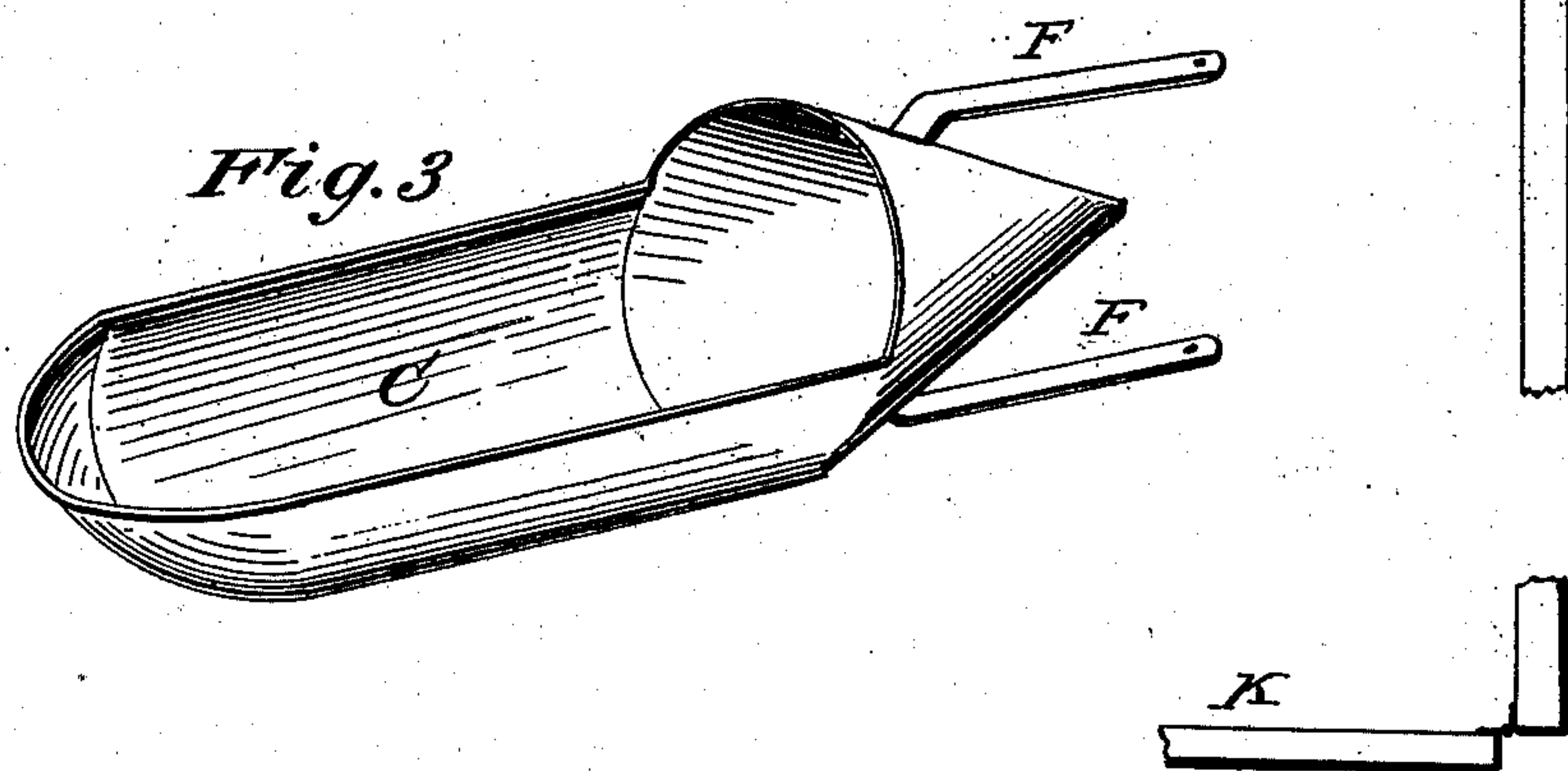
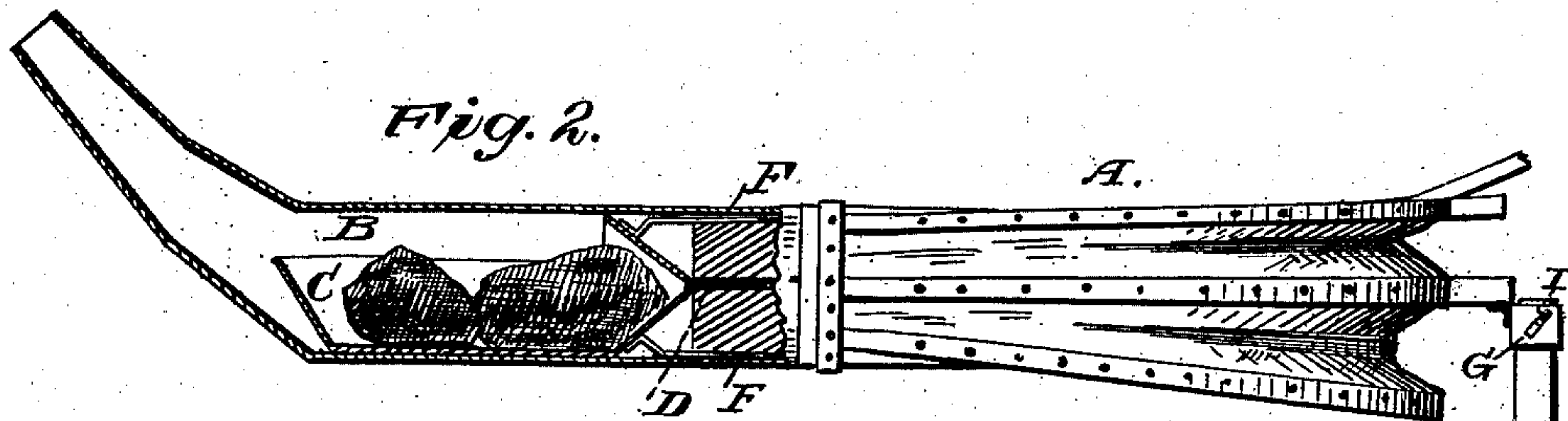
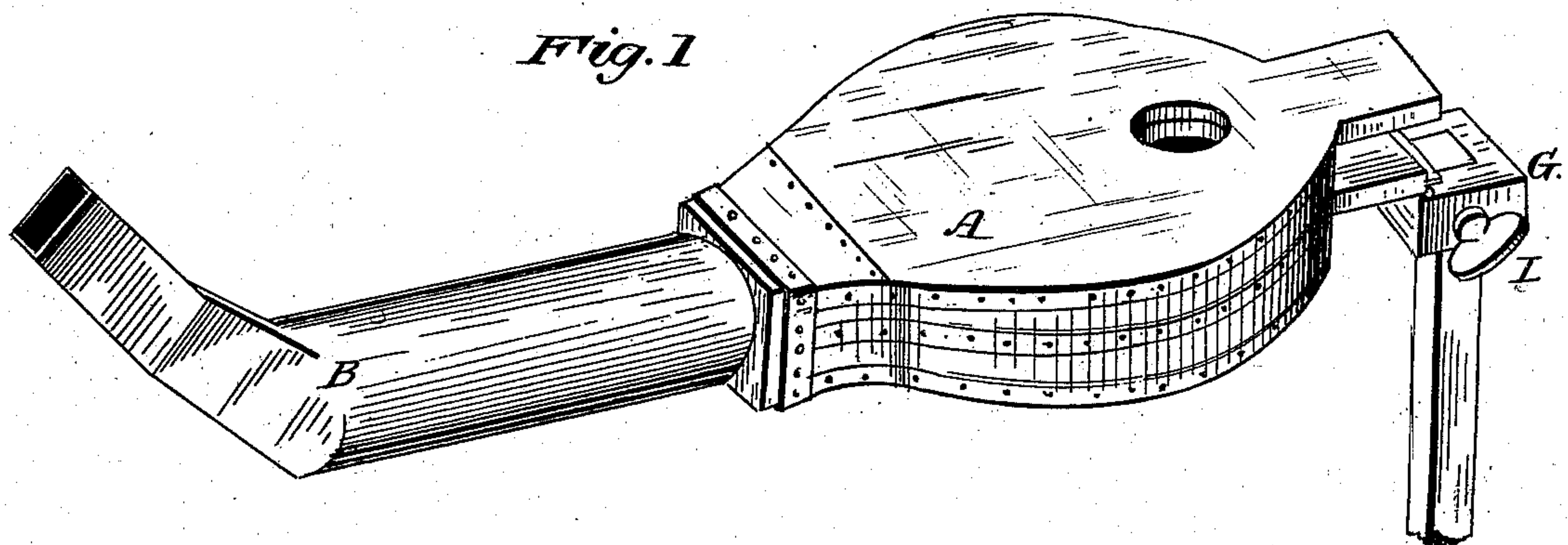


(Model.)

D. B. SMITH.  
Apparatus for Kindling Fires.

No. 228,131.

Patented May 25, 1880.



WITNESSES

*Fred. G. Duterich.*  
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ATTORNEYS



# UNITED STATES PATENT OFFICE.

DAVID B. SMITH, OF ALTOONA, PENNSYLVANIA.

## APPARATUS FOR KINDLING FIRES.

SPECIFICATION forming part of Letters Patent No. 228,131, dated May 25, 1880.

Application filed March 23, 1880. (Model.)

*To all whom it may concern :*

Be it known that I, DAVID B. SMITH, of Altoona, in the county of Blair and State of Pennsylvania, have invented certain new and useful Improvements in Apparatus for Kindling Fires; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

This invention relates to an improved apparatus for kindling fires; and it consists in certain improvements in the construction of the same, which will be hereinafter fully described with reference to the drawings, in which—

Figure 1 is a perspective view. Fig. 2 is a vertical longitudinal section, and Fig. 3 is a detail view of the fire-trough.

Corresponding parts in the several figures are denoted by like letters of reference.

In the drawings, A represents a pair of bellows, which may be constructed with two chambers, as shown, so as to enable a continuous blast to be kept up. The nozzle of the bellows forms a chamber, B, in which is accommodated a trough, C, the rear end of which is funnel-shaped, the narrow or contracted end being fitted in the mouth or opening D of the bellows. The trough, which is denoted by the letter C, is connected to the bellows by spring-clamps F F, as shown.

In operation I place in the trough C a charge of inflammable material, such as rosin, coke saturated with carbon-oil, or the like. I then ignite the same, adjust the trough to the mouth of the bellows, place over it the nozzle, and apply the blast of the bellows to the coal which is to be ignited. By means of the nozzle, when properly constructed, the blast may be directed at any desired point.

Owing to the peculiarly-constructed funnel-shaped end of the fire-trough excessive or over heating of the latter is avoided, while at the same time sufficient draft is had to cause the inflammable materials contained in the fire-trough to remain ablaze, and the fire-trough and nozzle may at all times be readily re-

moved for the purpose of replenishing the igniting material.

The bellows may be operated by hand in the usual manner; but for convenience I have added to the lower handle of the said bellows a hinged block, G, in which a standard is adjustable by means of a set-screw, I. The said standard is provided at its lower end with a foot-piece or treadle, K, which may be held down by one foot of the operator, who with one hand is working the kindling-bellows above described.

From the foregoing description, taken in connection with the drawings hereto annexed, the operation of my invention and its advantages will be readily understood by those skilled in the art to which it appertains. It is simple in construction, easily operated, and is adapted to create a fire-blast sufficient to ignite a body of coal almost instantaneously, and without the use of wood or other kindling.

The bellows being provided with an adjustable standard, as above described, they may be at all times readily operated with one hand.

Attention should also be called to the fact that the nozzle and fire-trough may be at all times easily removed for the purpose of cleaning both and replenishing the contents of the latter.

Having thus described my invention, I claim and desire to secure by Letters Patent of the United States—

1. The combination, with suitably-constructed bellows, of a detachable nozzle containing a fire-trough in which igniting material may be placed, as set forth.

2. The combination, with suitably-constructed bellows, of a fire-trough the rear end of which is funnel-shaped and fitted in the mouth of the said bellows, and a nozzle covering or inclosing the said fire-trough, as set forth.

3. In a device for kindling fires, a pair of bellows the lower side or handle of which is provided with a hinged and adjustable standard, as set forth.

4. As an improvement in devices for kindling fires, the combination of the bellows A, nozzle or chamber B, fire-trough C, having funnel-shaped rear end, and a hinged and ad-

justable support for the bellows, all constructed, arranged, and operating substantially as herein described, for the purpose shown and specified.

- 5 5. An apparatus or device for kindling fires, composed of a bellows or fan for creating a blast, a chambered nozzle for directing the blast into the substance to be ignited, and a fire-trough inserted into said chambered nozzle, substantially as set forth.
- 10

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of four witnesses.

DAVID B. SMITH.

Witnesses:

W. B. BLAKE,  
T. H. NICEWONGER,  
JOHN O'TOOLE,  
JOSEPH W. DOUGHERTY.