

(No Model.)

H. BELL.
SPARK ARRESTER.

No. 526,828.

Patented Oct. 2, 1894.

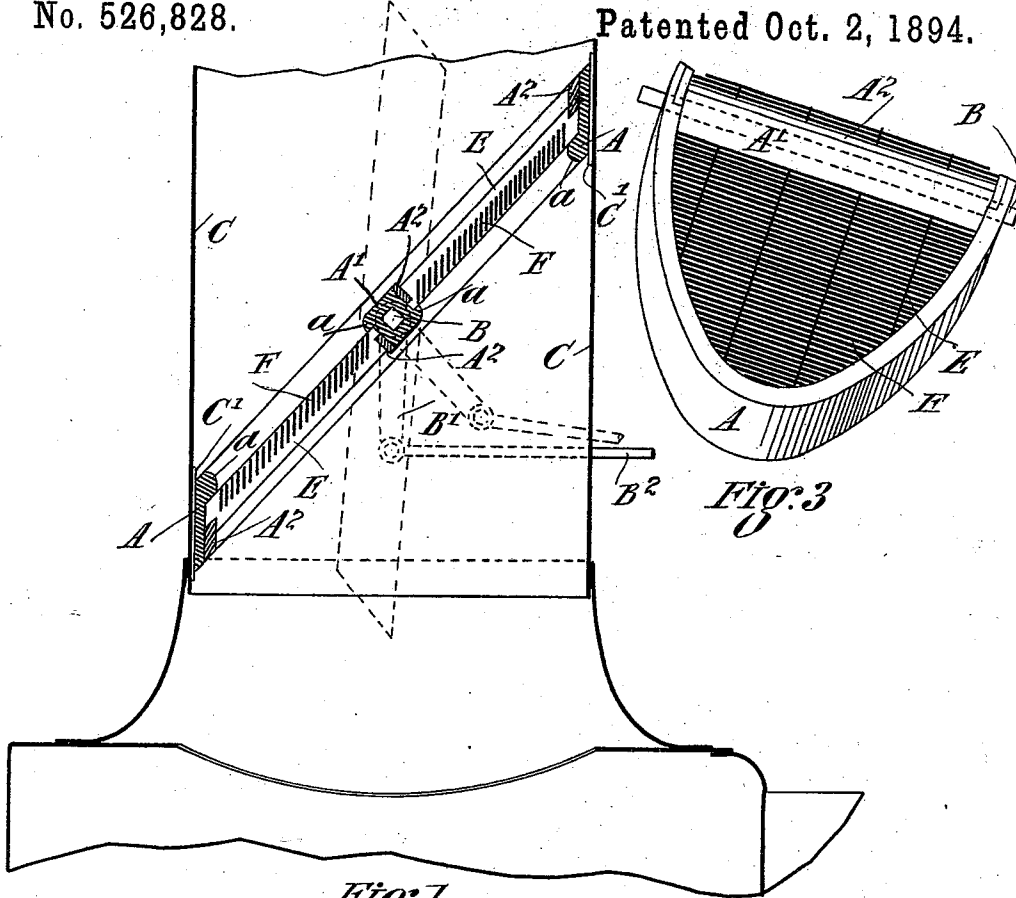


Fig:1

Fig:3

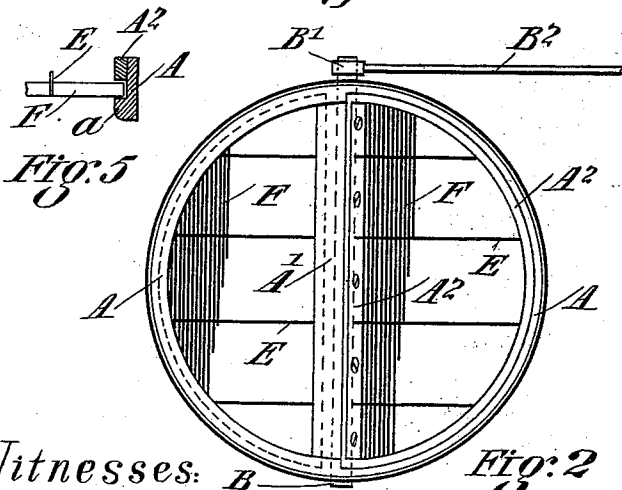


Fig:5

Fig:2

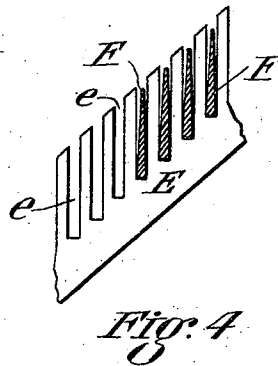


Fig:4

Witnesses: B
S. L. Wood
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Inventor:
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By his Attorney
Edward P. Thompson

UNITED STATES PATENT OFFICE.

HENRY BELL, OF ST. KILDA, VICTORIA.

SPARK-ARRESTER.

SPECIFICATION forming part of Letters Patent No. 526,828, dated October 2, 1894.

Application filed September 22, 1893. Serial No. 486,156. (No model.)

To all whom it may concern:

Be it known that I, HENRY BELL, nail-maker, a subject of the Queen of Great Britain and Ireland, and a resident of Lock Street, St. Kilda, in the British Colony of Victoria, have invented a certain new and useful Improved Spark-Arrester, of which the following is a specification.

This invention relates to an improved spark arrester that is arranged in the funnel of locomotive, traction or portable engines.

It consists of a grating arranged at an oblique line in the funnel and centered and formed exteriorly similar to a throttle valve. The object in having the grating arranged obliquely in the funnel is to obtain as large a grating area as possible to arrest the sparks and the object in centering and supporting it in a similar manner to a throttle valve is to allow of its being placed erect or vertical when the arrester is not required such as when steam is being got up or when the fuel being used does not require a spark arrester; also another advantage in having the grating centered similar to a throttle valve is that it can be shaken and struck against its seating ring by medium of a lever and rod from the cab of the engine to clear or clean the spaces between the grating bars of accumulated sparks and soot. In order to retain the grating as clean and clear as possible I prefer to have each grating bar fitted in position in such a manner that it is capable of a slight side and end movement or so that the grating will be retained as it were in a state of tremor by the intermittent action of the blast passing through the funnel. If found desirable the part of the funnel in which my invention is placed can be enlarged to give increased area for the grating and the funnel may be either of round or square section.

The attached drawings illustrate my invention in its preferred form.

Figure 1 shows it by a longitudinal section as arranged in a funnel or chimney; Fig. 2, a plan view of Fig. 1; Fig. 3, a part surface plan of the elliptical grating; Fig. 4, an enlarged detail view of part of the grating; Fig. 5, a detail view showing how the end part of

the grating bars are supported in the elliptical ring.

A is the elliptical ring and A' is attached boss and which together carry the grating.

B is the spindle passing through the said boss and through sides of funnel to support the arrester in position. Said spindle has a lever B' on it that is capable of being locked in position either by a suitable device upon the funnel or by said lever being connected by a rod B² with the lever or handle on the cab of engine so that it may be operated therefrom. The beveled edge of the elliptical ring A bears against the flat bearing ring C' in the funnel C.

A² is a D shaped flange fitted in the elliptic ring A and fitted against its inner surface and against the surface of the boss and such ring A² has gaps or slots in it to receive the bars E the ends of which bear on the ledge *a* projecting inwardly from the elliptic ring A and boss A'.

F are the grating bars supported in position by being placed in open ended slots or gaps *e* formed in bars E such slots being made slightly wider than the thickness of the grating bars to allow the latter to shake slightly as before described. The ends of the grating bars F also bear on the ledge or rib *a* before referred to and they have a slight end play thereon; also the grating bars F are of a tapering thickness the thick edge being downward and nearest the smoke box so as to leave the spaces between the bars slightly wider at top and such space in its narrowest part should not be more than one eighth of an inch wide.

Although I have described and shown in the drawings the construction of the grating that I prefer I do not confine myself precisely to such construction as the novel feature in the invention is the arrangement of the oblique grating in the funnel or chimney.

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

1. In a spark arrester as claimed above the combination of the elliptic ring A and the boss A' the flanged pieces A² gapped bars E

and grating bars F all assembled substantially as herein described and explained and as illustrated in the drawings.

2. In a spark arrester, the combination of
5 gapped bars E, and grating bars F, fitting loosely in the gaps as and for the purpose set forth.

In testimony that I claim the foregoing as

my invention I have signed my name, in presence of two witnesses, this 16th day of August, 1893.

HENRY BELL.

Witnesses:

HENRY HOILE,

BEATINGTON BODGCOMB,

Patent Agent, Melbourne.