

No. 851,978.

PATENTED APR. 30, 1907.

J. W. BIGSBY & F. W. BARHOFF.

EXPLOSIVE ENGINE CYLINDER.

APPLICATION FILED MAR. 9, 1906.

Fig. 1.

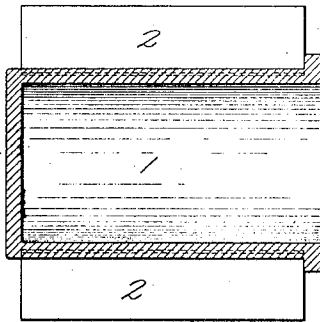


Fig. 2.

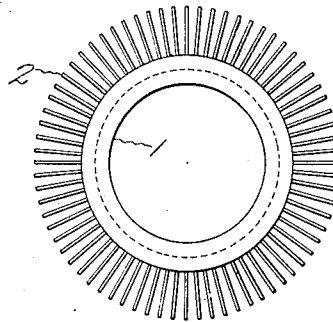


Fig. 3.

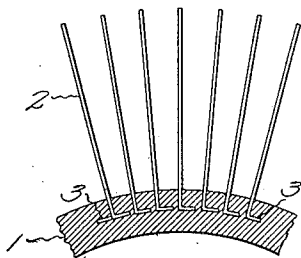


Fig. 6.

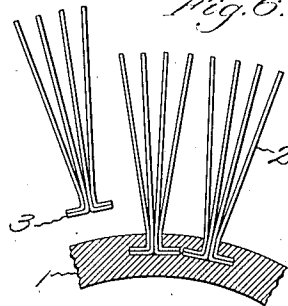


Fig. 4.

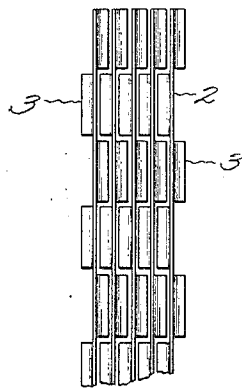
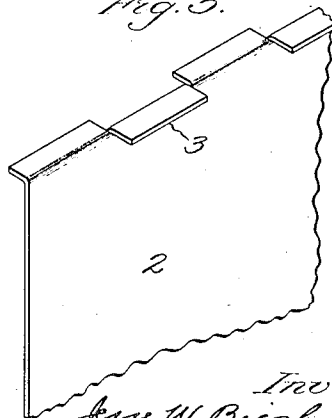


Fig. 5.



Witnesses.

C. F. Stone

Ethel M. Lowe.

Inventors.

J. W. Bigsby &
Fred W. Barhoff
per
Harry P. Williams
Attorney.

UNITED STATES PATENT OFFICE.

JESSE W. BIGSBY AND FRED W. BARHOFF, OF HARTFORD, CONNECTICUT.

EXPLOSIVE-ENGINE CYLINDER.

No. 851,978.

Specification of Letters Patent.

Patented April 30, 1907.

Application filed March 9, 1906. Serial No. 305,061.

To all whom it may concern:

Be it known that we, JESSE W. BIGSBY and FRED W. BARHOFF, citizens of the United States, residing at Hartford, in the county of Hartford and State of Connecticut, have invented a new and useful Explosive-Engine Cylinder, of which the following is a specification.

This invention relates to an explosive engine cylinder which has a cast metal body and plates extending outwardly from the body and having their inner edges disposed within the body so as to make intimate contact therewith.

The object of the invention is to produce a cylinder of this nature of such design that the body may be easily cast and the plates, without impairing the strength of the body, will have a large area in intimate contact with the interior of the body so that heat will flow rapidly from the body to the plates and be radiated to the outer atmosphere. This cylinder has a cast metal body with plates that extend outwardly from the body and that have sections of their inner edges folded alternately in opposite directions so that, when the body is cast about the inner edges the plates will be firmly held in position with a large area surrounded by and in intimate contact with the metal of the body.

Figure 1 of the accompanying drawings shows a longitudinal section of a cylinder having radiating plates arranged according to this invention. Fig. 2 shows an end view of this cylinder. Fig. 3 shows on larger scale a small section of the cylinder. Fig. 4 shows a plan of several of the plates with their inner folded edges arranged as they are embedded within the cylinder. Fig. 5 is a perspective view of one of the plates. And Fig. 6 shows a small section of the cylinder with the plates arranged in groups.

The body 1 of this cylinder is cast to shape of iron or steel with one or both ends open as desired. This body is bored to the required size and finished in the usual manner. The plates 2 are formed of metal having high heat conductivity. The inner edges of these plates which may be stamped from sheets of iron or copper are slitted and the sections 3 of the slitted edges are bent alternately one way and then the other so as to form a wide base. The plates are located in a mold with the bent projections on the opposite sides ex-

tending into the recesses of the adjacent plates, as shown in Fig. 4. When the body is cast the molten metal flows each side of these bent inner edges of the plates and holds them firmly in position. The plates may be arranged singly, as shown in Fig. 3, or several may be arranged together as shown in Fig. 6. A cylinder formed in this manner has a wall of practically uniform thickness and strength. The inner edges of the plates are so shaped that there are slight spaces between the sections in order that the metal outside of the edges may be firmly bound to the metal inside of the edges and yet the inner edges of the plates form practically a shell of high heat conductivity around the interior of the body. This cylinder can have a large number of plates so that the radiating area will be great and these plates are held tightly in position with such an extended surface contact between the inner edges of the plates and the metal forming the body of the cylinder that the plates will conduct heat from the body very rapidly.

The invention claimed is:—

1. An explosive engine cylinder having a cast metal body and metal angle plates of high heat conductivity with the wider sections of the plates extending outwardly from the body and the narrower sections of the plates embedded within and forming a core of high heat conductivity in the interior of the body, substantially as specified.

2. An explosive engine cylinder having a cast metal body and metal plates of high heat conductivity extending outwardly from the body and having their inner edges embedded within the body and extending from plate to plate so as to form a cylindrical shell of high heat conductivity in the interior of the body, substantially as specified.

3. An explosive engine cylinder having a cast metal body, and thin metal plates extending outwardly from the body and having sections of their inner edges bent in opposite directions and embedded within the body, so that the bent sections of each plate extend into recesses formed between bent sections of the adjacent plate, substantially as specified.

JESSE W. BIGSBY.

FRED W. BARHOFF.

Witnesses:

HARRY R. WILLIAMS,

ETHEL M. LOWE.