UNITED STATES PATENT OFFICE.

THOMAS E. WHITE, OF PHILADELPHIA, PENNSYLVANIA.

METHOD OF BLOWING SOOT.

1,046,522. Specification of Letters Patent. Patented Dec. 10, 1912.

No Drawing. Application filed June 24, 1911. Serial No. 635,067.

To all whom it may concern:

Be it known that I, THOMAS E. WHITE, a citizen of the United States, residing in the city of Philadelphia, county of Philadelphia, and State of Pennsylvania, have invented a Method of Blowing Soot, of which the following is a specification.

My invention is a method of operation designed to more effectively clean accumulations of soot from the heating surfaces of boilers and particularly from boiler tubes.

Generally stated, my method consists in directing a current of fluid along a section of the heating surface to be cleaned oppositely to the course of the simultaneously flowing gases by which such surface is being heated, whereby the soot in such section is detached, lifted or carried laterally from such surface by the resultant of the opposing forces, and drawn into the current of the unobstructed gases flowing in a section adjacent to that in which the fluid blast and gases are acting in opposition.

In the operations generally used for blowing soot, jets of steam are directed along the heating tubes in the same direction as that of the heating gases from which the soot is deposited, or in such direction that the force of the cleaning fluid is in whole or in part merely cumulative with relation to that of such gases, so that there is a tendency to pack the soot that is not readily dislodged.

In my invention, the soot is not merely dislodged by a force acting contrary to that which effects and maintains the lodgment, but it is particularly distinguished by the sectional blowing against the current of the heating gases, which permits the soot that is thrown outwardly from its lodgment by the dispersing effect of the counter currents to be drawn into the unobstructed current of the heating gases in a section adjacent to that in process of being blown, the dispersed soot being in a substantially neutral zone and state whereby it is readily drawn into the unobstructed current, by which it is carried away to the stack. When the surfaces of one section are thus cleaned, the draft is permitted to flow freely therethrough while a blast is directed oppositely to the course of heating gases flowing through an adjacent section.

Having described my invention, I claim:

1. The method of cleaning soot from boiler surfaces which comprises carrying heating gases over the surface to be cleaned and simultaneously discharging a fluid over a portion of said surface in opposition to a section of said gases without opposing a remaining section thereof, so that the dislodged soot shall be carried into the unobstructed section of said gases.

2. The method of cleaning soot from boiler tubes which consists in blowing simultaneously with and oppositely to a section of the heating gases flowing over said tubes without blowing against a contiguous section of said flowing gases so as to throw outwardly from said tubes transversely to the course of said gases soot dislodged by the opposing currents and removing such dislodged soot by the suction of the gases in said contiguous section.

In witness whereof I have hereunto set my name this 23rd day of June, 1911, in the presence of the subscribing witnesses.

THOMAS E. WHITE.

Witnesses:
H. M. LYMAN,
JOS. G. DENNY, Jr.