, excepting that the casting is made long enough to form the outer end of the chamber B instead of such outer end being formed by a removable cap. By making the partition A' integral there is no joint to become sprung so as to leak. To prevent the oil from spreading unduly upon the end of the burner, I cast a lip C' upon the end of the burner and arrange it partially surrounding the oil-outlet c.

The lower wall A' of the burner terminates at a distance from the extreme outer end of the casting, and I complete the steam-chamber by means of a bar or cap D which I secure to the burner by set-screws E, the cap being so arranged as to form, in combination with the lower face of the integral partition A' of the burner, a steam-slit F through which the steam discharges. By this means I entirely avoid all liability of the oil feeding into the steam-chamber, and am enabled to produce a burner which will always produce the amount of heat which it is designed to produce.

Now, having described my invention, what I claim as new, and desire to secure by Letters Patent, is—

The burner set forth consisting of a casing having an integral partition arranged to divide the interior of the casing into two parallel longitudinal passages or chambers, one wall of one of the chambers terminating at a distance from the end of the burner, and a bar or cap-piece secured to the burner to form the continuation of such wall and to complete the other chamber, such chamber terminating in a slit for the passage of the steam.

WILLIAM BOOTH.

Witnesses:

ALFRED I. TOWNSEND,
JAMES R. TOWNSEND.