No. 820,278. PATENTED MAY 8, 1906.

L. D. ZENT.

COOLING DEVICE FOR ENGINE CYLINDERS.

APPLICATION FILED NOV. 10, 1904.

Fig. 1.

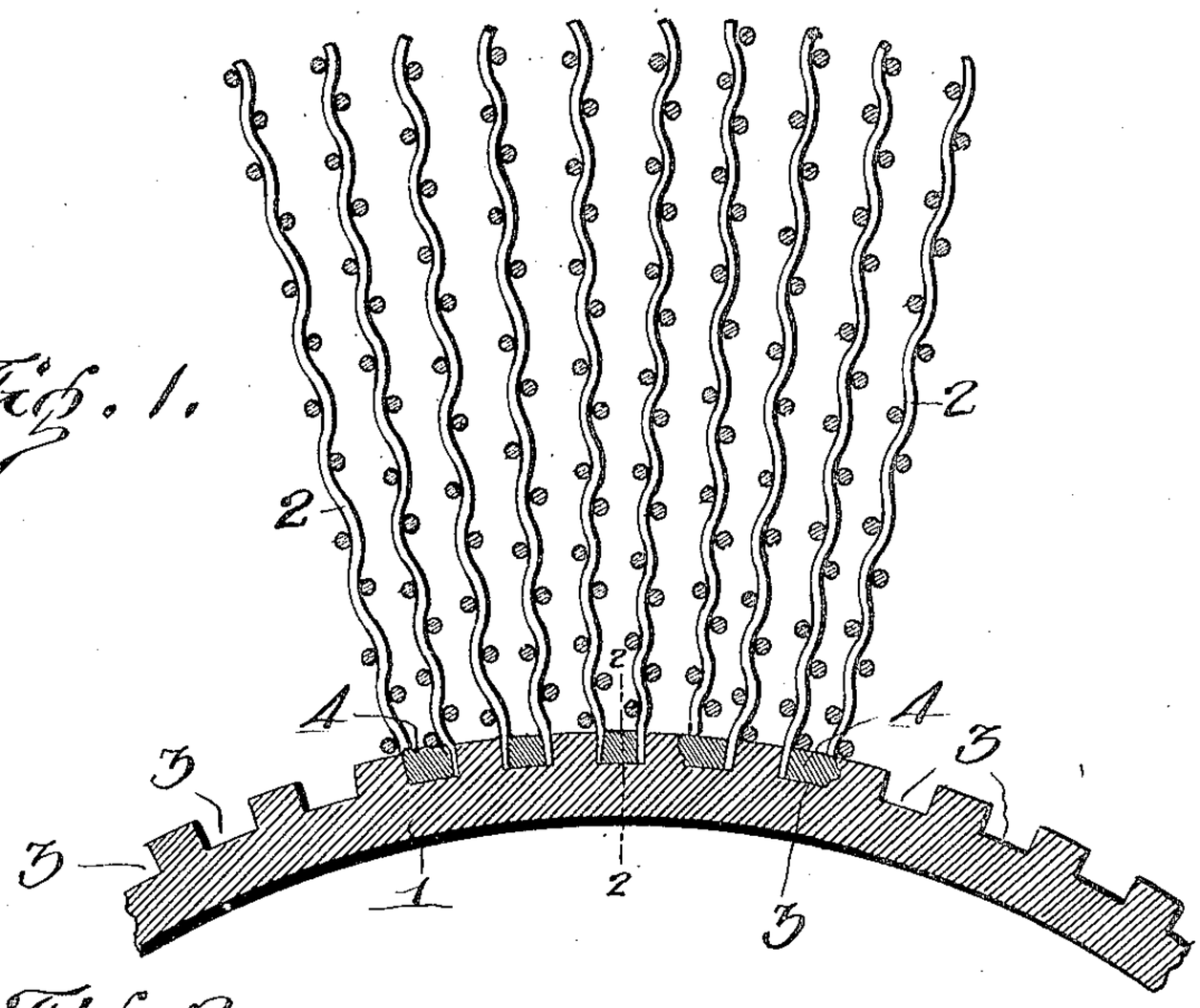


Fig. 2.

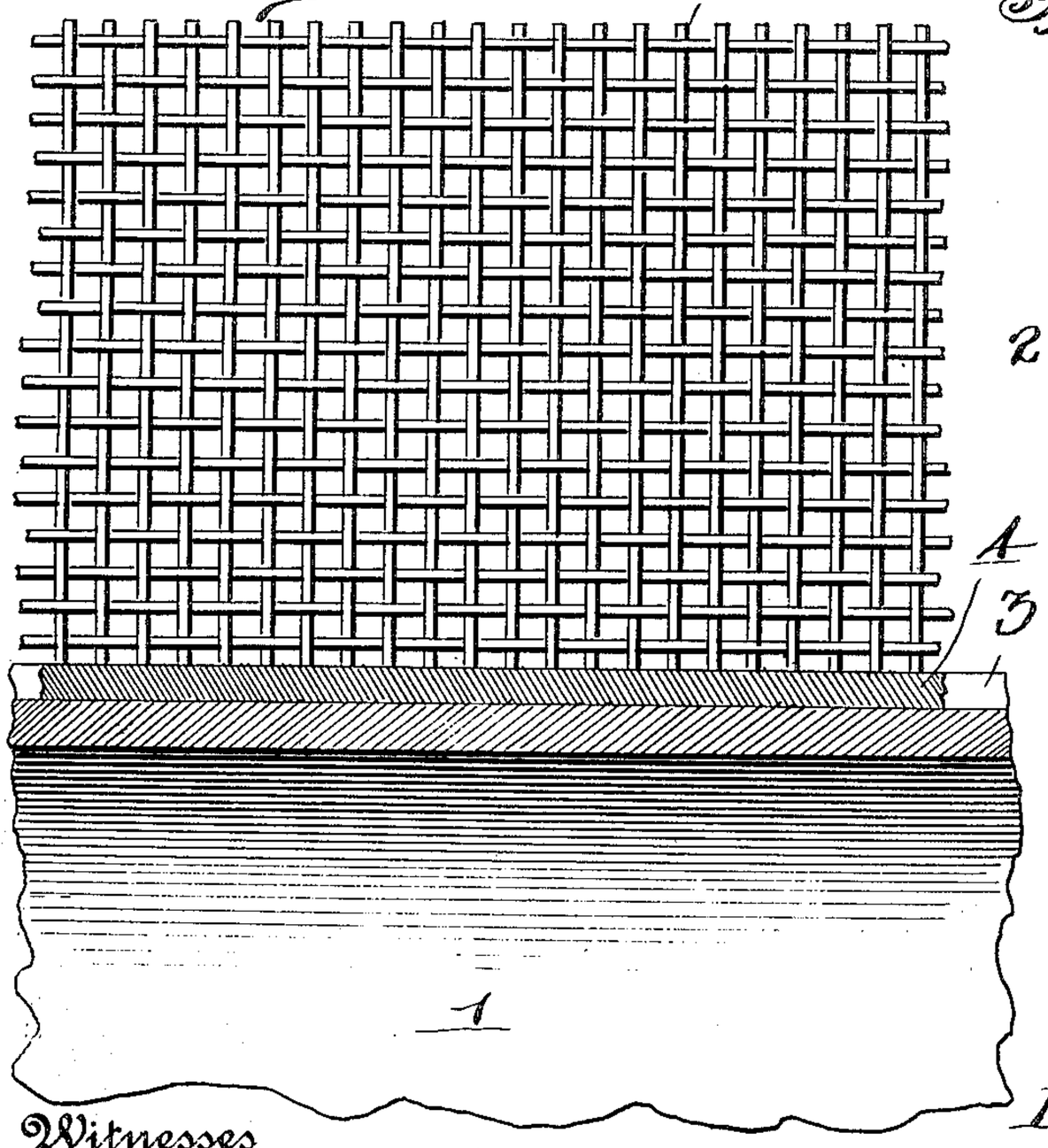
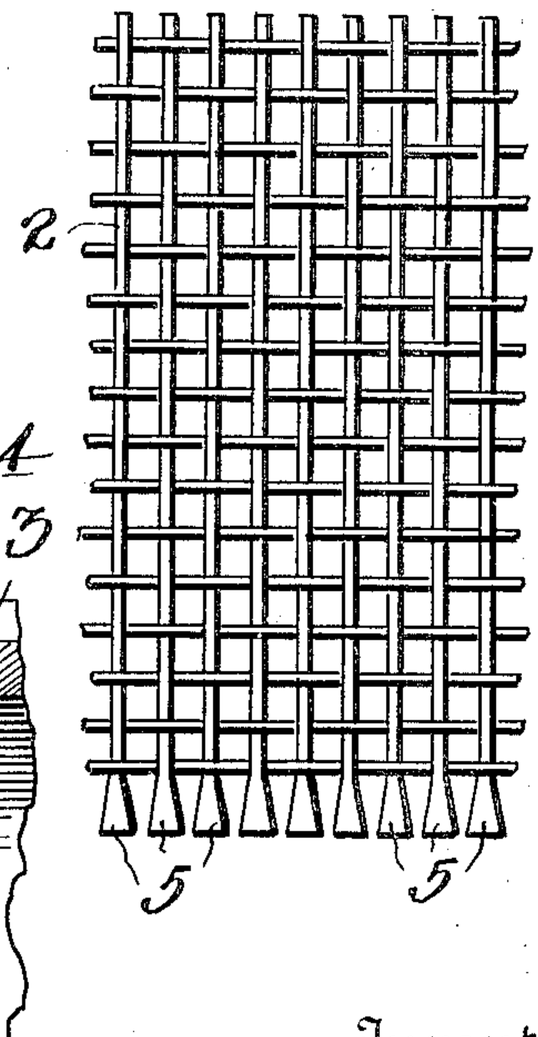


Fig. 3.



Witnesses
Jas A. Koehl.
C. H. Griebauer.

Inventor
Lewis D. Zent.
by A. B. Wilkinson
Attorney

UNITED STATES PATENT OFFICE

LEWIS D. ZENT, OF BELLEFONTAINE, OHIO.

COOLING DEVICE FOR ENGINE-CYLINDERS.

No. 820,278. Specification of Letters Patent. Patented May 8, 1906.

Application filed November 10, 1904. Serial No. 232,205.

To all whom it may concern:

Be it known that I, LEWIS D. ZENT, a citizen of the United States, residing at Bellefontaine, in the county of Logan and State of Ohio, have invented certain new and useful Improvements in Cooling Devices for Engine-Cylinders; and I do 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.

My invention relates to heat-radiating devices, and more particularly to such devices for cooling or radiating the heat generated in the cylinders of gas or explosive engines.

The object of my invention is to provide a simple and highly-efficient cooling means of this character which may be applied to the cylinder or any other part of a motor at comparatively low cost.

With the above and other objects in view the invention consists of certain novel features of construction, combination, and arrangement of devices hereinafter described and claimed.

In the accompanying drawings, Figure 1 is a vertical transverse sectional view through a portion of an engine-cylinder, showing the application of my invention thereto. Fig. 2 is a vertical longitudinal sectional view taken on the line 2 2 of Fig. 1, and Fig. 3 is a plan view of a portion of one of the heat-radiating strips before the same has been secured upon the engine-cylinder.

Referring to the drawings by numeral, 1 denotes a portion of a metal object from which it is desired to radiate heat and which in the present instance is a portion of an engine or motor cylinder, and 2 denotes my improved heat-radiating devices, which are in the form of strips of woven-wire fabric. Said strips 2 may be of any suitable form and construction, and they may be arranged in any desired manner upon the cylinder 1; but I preferably have them extend longitudinally and radially and arrange them in pairs, as shown. Each of said pairs is fastened in a longitudinally-extending groove 3, which is formed in the outer surface or periphery of the cylinder 1. This fastening is effected by inserting within said groove between the strips a calk or strip 4 of soft metal, preferably copper, and then expanding this fastening-strip to cause it to fill the spaces between the ends of the wires which extend into said groove and hold said heat-radiating strip securely in the groove. Before inserting the woven-wire-fabric strip in the groove I preferably flatten, as shown at 5 in Fig. 3 of the drawings, the ends of the wires of said strips, which are to project into said groove in order to permit them to firmly engage the walls thereof. Since the fastening-strips 4 are of much softer metal than the engine-cylinder 1, they will expand to a greater extent than said cylinder, so that the fastening-strips will be firmly secured in the groove of the cylinder at all times. If desired, the walls of the groove 3 may be slightly under cut in order to permit the fastening-strips to wedge the flattened ends of the wires of the strips 2 apart, and thus provide a better connection; but this is not necessary when the fastening-strips are of softer metal than the engine-cylinder.

The use, construction, and advantages of my invention will be readily understood from the foregoing description, taken in connection with the accompanying drawings. It will be seen that these heat-radiating strips of woven-wire fabric may be quickly and easily secured in the grooves of the engine-cylinder at a comparatively small cost and that they will effectively radiate the heat generated within the cylinder.

While I have shown and described my invention as applied to the cylinder of an engine, it will be understood that the same may be similarly applied to the surface of any object from which it is desired to radiate heat.

Various changes in the form, proportion, and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

In a device of the character described, the combination of a cylinder having a series of grooves formed therein, pairs of heat-radiating strips of reticulated material having their

inner edges flattened and bearing against the walls of said groove, and a fastening-strip inserted in each groove between the flattened ends of the strips and expanded to fill the spaces between the flattened ends of the heat-radiating strips and to retain the latter in the groove, said strips extending radially from the cylinder, substantially as described.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

LEWIS D. ZENT.

Witnesses:
SAMUEL I. FRICK,
W. R. ARVIN.