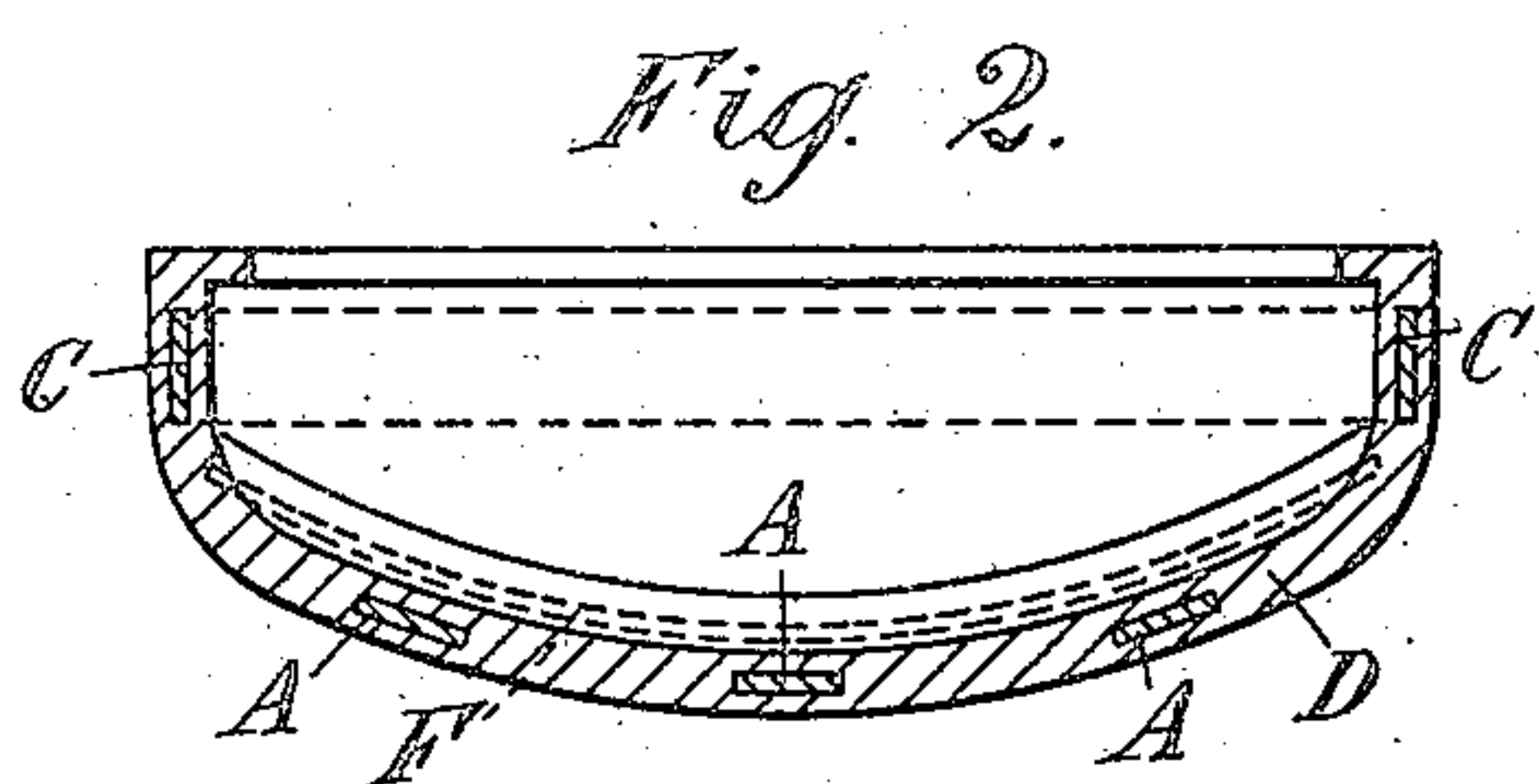
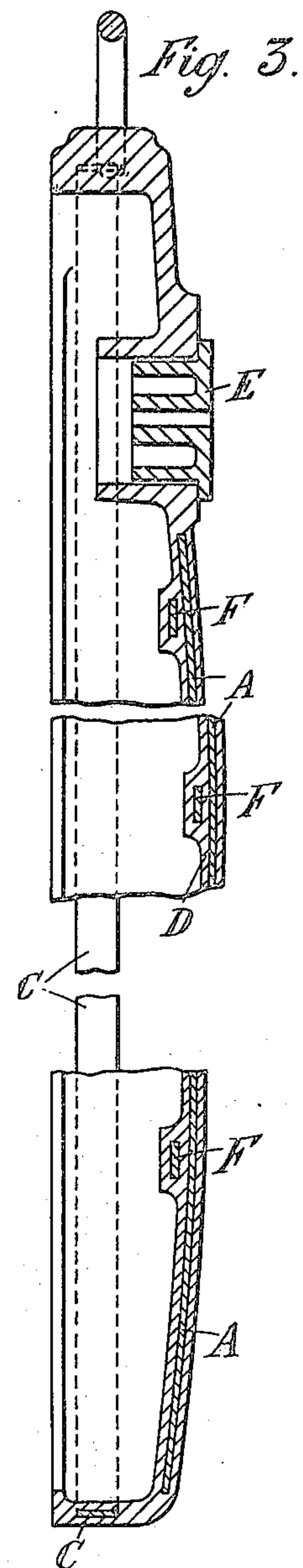
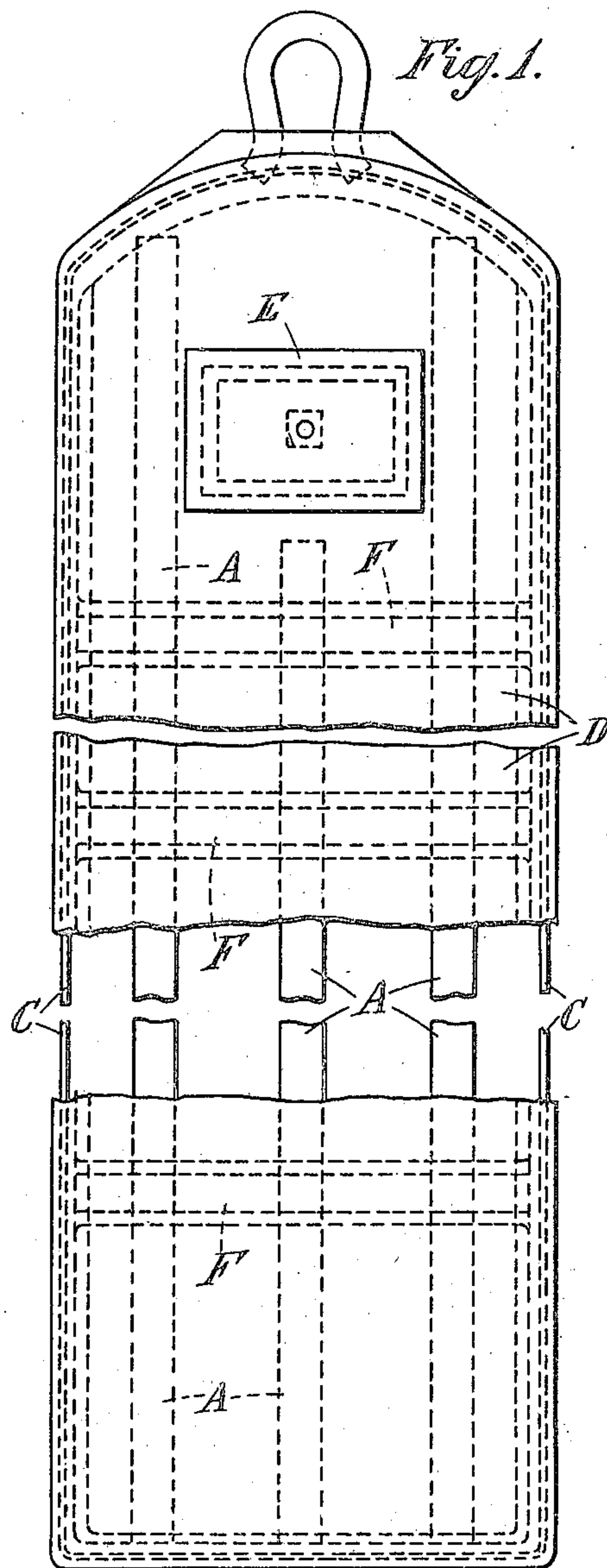


Jan. 2, 1923.

1,440,458

H. GOURLEY.
COKE OVEN DOOR.
FILED JUNE 7, 1921



Inventor.

By *Harry Gourley*
Wm Wallace White
Attorney.

UNITED STATES PATENT OFFICE.

HARRY GOURLEY, OF SHEFFIELD, ENGLAND.

COKE-OVEN DOOR.

Application filed June 7, 1921. Serial No. 475,659.

To all whom it may concern:

Be it known that I, HARRY GOURLEY, a subject of the King of Great Britain and Ireland, residing at 30 Kenwood Park Road, city of Sheffield, county of York, England, have invented certain new and useful Improvements in Coke-Oven Doors and like Doors (for which I have filed an application in Great Britain, No. 6,020, under date of March 10, 1914), of which the following is a specification, reference being had to the accompanying drawing.

This invention relates to improvements in reinforcing or strengthening the doors of furnaces, coke ovens, and the like which are subjected to great heat; the object being to prevent the warping or cracking of the cast iron frame of which the chief parts of such doors usually consist.

The frame is generally hollowed or dished, the concavity being filled up with slabs of firebrick, ganister or similar refractory material.

I am aware that a reinforcement of such doors has been previously made by the insertion of wire gauze and the like but such material is liable to be melted or be otherwise damaged and rendered of no use, by the effect of the molten cast-iron during the process of casting same in position.

The accompanying drawings illustrate my improved method of reinforcing such doors.

Fig. 1 is a front elevation, with a portion of the central part removed.

Fig. 2, cross section through same.

Fig. 3, vertical section of Fig. 1 through the centre.

In the application of my invention to the reinforcement of a coke oven door such as shown in the drawings I employ strong bars of wrought iron or mild steel A arranged longitudinally as shown and embedded during the casting process in the back or convex side of the door D, the number of such bars being discretionary.

An endless or loop shaped bar C of like

material is arranged in position around the front portion of the door frame and this is also embedded within the cast iron frame D during the process of casting the frame.

The flat configuration of the bar lends itself to this, but I do not bind myself to make this bar into an endless loop as the ends may be brought into juxtaposition but not connected which will allow for contraction. E is the usual inspection hole.

I may also, when necessary, arrange several flat iron or mild steel bars F horizontally as an additional reinforcement.

Claims:

1. A reinforced door for coke ovens, comprising a hollow cast metal body having a curved wall, and a plurality of wrought metal bars embedded in said wall and extending longitudinally of and in parallelism with the wall.

2. A reinforced door for coke ovens, comprising a hollow cast metal body having a curved wall merging into a flat portion at the sides and ends thereof, a plurality of wrought metal bars embedded in said curved wall and extending longitudinally thereof, and a wrought metal loop embedded in the flat portion for the entire length of the sides and ends of the door.

3. A reinforced door for coke ovens, comprising a hollow cast metal body having a curved wall merging into a flat portion at the sides and ends thereof, a plurality of wrought metal bars embedded in said curved wall and extending longitudinally of the door, a plurality of curved wrought metal bars extending transversely of said first bars, and a wrought metal loop embedded in the flat portion throughout the entire length of the sides and ends of the door.

In witness whereof I have hereunto set my hand in presence of a witness.

HARRY GOURLEY.

Witness:

ENSOR D. DRURY.