

(No Model.)

C. R. PEIRCE & F. B. ENGLISH.  
HOOD FOR SMOKE STACKS.

No. 516,062.

Patented Mar. 6, 1894.

Fig. 1.

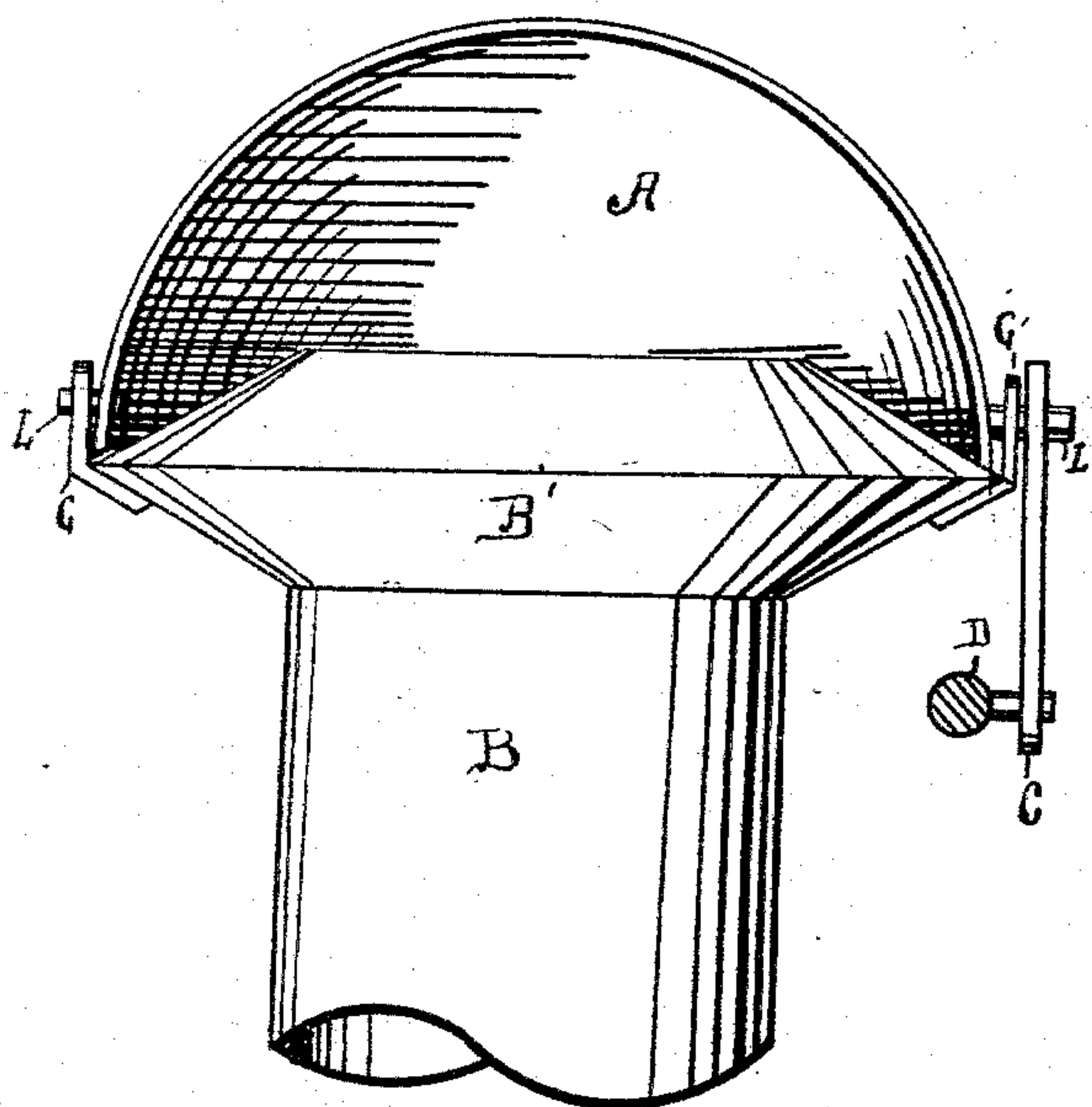


Fig. 2.

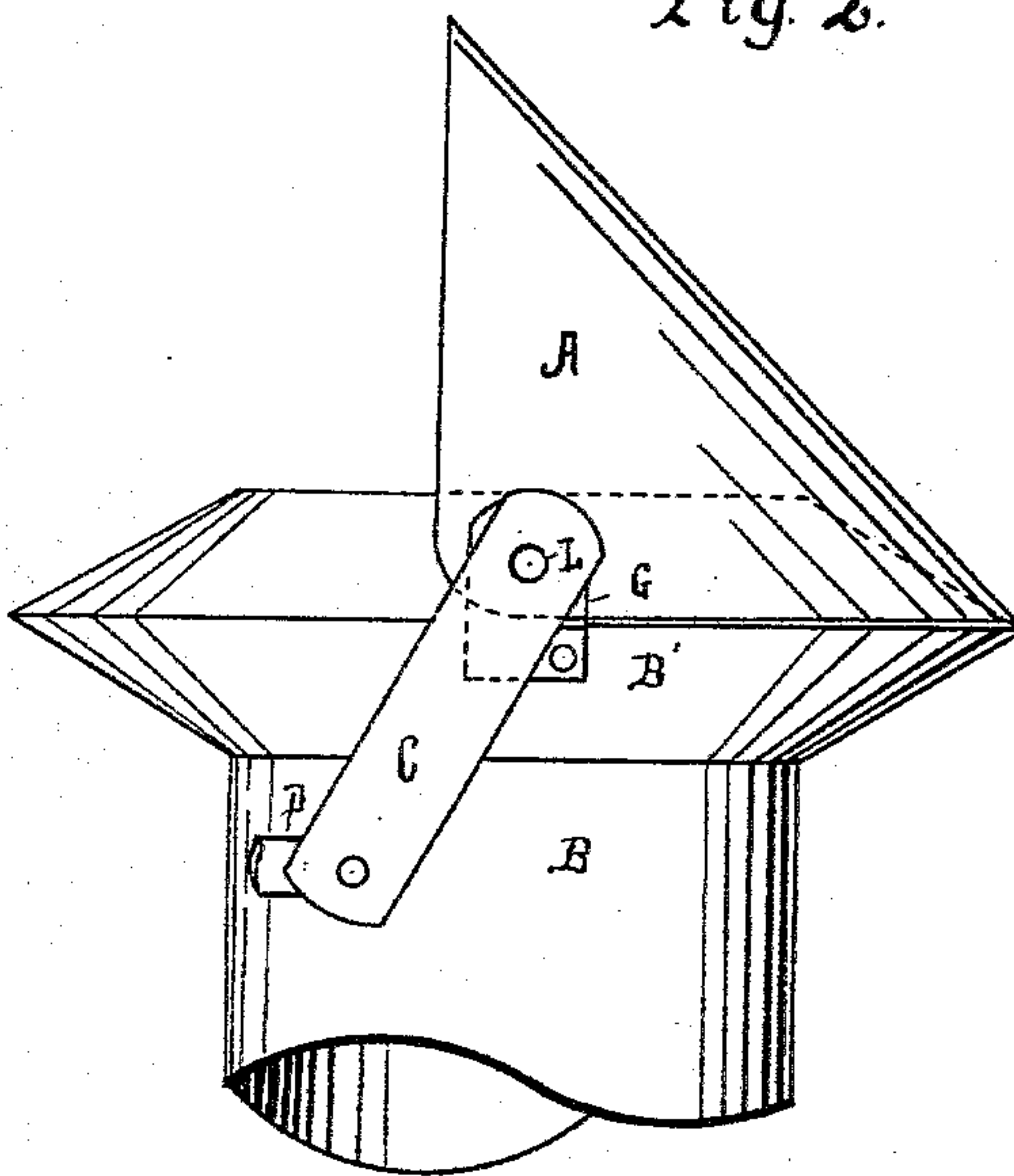
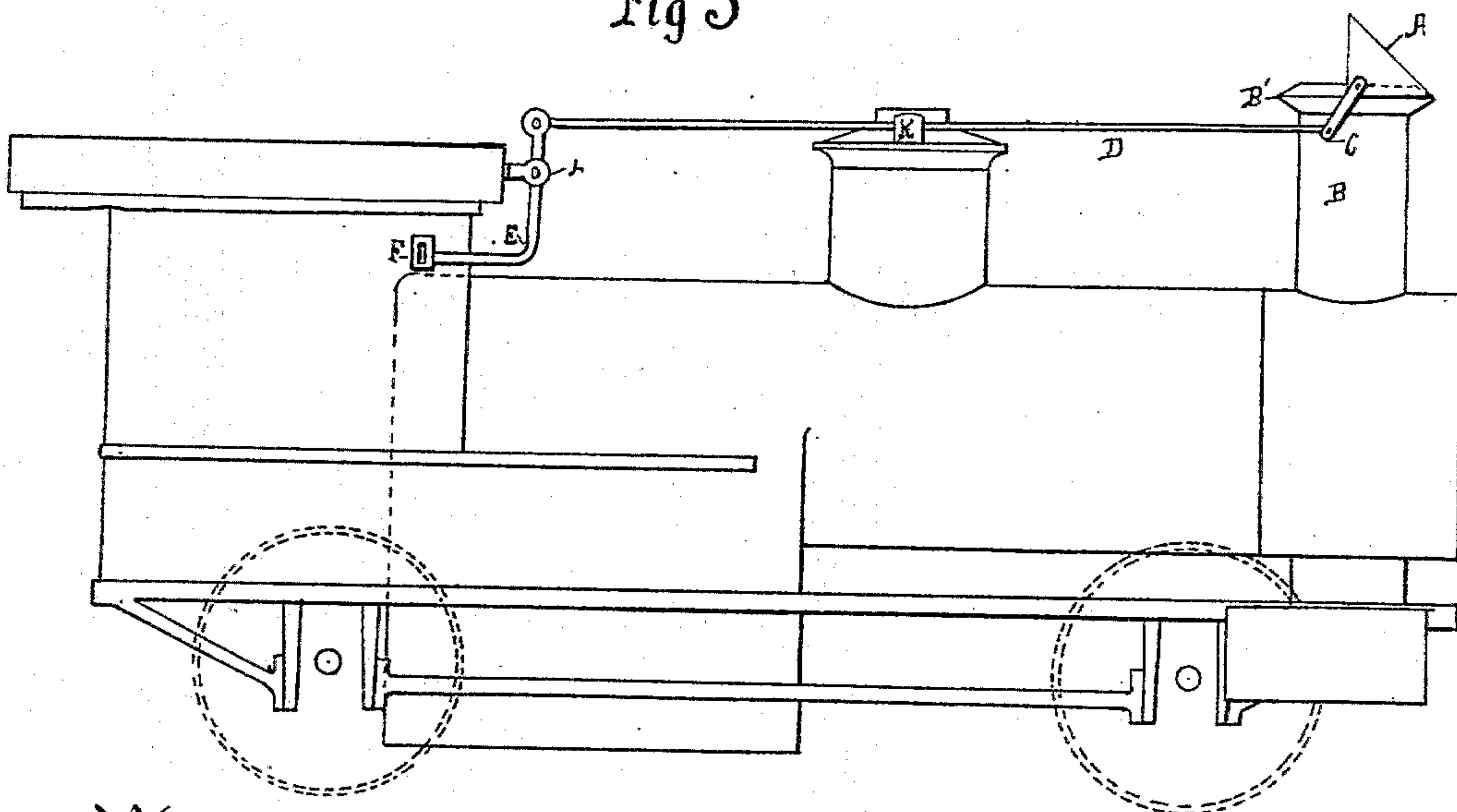


Fig 3



Witnesses

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# UNITED STATES PATENT OFFICE.

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## HOOD FOR SMOKE-STACKS.

SPECIFICATION forming part of Letters Patent No. 516,062, dated March 6, 1894.

Application filed June 9, 1893. Serial No. 477,131. (No model.)

*To all whom it may concern:*

Be it known that we, CHARLES R. PEIRCE and FORREST B. ENGLISH, both citizens of the United States, and residents of the city and county of Philadelphia, in the State of Pennsylvania, have invented a new and useful Improvement in Hoods for Smoke-Pipes, of which the following is a clear and sufficient specification, reference being had to the drawings annexed.

Our invention has reference to locomotives, steamboats and the like, and has among its objects to cause the draft, at the will of the engineer or other person, to be increased, automatically, by the movement of the boat or locomotive, or the draft diminished, and to enable either of these results to be accomplished whichever way the vehicle or boat may be going.

Our invention and the means by which it is carried out are set forth fully in the following portion of our specification.

Figures 1 and 2, are elevations of our invented hood and its immediate attachments at right angles with each other, and Fig. 3 is a side elevation of a locomotive fitted up with our invention.

Upon the head B' of the smoke-pipe B, both of which may be of any ordinary or convenient construction, we mount standards G, G. In these standards are placed journal-boxes in which rest the bearings of the trunnions L. These trunnions are attached to the hood A, and serve to support the same. This hood is shaped and arranged and mounted so that, when in the position shown in Fig. 2, and the engine is moving forward, the shape of the hood will prevent the draft of air caused by the movement of the engine, from blowing directly across the top of the smoke pipe and eddying down the pipe and causing the annoyances incidental thereto. The hood A fits sufficiently closely around the front half circle of the pipe to throw this draft of air upward and sidewise along its flaring sides and so keep it away from the space directly over the top of the pipe and at the same time produces a vacuum at the head of the pipe which is able to create a strong draft out through the pipe and tubes, which will be the stronger the faster the engine or boat is going. To one

of the trunnions L, is secured the finger C, by the movements of which the movement of the hood A, is effected. To this finger is secured means for the moving of the hood A. In a locomotive we have shown in Fig. 3 what we consider the best means for this purpose. D is a rod connected at one end to a lever E, and at the other to the finger C. This rod, in practice works in the guide K, which is mounted in suitable manner from the engine.

H is a hanger in which is hung the lever E, which is shown as bent to enter the cab, and is provided with a handle F. If the cab is high enough the rod D may enter the cab directly and the lever E and hanger H, be dispensed with.

The operation of our device is as follows:— When the vehicle is moving forward, and it is desired to increase the draft, the hood A is thrown so that the slant will lie in the direction toward which the vehicle is moving, (shown in Fig. 3 the vehicle being supposed to be moving forward,) the air will then be thrown upward and a partial vacuum created over the top of the smoke-pipe. By lifting slightly the edge of the hood the forced draft produced by the slanting side of the hood A will be lessened, and by turning it completely on its trunnions, a back draft will be created by which the fire will be effectually damped; which may be useful in many instances, for instance in such cases as now drawing the fire is practiced. When the vehicle is moving backward the hood is turned on its trunnions to produce the increased draft until the slant is in the direction of the motion. The draft can be regulated in the same manner as is described with reference to the device when moving forward.

We do not restrict ourselves to the taking advantage of the partial vacuum produced by the movement of the vehicle since the hood can be turned also to take advantage of a wind blowing over a vehicle if desired.

We consider that we are the first to regulate the draft of a moving vehicle by a movable hood placed on the head of the smoke-stack or pipe and therefore do not limit ourselves to the details of construction set forth above but consider to be within our invention all such changes as would be made by a



mechanic of skill in the art to which our invention relates without departing from the spirit of our invention.

Having now described our invention, what we claim, and desire to secure by Letters Patent, is—

1. The combination, with a circular smoke-pipe, of a lune shaped hood A, having the edge of the same contacting with the top of the pipe, curved to coincide with the curve of the top of the pipe, standards at the sides of said pipe, bearings in said standards and means for turning the hood all substantially as described.

2. The combination with a circular smoke-

pipe, of a lune shaped hood A, having two edges, each curved to coincide with the curve of the top of the pipe, standards at the sides of the pipe, bearings in said standards and means for turning the hood substantially as described.

In token whereof we have hereto set our hands, this 29th day of May, 1893, in the presence of two subscribing witnesses.

CHARLES R. PEIRCE.  
FORREST B. ENGLISH.

Witnesses:

GEO. W. REED,  
M. W. COLLET.