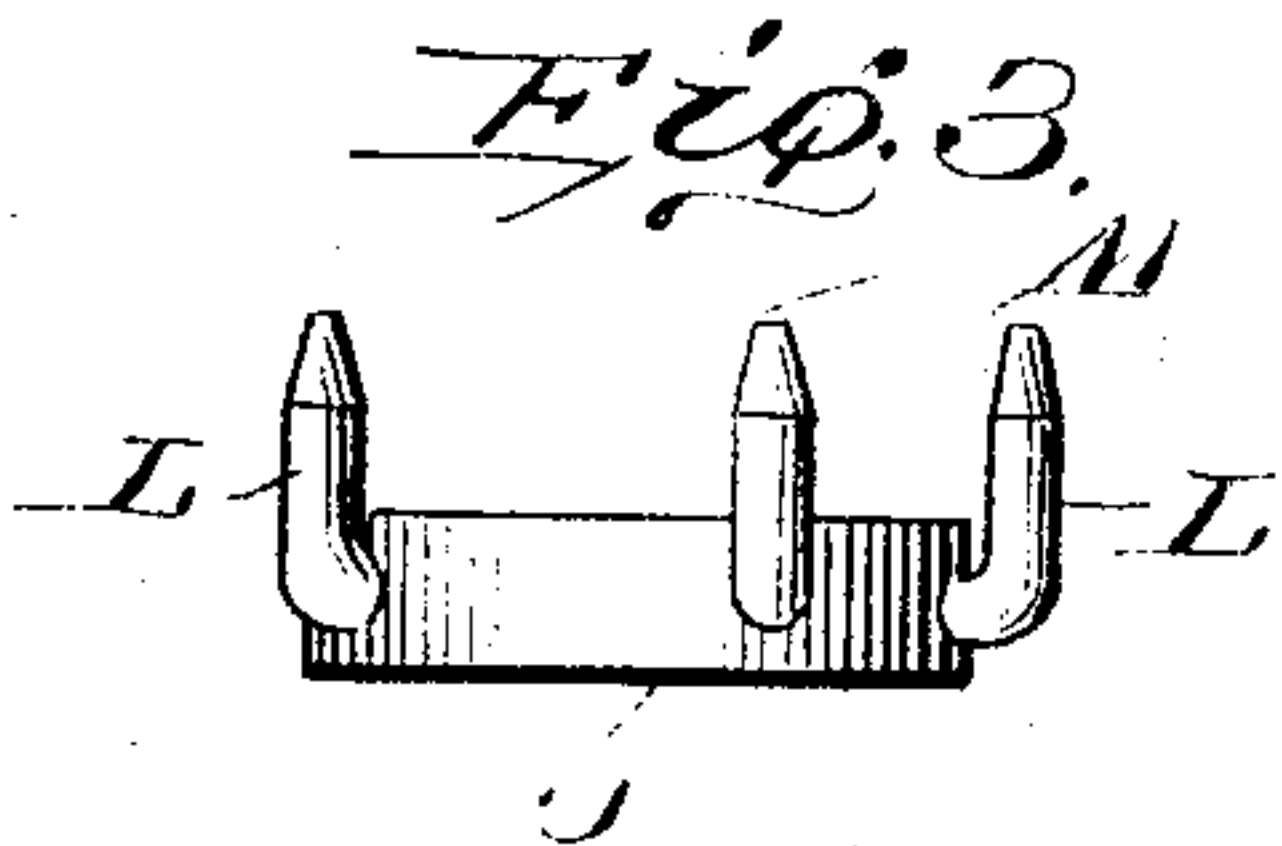
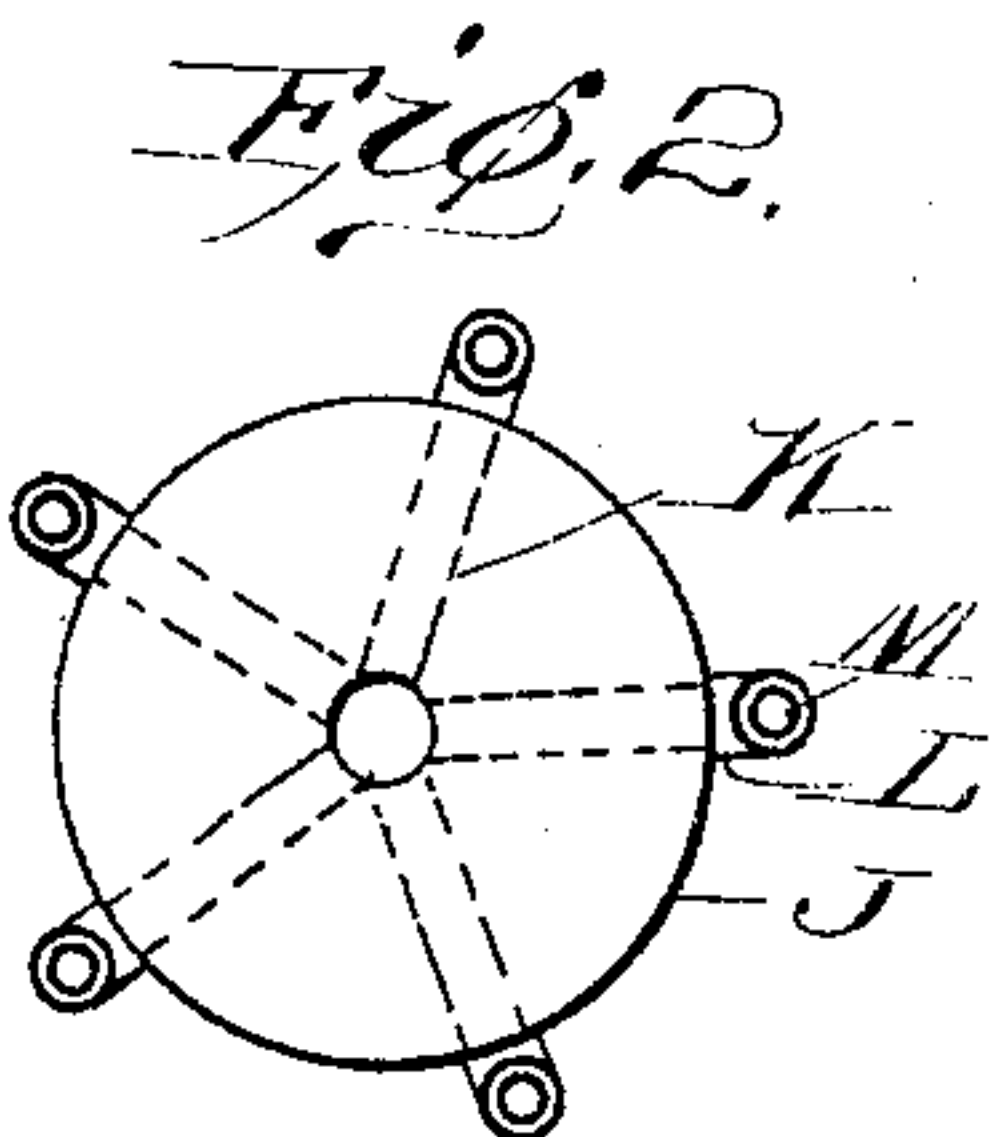
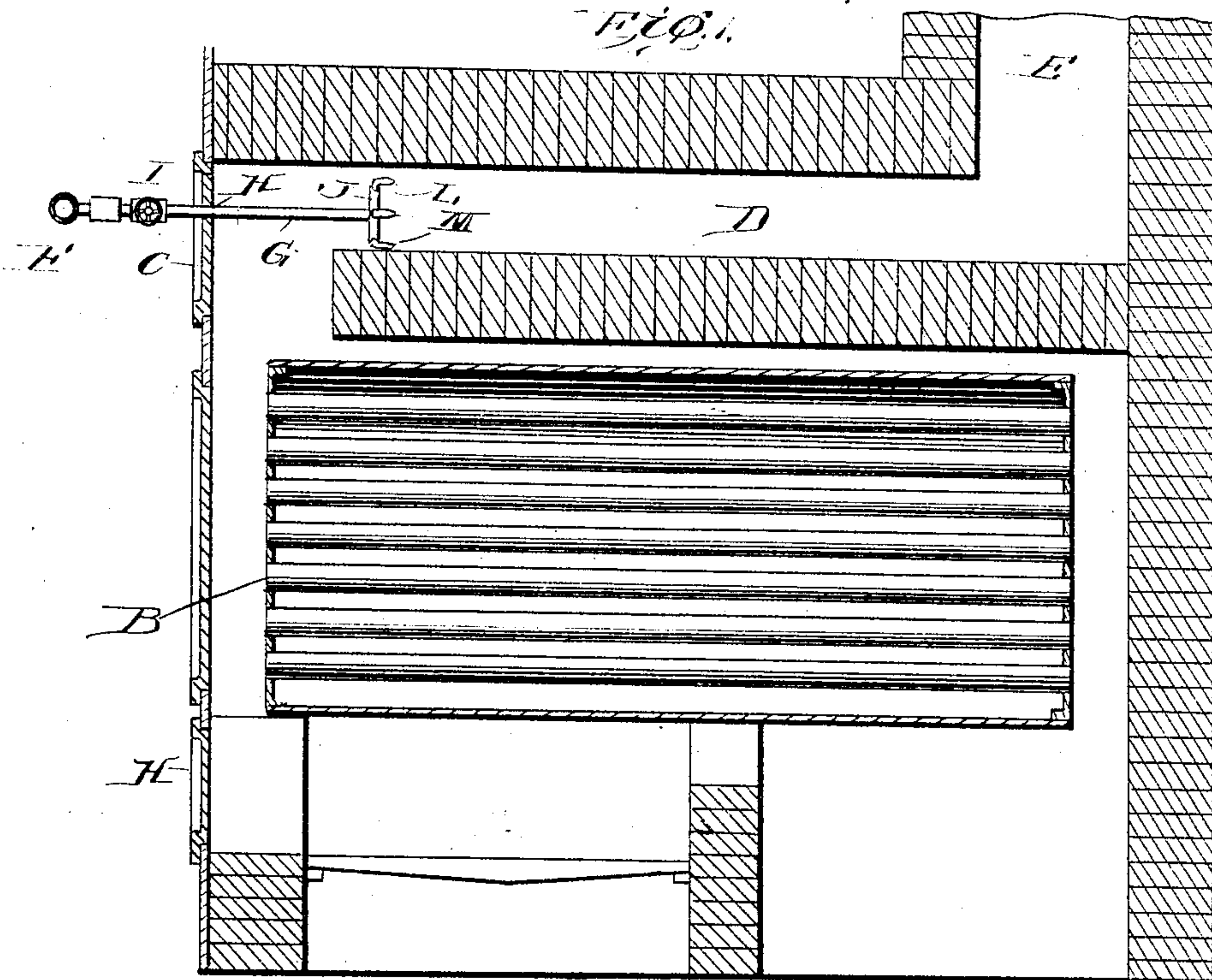


No. 774,849.

PATENTED NOV. 15, 1904.

H. MATTHEWS.  
SMOKE CONDENSER.  
APPLICATION FILED MAY 28, 1902.

NO MODEL.



Witnesses:  
J. M. Fowler Jr.  
Milton Strasburger

Inventor  
Henry Matthews  
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Att'y



# UNITED STATES PATENT OFFICE.

HENRY MATTHEWS, OF WASHINGTON, DISTRICT OF COLUMBIA, ASSIGNOR  
OF ONE-HALF TO MILTON DAMMANN, OF WASHINGTON, DISTRICT OF  
COLUMBIA.

## SMOKE-CONDENSER.

SPECIFICATION forming part of Letters Patent No. 774,849, dated November 15, 1904.

Application filed May 28, 1902. - Serial No. 109,350. (No model.)

*To all whom it may concern:*

Be it known that I, HENRY MATTHEWS, a citizen of the United States of America, residing at Washington, in the District of Columbia, have invented certain new and useful Improvements in Smoke-Condensers, of which the following is a specification.

This invention relates to smoke-condensers, and more particularly to that class which are adapted to inject a jet of steam into the stack.

The object of my invention is to provide a smoke-condenser so constructed as to inject several jets of steam into the stack at one and the same time, thereby causing a complete mingling of the steam and smoke and reducing the condensation to a minimum.

Another object of my invention is to provide a smoke-condenser which is exceedingly cheap and simple, one which may be easily and quickly applied and will efficiently perform all of its intended functions.

With these objects in view and such others as may hereinafter appear my invention consists in the particular construction of the various parts and in the novel manner of combination and arrangements of said parts, all of which will be fully described, and specifically pointed out in the claims.

In the drawings forming a part of this specification, Figure 1 is a sectional view of a furnace, illustrating my invention as applied. Fig. 2 is a detail view of the nozzle or jets. Fig. 3 is a side elevation of the nozzle or jet.

Referring by letters to the drawings, A represents the furnace, B the boiler, and C the door opening into the usual flue D, which leads to the stack E. Detachably connected to the steam-pipe F, which communicates with the boiler B, is a pipe G, which passes through an aperture H in the door C, the said aperture and steam-pipe F serving to support a pipe G, which is provided with a stop-cock I, adapted to control the flow of steam. The pipe G projects a short distance into the flue and is provided with my improved jet, con-

sisting of a disk J, secured to the pipe G by the usual threads. This disk is provided with channels K, leading from the periphery thereof to the aperture which receives the pipe G. Mounted in each channel upon the periphery of the disk are angular pipes L, terminating in jets M, adapted to throw or inject the steam in a circle.

Mode of application: When it is desired to feed the furnace, the stop-cock I is opened, thereby allowing the steam to pass through the pipe G, entering the injector, from which it passes through the jets M into the flue D. The fuel is then fed to the furnace and is caused to ignite instantly, owing to the increased draft. However, those products of combustion which are unconsumed are so completely mingled with the jets of steam that condensation is reduced to a minimum. After the furnace has been fed and the doors closed the steam is shut off and the apparatus is not employed again until it is desired to slice or refeed the furnace.

I deem the foregoing explanation sufficient that the invention will be readily understood by all conversant in such matters, the extreme simplicity rendering an elaborate description unnecessary.

Having thus described the various features of my invention, what I claim as new, and desire to secure by Letters Patent, is—

In a smoke-condenser, a steam-pipe projecting through and supported by the flue-door, the free end of the pipe terminating in the center and near the mouth of the flue, a nozzle upon the free end of the pipe, the said nozzle consisting of a disk having channels leading from its periphery to the steam-pipe, angular pipe-sections secured in each channel, each section terminating in a jet, and a stop-cock upon the steam-pipe, substantially as specified.

HENRY MATTHEWS.

Witnesses:

HARRY A. BLANDY,  
LEONARD DAMMANN.