

(No Model.)

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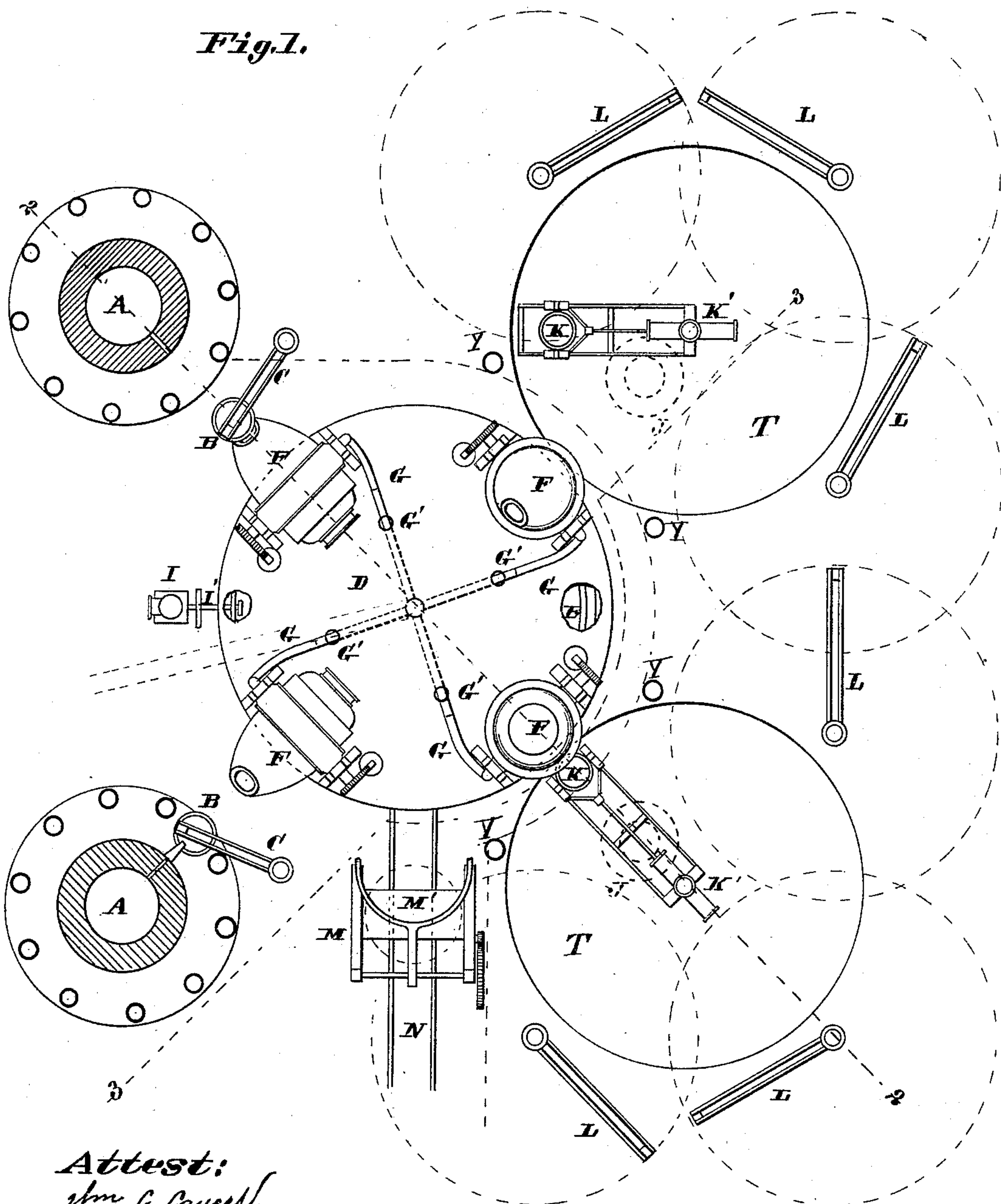
T. H. BURRIDGE.

APPARATUS FOR MAKING BESSEMER STEEL.

No. 277,831.

Patented May 15, 1883.

Fig. 1.



Attest:

Jm f. Jagers.
Herbert Knight

Inventor:

Thos. H. BurrIDGE
By Knight Bros
Atty

(No Model.)

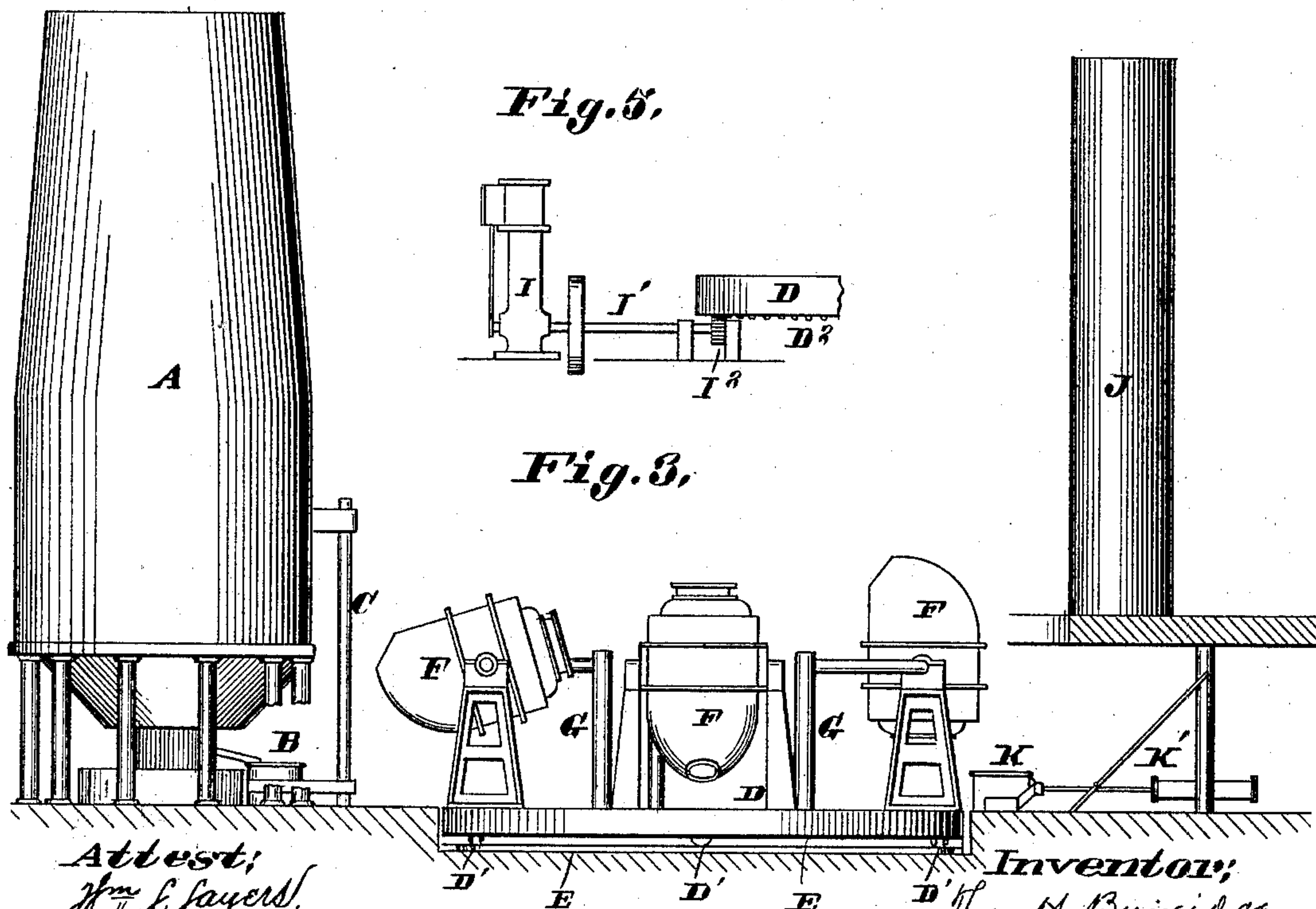
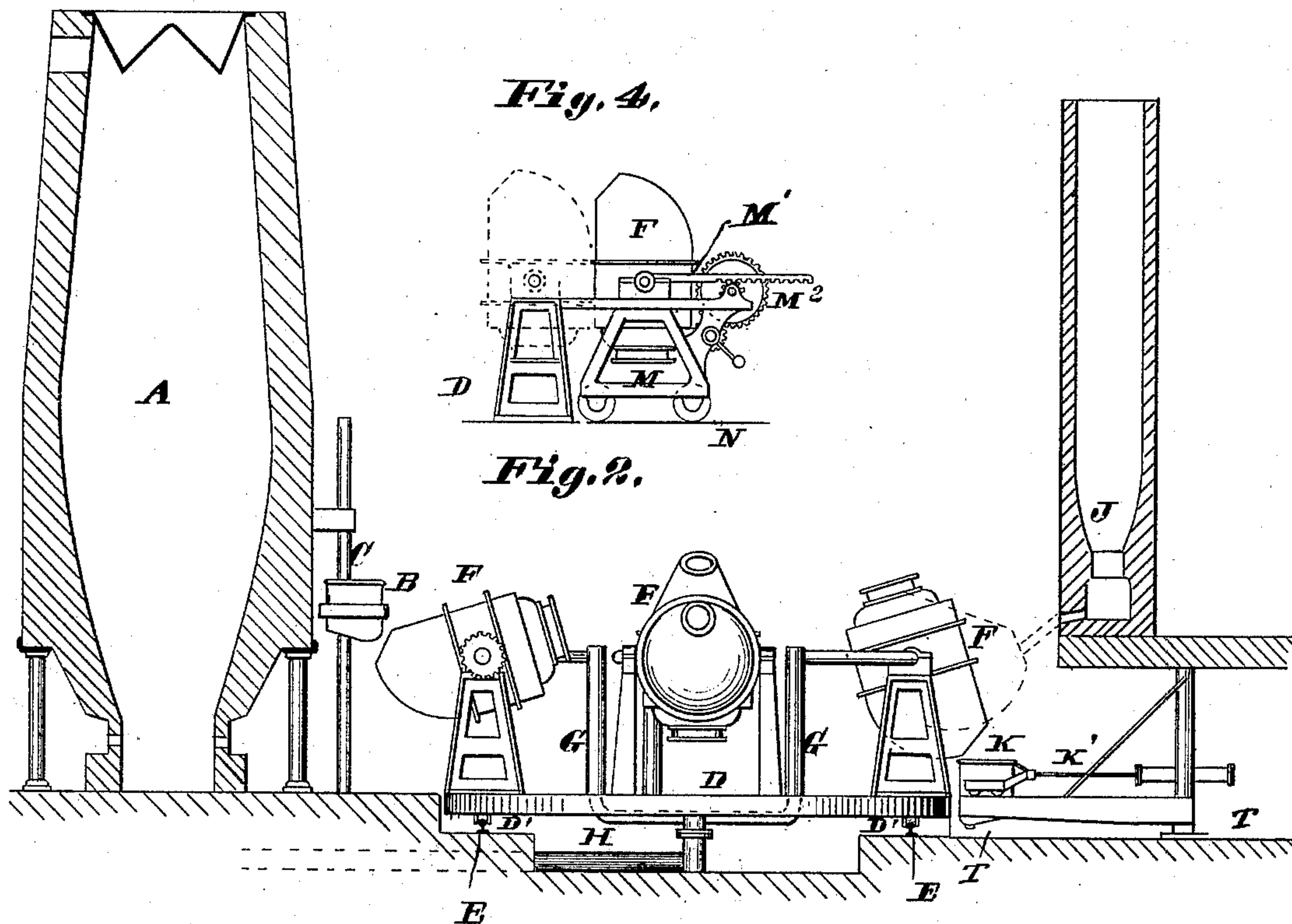
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UNITED STATES PATENT OFFICE.

THOMAS H. BURRIDGE, OF ST. LOUIS, MISSOURI, ASSIGNOR OF ONE-THIRD
TO WILLIAM L. REYNOLDS, OF SAME PLACE.

APPARATUS FOR MAKING BESSEMER STEEL.

SPECIFICATION forming part of Letters Patent No. 277,831, dated May 15, 1883.

Application filed January 30, 1883. (No model.)

To all whom it may concern:

Be it known that I, THOMAS H. BURRIDGE, of the city of St. Louis, in the State of Missouri, have invented a certain new and useful Improvement in Apparatus for Making Bessemer Steel, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, and in which—

Figure 1 is a top view, showing two furnaces in horizontal transverse section. Fig. 2 is part in side elevation and part in vertical section, the section being taken on line 2 2, Fig. 1, the turn-table and converters being in side elevation. Fig. 3 is a similar view taken on line 3 3, Fig. 1. Fig. 4 is a detail view illustrating a manner of removing the converters for relining, and Fig. 5 is a detail view illustrating a manner of turning the table carrying the converter or converters.

My invention consists, broadly, in one or more converters mounted on a turn-table, in combination with one or more furnaces and spiegeleisen-cupolas located around the table, and suitable receptacles for transferring the metal from the furnace or furnaces to the converters, as will more fully appear hereinafter.

Referring to the drawings, A A represent furnaces, of which there may be one or more, (I have shown two,) located near the turn-table, and B B ladles for receiving the metal from the furnaces to transfer it to the converters. The ladles are connected, respectively, to suitable hydraulic cranes, C C, which raise them vertically from where they receive the metal from the furnaces to a suitable height to give the desired elevation above the converters for them to be easily emptied. The ladles should also be capable of being swung horizontally on the cranes when in their lower position, so that they may be brought beneath the delivery-spouts of the furnaces. (See Figs. 1 and 3.)

D represents a turn-table supported by wheel D', running on a track, E.

Mounted upon the table by means of suitable frames are one or more converters, F, (I have shown four,) having independent blast-pipes G, connected to their hollow trunnions, provided with valves G', which may communicate with a common pipe, H. The table may be turned by any suitable means. I have shown (see Fig. 5) a hydraulic engine, I, with

a shaft, I', having a pinion, I², engaging with a rack, D², beneath the table. The converters are secured to the table near its periphery or outer edge, and by revolving the table it will be seen that any one of them may be brought beneath the elevated ladles.

J represents a spiegeleisen-cupola located near the edge of the table, so that by turning the table any one of the converters can be brought before it to receive a charge. In the top view, Fig. 1, I have shown two of these cupolas, and they are supported on cross-beams (not shown) resting upon posts or columns located outside of the circle of the cranes, and part of which are shown in Fig. 1, being lettered Y, by dotted lines, as one or more may be used.

K K represent ladles for receiving the metal from the converters, operated by hydraulic cranes K', and L (see Fig. 1) represents a number of cranes for handling the ingots.

The operation is first to fill one of the ladles B from its furnace, then swing it out and elevate it by its crane, then turn the table until a converter is brought beneath it, then empty the metal from the ladle into the converter, then turn on the blast, and then turn the table again to receive the spiegeleisen, and then empty the metal into the, or one of the, receiving-ladles, whence it is poured into ingot-molds, as usual, in a casting-pit, T, (see Fig. 2,) and so the operation goes on continuously, and where the parts are duplicated, as shown and described, they may be worked at the same time to advantage. As a means for removing any one of the converters from the table for relining, I have shown a carriage, M, traveling on a track, N, (see Figs. 1 and 4,) which can be run up to the edge of the table, and by a suitable spanner, M', (see Fig. 1,) which would engage with the trunnions of the converter after the boxes had been disconnected from the frame, and by a rack and pinion, M², pull the converter from off its frame onto the carriage, which would convey it away and bring it back after relining.

I claim as my invention—

1. In an apparatus for making Bessemer steel, one or more converters mounted on a turn-table, in combination with one or more furnaces and spiegeleisen-cupolas located around the table, and suitable receptacles for transferring the metal from the furnace or fur-

naces to the converters, substantially as set forth.

2. One or more converters mounted on a suitable turn-table, in combination with one
5 or more ladles for transferring the metal from the furnaces located near the turn-table to the converters, adapted to be moved vertically by suitable cranes, one or more spiegeleisen-cu-

polas located near the turn-table, and one or more ladles for receiving the metal from the 10 converters, all arranged and operating substantially as shown, for the purpose set forth.

THOMAS H. BURRIDGE.

Witnesses:

GEO. H. KNIGHT.

D. JANNOPAULO.