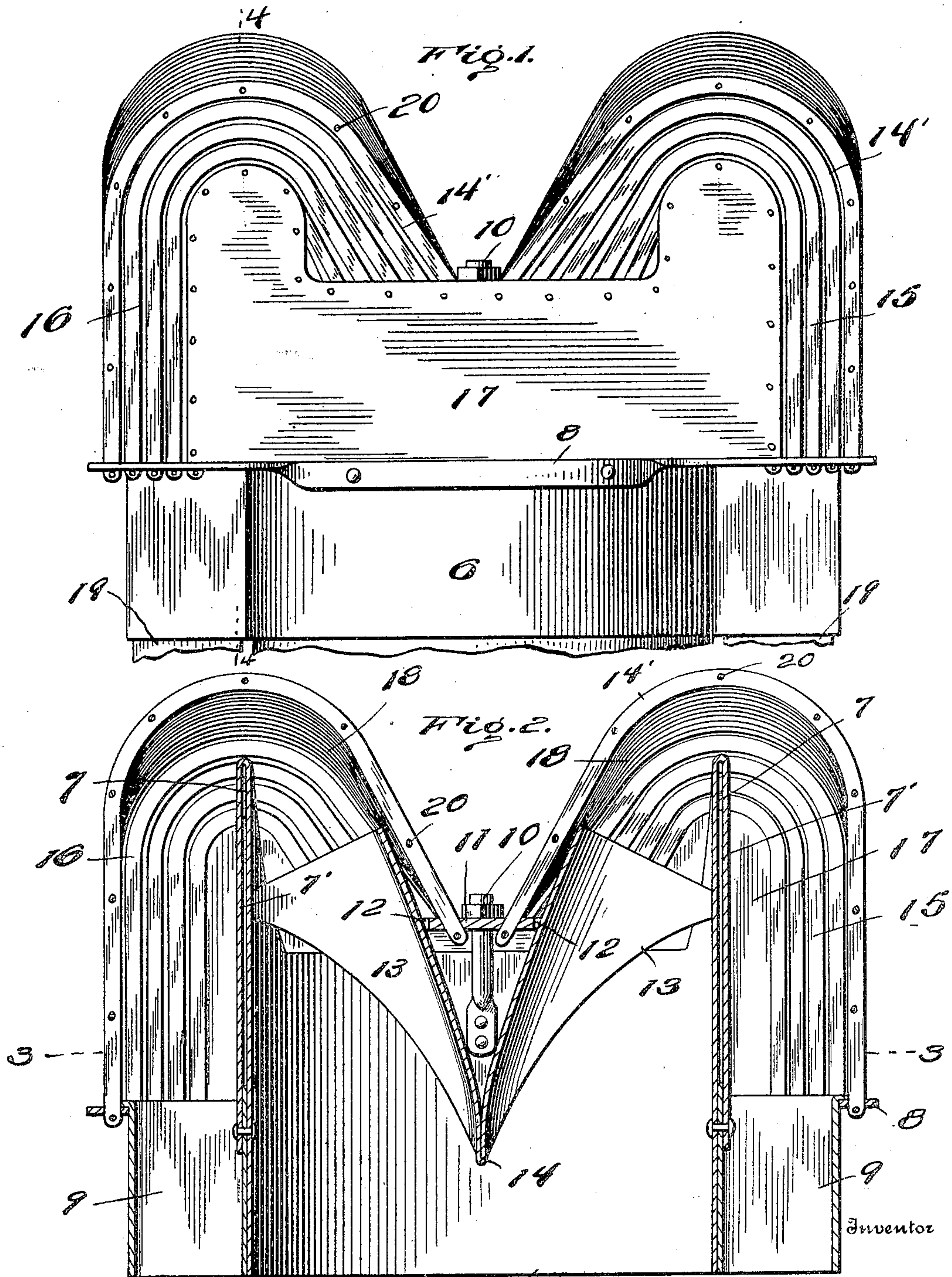


No. 808,591.

PATENTED DEC. 26, 1905.

S. AMICK.  
SPARK ARRESTER.  
APPLICATION FILED JUNE 10, 1905.

2 SHEETS—SHEET 1.



Witnesses

G. R. Thomas  
E. M. Galford

By

S. Amick  
Charles Chandler

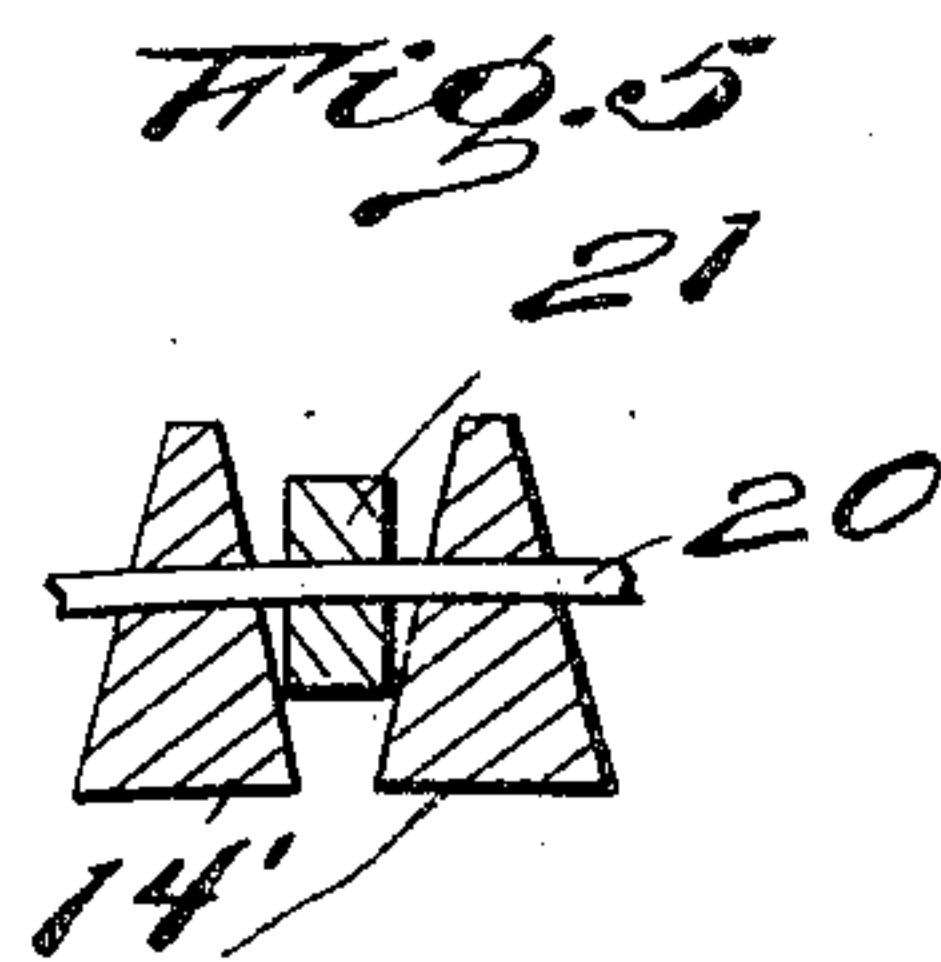
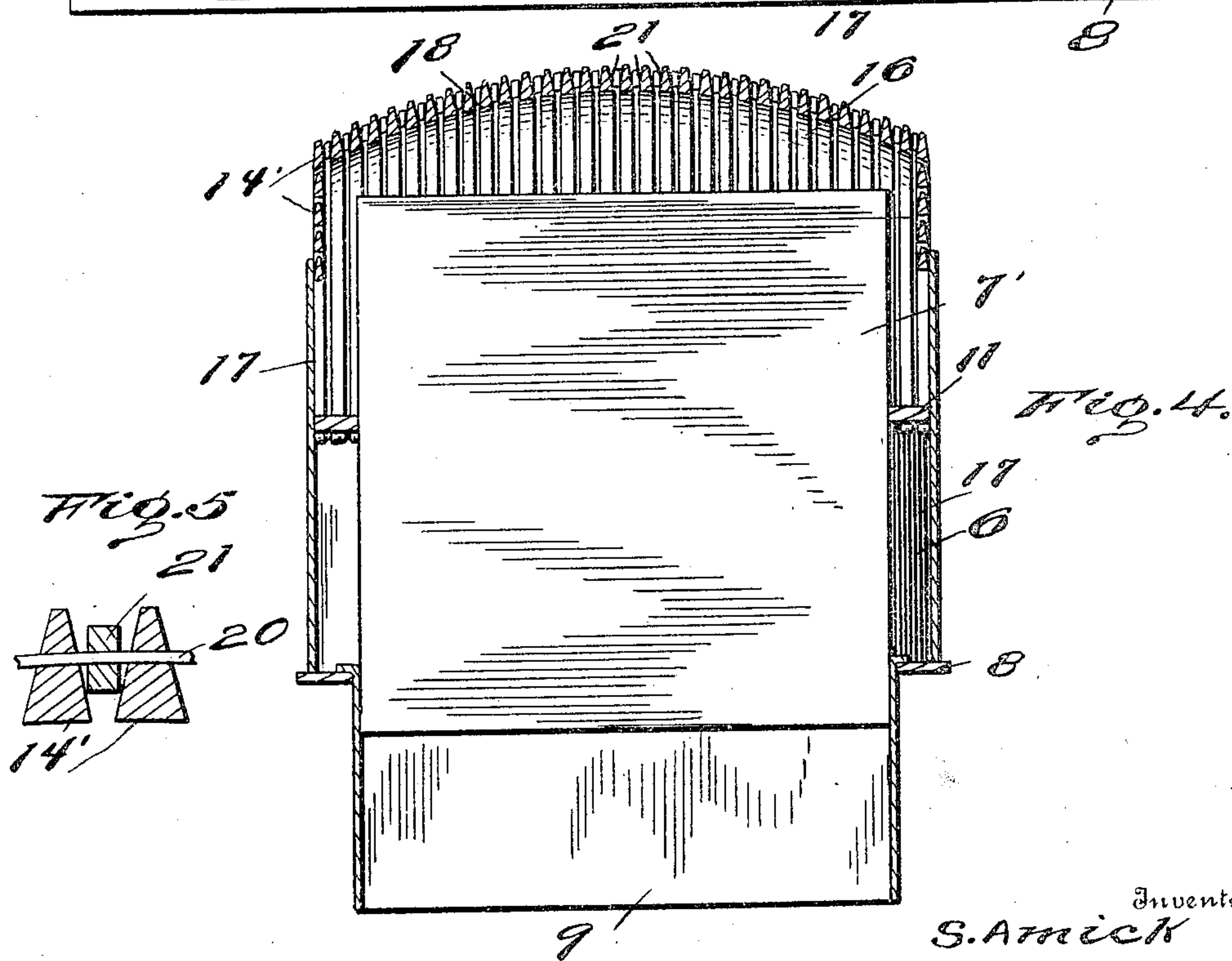
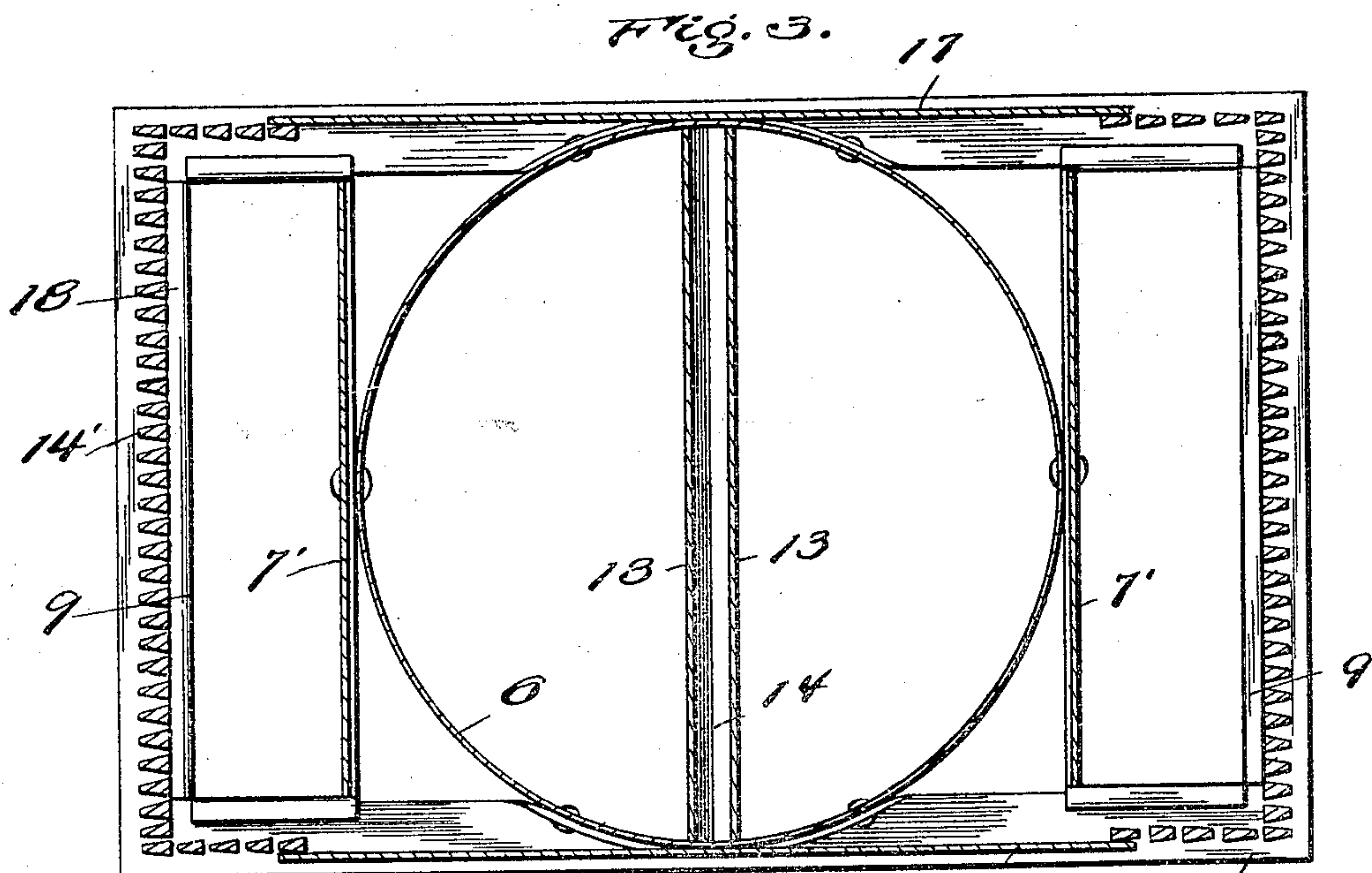
Attorney

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2 SHEETS—SHEET 2.



Witnesses

G. R. Thomas

E. M. Galford

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Inventor

Attorneys



# UNITED STATES PATENT OFFICE.

SAMUEL AMICK, OF BROWNSBURG, INDIANA.

## SPARK-ARRESTER.

No. 808,591.

Specification of Letters Patent.

Patented Dec. 26, 1905.

Application filed June 10, 1905. Serial No. 264,613.

*To all whom it may concern:*

Be it known that I, SAMUEL AMICK, a citizen of the United States, residing at Brownsburg, in the county of Hendricks, State of Indiana, 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 spark-arresters, and has for its object to provide a device which will operate efficiently to prevent sparks and cinders from flying from the flues of locomotives, traction - engines, &c., and which will include a novel arrangement of parts.

Another object is to provide an arrester including cages formed of spaced rods which will be so arranged that cinders will not be caught between the rods.

Other objects and advantages will be apparent from the following specification, which describes an embodiment of the present invention.

In the drawings forming a portion of this specification, and in which like numerals of reference indicate similar parts in the several views, Figure 1 is a side elevation of the present arrester. Fig. 2 is a longitudinal vertical section. Fig. 3 is a horizontal section on line 3 3 of Fig. 2. Fig. 4 is a central vertical section on line 4 4 of Fig. 1. Fig. 5 is an enlarged detail view showing two of the rods and the intervening spacing-blocks in cross-section.

Referring now to the drawings, the present invention comprises a hollow cylindrical member 6, adapted for engagement with the upper end of a flue and having its opposite side portions 7 extending upwardly and then bent downwardly upon themselves, as shown at 7'. A horizontally-extending rectangular frame 8 is secured to the member 6 and surrounds the latter, this frame lying adjacent to the lower end of the member and being secured thereto at diametrically opposite points and between the upwardly-extended portions 7. Vertically-extending chutes 9 are secured to the ends of the frame 8, lying within this frame and resting against the member 6, and the portions 7' of the member 6 extend downwardly into these chutes and are secured thereto to hold the chutes in position. Upwardly-extending rods 10 are secured to the

member 6 and project thereabove, and these members are engaged in a top plate 11, extending across the member 6 between the portions 7 and having recesses in its opposite edges adjacent to these portions to form passages 12, in which are disposed the upper end of upwardly-divergent deflector-plates 13, connected at their lower edges, as shown at 14, and extending downwardly into the member 6, the point of union of the deflector-plates lying beneath the plate 11, and the deflector - plates are transversely curved, as shown.

A plurality of rods 14' are engaged at their inner ends in the plate 11 and are curved upwardly and outwardly and then downwardly to form two cages 15 and 16, the outer lower ends of the rods being secured in the frame 8. Plates 17 are secured to the sides of the frame 8 and extend upwardly to close the ends of the cages. The portions 7' of the member 6 extend into the cages and lie in spaced relation to the rods 14', and there are thus formed upwardly and outwardly curved and then downwardly-directed passages 18 within the cages communicating at their inner ends with the interior of the member 6 and at their outer ends with the chute 9, the deflector-plates 13 extending into these passages at their inner ends to deflect cinders and other matter passing upwardly through the member 6 into the passages 18, from which they pass to the chutes 9 and thence into suitable discharge-tubes 19.

The rods 14' have the form of a truncated triangle in cross-section, the bases of these triangles being directed inwardly, and by reason of the fact that the mutually-adjacent faces of the rods thus diverge outwardly any matter passing between the rods will not be wedged therebetween but will pass on through.

Transverse stay-rods 20 are engaged in the rods 14', and mounted upon these stay-rods between the rods 14' there are spacing-blocks 21.

There is thus provided an arrester having divergent cinder-passages communicating with discharge-chutes, the cinder-passages being formed partly by cages, and the arrangement is such that cinders passing upwardly through the member 6 strike the deflector-plates and are directed thereby into the cages and over the upwardly-extended portions of the walls of the member, the cin-



ders falling downwardly outwardly of the downwardly-extending portions 7' of the walls to and through the discharge-chutes.

What is claimed is—

5 1. A spark-arrester comprising a hollow member adapted for engagement with a flue, chutes disposed exteriorly of the member, a top plate connected with the member and lying transversely thereof, the walls of the mem-  
10 ber at opposite sides of the top plate extending thereabove, deflector-plates located within the member and lying in engagement with each other below the top plate, said deflector-plates diverging upwardly toward the up-  
15 wardly-extending portions of the wall of the member to direct matter thereover, said deflector-plates lying at opposite sides of the top plate, a plurality of curved rods secured at one end to the top plate and connected at  
2 their other ends with the outer portions of the chutes, and side plates secured to the outermost rods and connected with the member to form a complete cage.

25 2. A spark-arrester comprising a hollow cylindrical member adapted for engagement with a flue, vertically-extending chutes secured to the outer face of the member at dia-

metrically opposite points, the walls of the member above the chutes being extended upwardly and then bent downwardly into the  
30 chutes and secured thereto, a plate secured to the member and extending thereacross between the upwardly-extended portions of its walls, a horizontally-extending frame secured to the member and surrounding it and the  
35 chutes, oppositely-extending sets of curved rods secured at their inner ends to the plate and at their outer ends to the frame, the upwardly-extended portions of the walls of the member lying within the inclosure of the rods  
40 and in spaced relation thereto, end plates secured to the member and to the outermost rods and upwardly-divergent deflector-plates disposed within the member and arranged to direct matter passing upwardly through the  
45 member over the upwardly-extended portions of the walls of the member.

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

SAMUEL AMICK.

Witnesses:

GEO. H. CHANDLEE,  
E. M. COLFORD.