

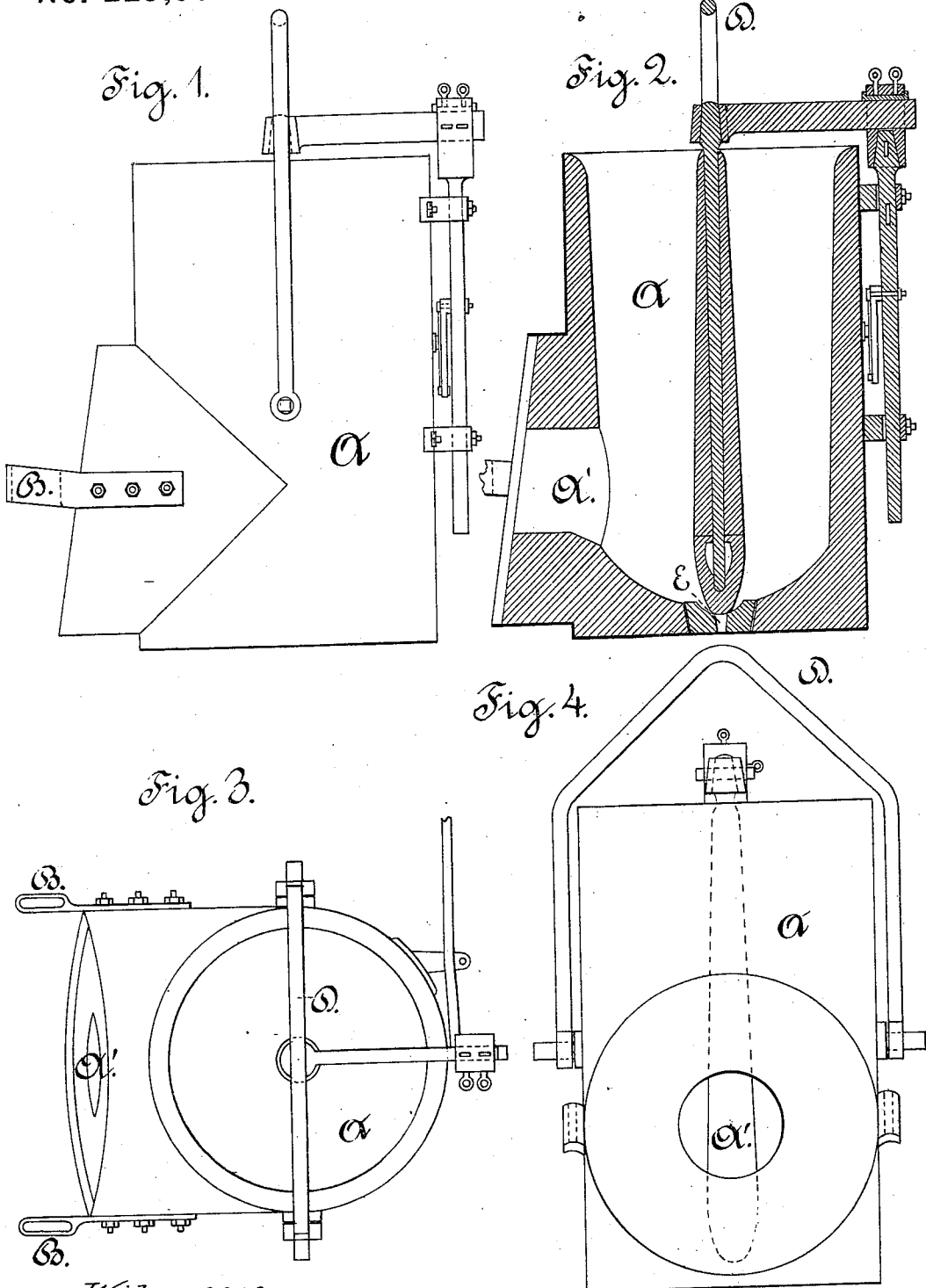
(No Model.)

2 Sheets—Sheet 1.

C. A. CASPERSSON.
Casting Apparatus.

No. 229,953.

Patented July 13, 1880.



Witnesses:
John H. Foster,
J. Allen.

Inventor:
Carl A. Caspersson,
by *Wm. Judson*, atty.

(No Model.)

2 Sheets—Sheet 2.

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Fig. 5.

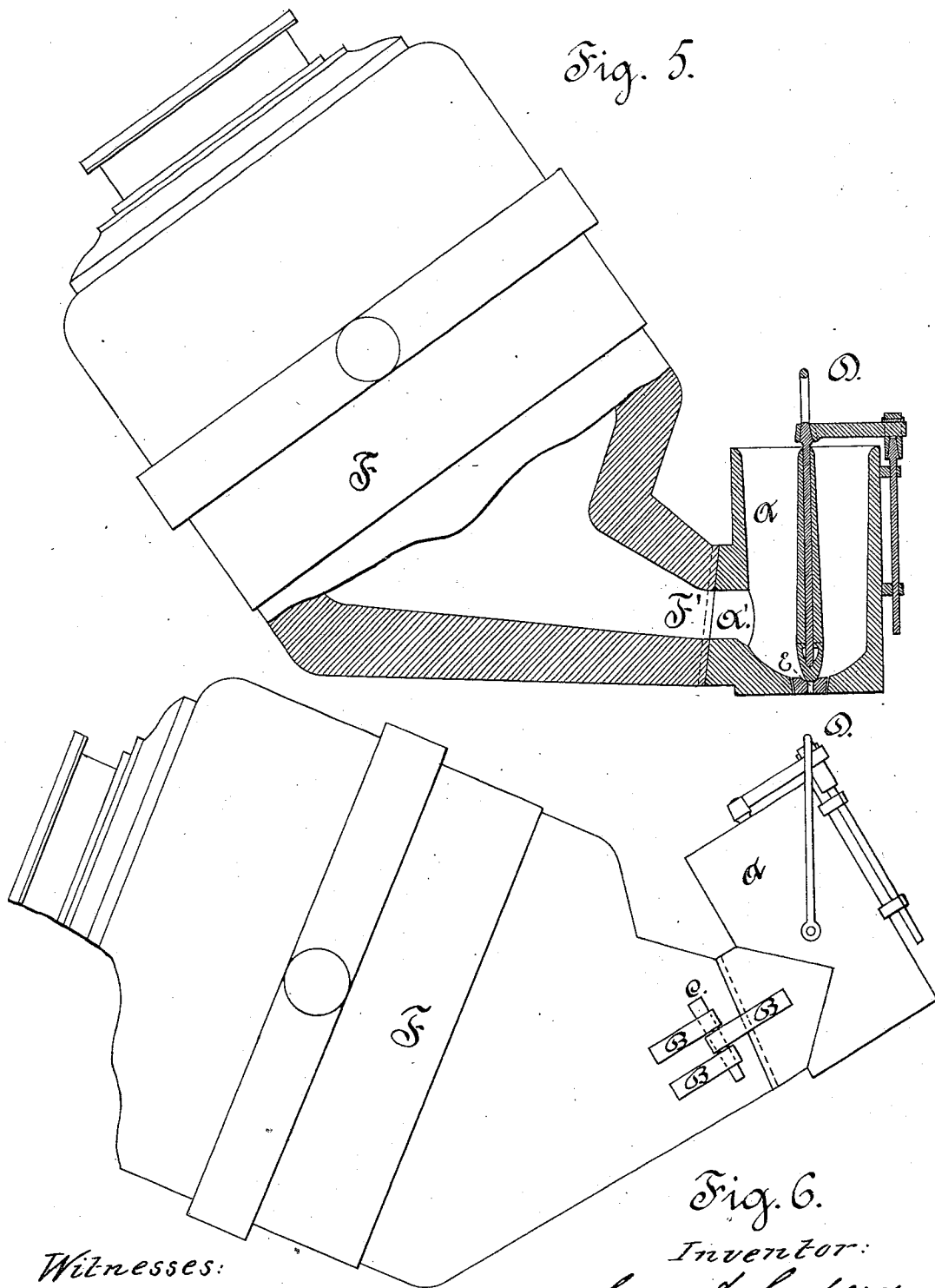


Fig. 6.

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UNITED STATES PATENT OFFICE.

CARL A. CASPERSSON, OF WESTANFORS, SWEDEN.

CASTING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 229,953, dated July 13, 1880.

Application filed April 12, 1880. (No model.) Patented in Sweden May 28, 1879; in England, February 7, 1880.

To all whom it may concern:

Be it known that I, CARL AUGUST CASPERSSON, a subject of the king of Sweden, residing at Westanfors, in the county of Westmanland, in the Kingdom of Sweden, have invented certain new and useful Improvements in Casting Apparatus; 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, reference being had to the accompanying drawings, on which—

Figure 1 represents a side elevation, Fig. 2 a central longitudinal section, Fig. 3 a plan view, and Fig. 4 an end view, of the improved ladle. Fig. 5 represents a sectional view, and Fig. 6 a side elevation, of the ladle as secured to a Bessemer furnace or converter.

This invention of an improved casting apparatus, which I call "converter-ladle," relates to arrangements enabling the casting of Bessemer iron or steel to be made more directly from the converter into the molds than what has hitherto been the case.

When the blow of a Bessemer charge is finished and the converter has been partly turned the ladle A is closely fixed to the converter-mouth F', as shown in Fig. 6. The converter F is turned still farther, as shown in Fig. 5, or so much that if it was not for the attached ladle A the converter would be evacuated. The fluid iron or steel then stands partly in the converter and partly in the ladle, and when the molds, which are standing either on a turntable or on wagons, have been carried beneath the ladle the fluid iron or steel can be cast through its bottom. In this way much heat will be saved, which is lost by the usual mode of casting by means of a ladle which receives the whole mass of fluid metal and is then moved over a row of standing molds. In consequence of the saved heat no metal is left in the converter-ladle A on account of cooling, and for the same reason the soundness of the ingots is very much improved.

Another advantage of the converter-ladle is that the same, even when the casting of the metal into the molds is performed with the usual ladle, makes it possible in a convenient way to get the metal in the last-mentioned la-

dle separated from the slag in the converter, which in some cases—as, for instance, when phosphureted pig-iron is employed—may be of great importance.

The converter-ladle A is furnished not only with the common apparatus, as shown, for casting through its bottom, but also with an opening, A', in its side, which opening is so arranged that it fits to the mouth F' of the converter F, and can be closely fixed to it. Further, the ladle A is so made that the tapping-hole E becomes vertical when the converter is turned to the position shown in Fig. 5.

These are the chief points of the converter-ladle, and they can, of course, be obtained in different ways, especially as the shape of such a ladle must always depend upon the form of the converter-mouth.

The ladle is made of sheet-iron or other suitable material, and lined with ganister or any other refractory substance. The side opening, A', must fit exactly to the mouth F' of the converter F, to which it can be closely fixed by means of the eyes B B B and wedges C, Fig. 6, or in any other suitable manner.

The ladle A being fixed to the converter F, the casting takes place through the hole E in the bottom, as shown in Fig. 5. The ladle A is carried to and from the converter F by the aid of a swing, D, and a crane, or in any other way, and even when fixed to the converter the ladle is partly or altogether supported in the same way.

Having thus fully described the nature, construction, and operation of my invention, I wish to secure by Letters Patent and claim—

A casting-ladle, A, which, besides the usual opening E in bottom for tapping in the usual way, has also an opening, A', at its side adapted to fit to the mouth of the converter for which it is to be used, and having a fastening device for securing them together, as and for the purpose set forth.

In testimony that I claim the foregoing as my own invention I have affixed my signature in presence of two witnesses.

CARL AUGUST CASPERSSON.

Witnesses:

C. W. CARLSSON,
S. J. BERGH.