

THE WOLF SAFETY-LAMP.

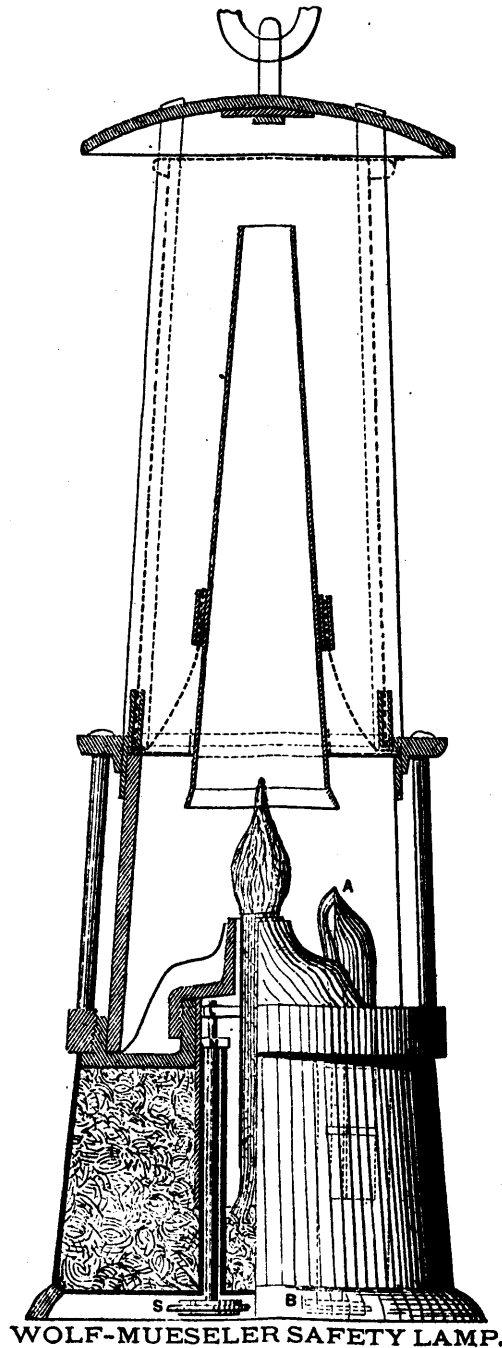
BY EUGENE B. WILSON, DRIFTON, PA.

(From the Transactions of the American Institute of Mining Engineers.)

The development of coal-mines has kept pace with the facilities at command for ventilating and lighting. In fact, it was formerly customary to leave unworked those mines, or portions of mines, in which naked lights could not be used without danger. Attention was then turned to the ventilation; but even with improved ventilation, the naked light was often not

safe. The new era in coal mining dates, we may say, as far back as 1815, when Sir H. Davy and Mr. George Stephenson discovered the principle of the safety-lamp. Since then many improvements have been added to their lamps, but until recently, none can be said to have given entire satisfaction; and even now the question of more light is being agitated.

The difficulties to be overcome by improvisers were many. Attention was first directed to the locks, with the view of making them more secure, and of preventing the miners from picking them to light their pipes, or from relighting the lamps in the mines in case they had been extinguished—such a proceeding being, of course, highly perilous in fiery mines. The

**WOLF-MUESELER SAFETY LAMP.**

JOASSIN TYPE.