

L. BOTTENSTEIN.
SMOKE WASHER.
APPLICATION FILED FEB. 9, 1914.

Patented July 7, 1914.

1,102,996.

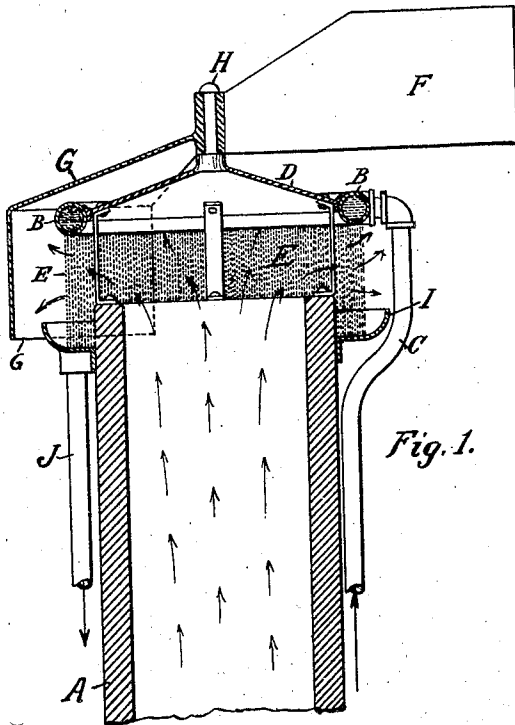


Fig. 1.

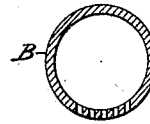


Fig. 6.

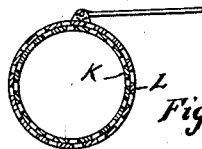


Fig. 3.

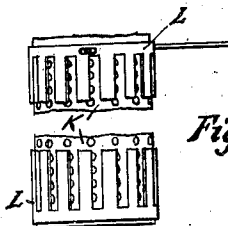


Fig. 4 and 5

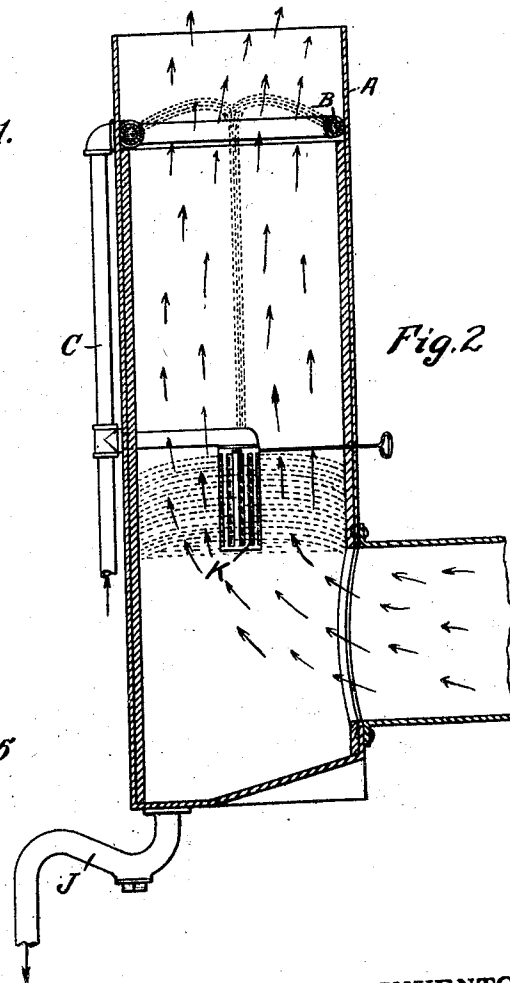


Fig. 2.

WITNESSES:

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SMOKE-WASHER.

1,102,996.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, LEOPOLD BOTTENSTEIN, a citizen of the United States, residing at Albany, in the county of Albany and State of New York, have invented certain new and useful Improvements in Smoke-Washers, of which the following is a specification.

My invention relates to devices for eliminating the smoke nuisance caused by burning soft coal in furnaces and boilers and the object of my invention is to provide a means by which the cinders and soot contained in the smoke will be collected and washed out by a spray of water. I accomplish this object by means of the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a vertical section of a smoke stack equipped with my smoke washer. Fig. 2 is a vertical section of a modification of my invention designed to wash the smoke from the inside of a smoke stack. Fig. 3 is a section of a spray pipe used for washing the smoke on the inside of the smoke stack. Figs. 4 and 5 are elevations of portions of said pipe with parts broken away showing the method of closing the holes. Fig. 6 is a cross section through the spray pipe B.

Similar letters refer to similar parts throughout the several views.

Referring to the drawings, A represents the shell of a chimney or smoke stack of any desired construction. Above the top of said smoke stack I construct a spray pipe B. This pipe is supplied with water from the pipe C. The pipe D is provided with spray holes of any suitable form and size to produce a suitable spray above the top of the chimney. The chimney is provided with the cover D of any suitable form and construction. This cover D will force the smoke to pass through the spray formed from the pipe B around the edges of the cover.

E represents the spray from the pipe B. F is a weather-vane of any suitable form and construction having a shield G which will protect the spray from the wind so that no matter which way the wind blows from the weather-vane F, turning upon the pivot H, will carry the shield G so as to protect the spray from the force of the wind, so that the wind will not interfere with the uniform spray from the pipe B and shield G will also protect the draft of the chimney.

I is a gutter extending around the chim-

ney or smoke stack to catch the water from the spray as it condenses and falls.

J is a gutter-pipe extending from the gutter I to carry the waste from the spray to the ground, as may be desired.

The water of the spray will wash out the soot and dirt contained in the smoke caused by burning soft coal and collect the same in the gutter and carry it through the gutter I to the waste pipe J off with the water to the ground or to pockets where it may be collected for use, as may be desired.

In some cases it may be advantageous to have the spray and wash the smoke inside of the chimney. In such cases I provide the spray inside of the chimney as shown in Fig. 2. In that case the water is supplied from the pipe C, as before stated, and the spray pipe B is substantially the same as the spray pipe B shown in Fig. 1, but instead of making the spray on the outside of the chimney, as shown in Fig. 1, the spray is confined within the chimney, as shown in Fig. 2, or the spray may be formed in the center of the chimney and instead of having the pipe extend around the inner side of the chimney, as shown in the upper part of said figure, the spray may be in the center of the chimney, as shown by the pipe K in Fig. 2. The spray pipe may have holes which may be enlarged or contracted, as may be desired by the slides L, as shown in Figs. 4 and 5. These slides operate to cover up portions of the holes in the spray pipe. When the holes are mostly covered there will be a very fine spray and when the slide is operated the other way so as to completely uncover the holes the spray will be coarse and flood the chimney and waste pipes as may be desired. The slide L consists of a ring covering the spray pipe, as shown in Figs. 3, 4, and 5.

The mechanical details of working out this invention may be varied to suit the circumstances without departing from the spirit of my invention.

What I claim as my invention and desire to secure by Letters Patent is,

1. In a device for washing the soot and dirt from smoke, a spray pipe above the top of a chimney, a cover over said chimney, a weather-vane located at the top of said chimney, a shield attached to said weather-vane which shield is adapted to protect the spray from the force of the wind.

2. In a device for washing the soot and

5 dirt from smoke, a spray pipe above the top of a chimney, a cover over said chimney, a weather-vane located at the top of said chimney, a shield attached to said weather-vane which shield is adapted to protect the spray from the force of the wind, a water pipe to conduct water to said spray and a waste pipe to conduct the same away.

10 3. In a device for washing the soot and dirt from smoke, a spray pipe above the top of a chimney, a cover over said chimney, a weather-vane located at the top of said chimney, a shield attached to said weather-vane which shield is adapted to protect

the spray from the force of the wind, a wa- 15
ter pipe to conduct water to said spray pipe, a gutter to collect the water from said spray, a waste pipe to conduct the same away, a slide on the outside of said spray pipe whereby the size of the openings in 20
said pipe may be partially closed, substantially as described for the purposes set forth.

In testimony whereof I affix my signature in presence of two witnesses.

LEOPOLD BOTTENSTEIN.

Witnesses:

RETA VAN DER VOLGEN,
WALTER E. WARD.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."