S. H. MULVANY.

SPARK ARRESTER.

APPLICATION FILED JULY 3, 1915.

1,177,129.

Patented Mar. 28, 1916.

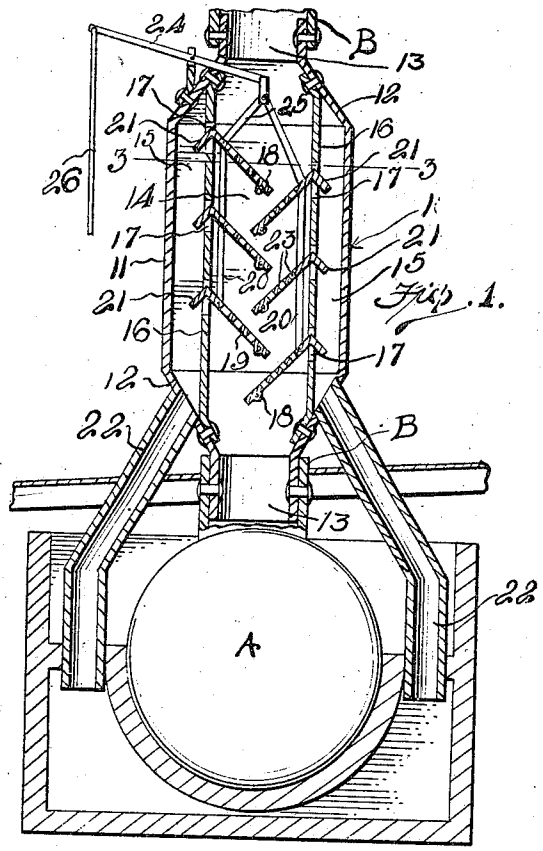


Fig. 1.

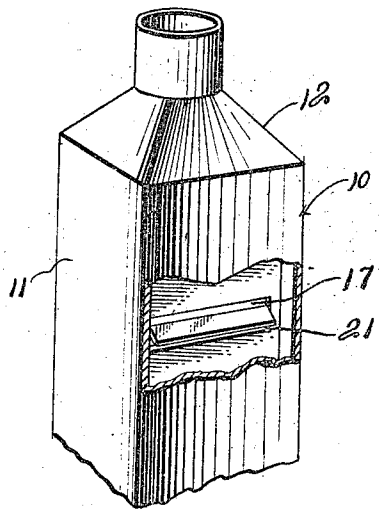


Fig. 2.

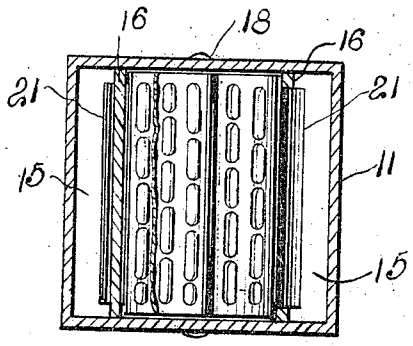


Fig. 3.

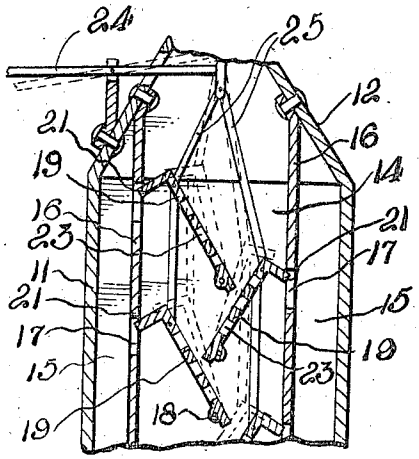


Fig. 4.

Witnesses
R. K. Stevens.
A. C. Handlee.

Inventor
S. H. Mulvany.

By Handlee & Handlee

Attorneys

UNITED STATES PATENT OFFICE.

SAMUEL H. MULVANY, OF WAMIC, OREGON.

SPARK-ARRESTER.

1,177,129. Specification of Letters Patent. Patented Mar. 28, 1916.

Application filed July 3, 1915. Serial No. 37,966.

To all whom it may concern:

Be it known that I, SAMUEL H. MULVANY, a citizen of the United States, residing at Wamic, in the county of Wasco, State of Oregon, have invented certain new and useful Improvements in Spark-Arresters; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to new and useful improvements in spark arresters adapted for application to smoke stacks of stationary boilers or the like.

The object of the invention is to provide an apparatus of the above nature that will effectually prevent the escape of live or hot cinders from the stack, and thus eliminate all danger of fire arising from such cinders falling upon buildings, sheds, or other inflammable materials, lying in the vicinity of or adjoining the stack.

The invention, generally speaking, comprises a plurality of deflecting members arranged within the stack and adapted to turn the cinders and products of combustion downward, means being provided for returning said cinders and products of combustion back into the ash-pit or fire-box.

The invention further consists in the adjustable mounting of said deflecting members, means being provided whereby they may be readily operated to regulate the passage of the cinders and products of combustion through the stack.

With the above and other objects of similar nature in view, the invention further consists in the construction, combination and arrangement of parts set forth in and falling within the scope of the appended claim.

In the drawings: Figure 1 is a sectional view of the invention applied to a boiler of conventional type. Fig. 2 is a perspective view of the arrester removed from the smoke stack, and with the housing partially broken away, Fig. 3 is a horizontal sectional view taken on the line 3—3 of Fig. 1, and Fig. 4 is an enlarged fragmentary view of the device showing the manner in which the deflecting members are adjusted to regulate the passage of cinders and products of combustion through the stack.

Referring now to the drawings A represents a boiler of conventional type, and B the smokestack therefor, the arrester being arranged between two sections of and forming a continuation of the stack and designated as a whole by the numeral 10.

In detail, the arrester comprises a casing or housing 11 substantially rectangular in cross section, the walls of which converge as at 12 and terminate in sleeves 13, said sleeves fitting within adjacent ends of the stack B and being secured thereto by rivets or other suitable fastening means.

Arranged within and dividing the housing 11 into the main or draft passage 14 and supplemental or return passages 15, are a pair of rectangular plates 16, said plates being secured to the converging portions 12 of opposing walls of the housing, and being provided with a plurality of transverse openings 17 adapted to establish communication between said draft and return passages. Disposed within the passage 14 thus formed, and having their inner ends arranged in spaced overlapping relation and hingedly supported on the rods 18, are sets of oppositely directed deflecting screens 19, each set of screens being hingedly connected together by means of the links 20 and being formed on their free ends with right angular flanges or projections 21 adapted to normally lie within the slots 17 in the plates 16 for the purpose of directing the larger sparks and cinders into the supplemental passage 15, from which they are conveyed to the ash-pit, or fire-box by means of the return pipes 22. The deflecting screens 19 are further formed with openings 23, through which the smaller sparks, cinders and other products of combustion are permitted to pass and escape to the atmosphere.

To adjust the deflectors 19 for the purpose of regulating the passage of cinders and products of combustion through the stack there is mounted on the housing 11, a lever 24, said lever projecting into the passage 14 above the screens, and being hingedly connected to the free ends of the upper pair thereof by means of the links 25. It is thus apparent that when the lever 24 is operated, by means of the pull cable 26 the deflectors 19 are swung simultaneously on the rods 18, and toward or away from the plates 16, the flanges 21 moving freely within the openings 17 in the plates, thereby increasing or decreasing the size of said openings and regulating the passage of sparks and cinders into the passage 15 and through the openings 23 in the deflectors.

If it be desired, the deflectors 19 may be swung clear of the plates 16, as shown in dotted lines in Fig. 1 thus permitting unimpeded passage of the cinders and other products of combustion through the stack and into the atmosphere.

What is claimed is:

A spark arrester comprising a housing adapted for application to a smoke stack, plates arranged within and dividing said housing into a main passage and supplemental passages, said plates being provided with openings for establishing communication between said main and supplemental passages, and deflectors adjustably mounted in the main passage to extend to or through said openings, and deflect the sparks and cinders in the main passage, through said opening and into the supplemental passages.

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

SAMUEL H. MULVANY.

Witnesses:
M. J. SWIFT,
A. J. SWIFT.