2 Sheets—Sheet 1.

O. GEBAUER.

Devices for Transmitting Steam from Boilers.

No. 198,373. **Patented Dec. 18, 1877.**

Fig. 5

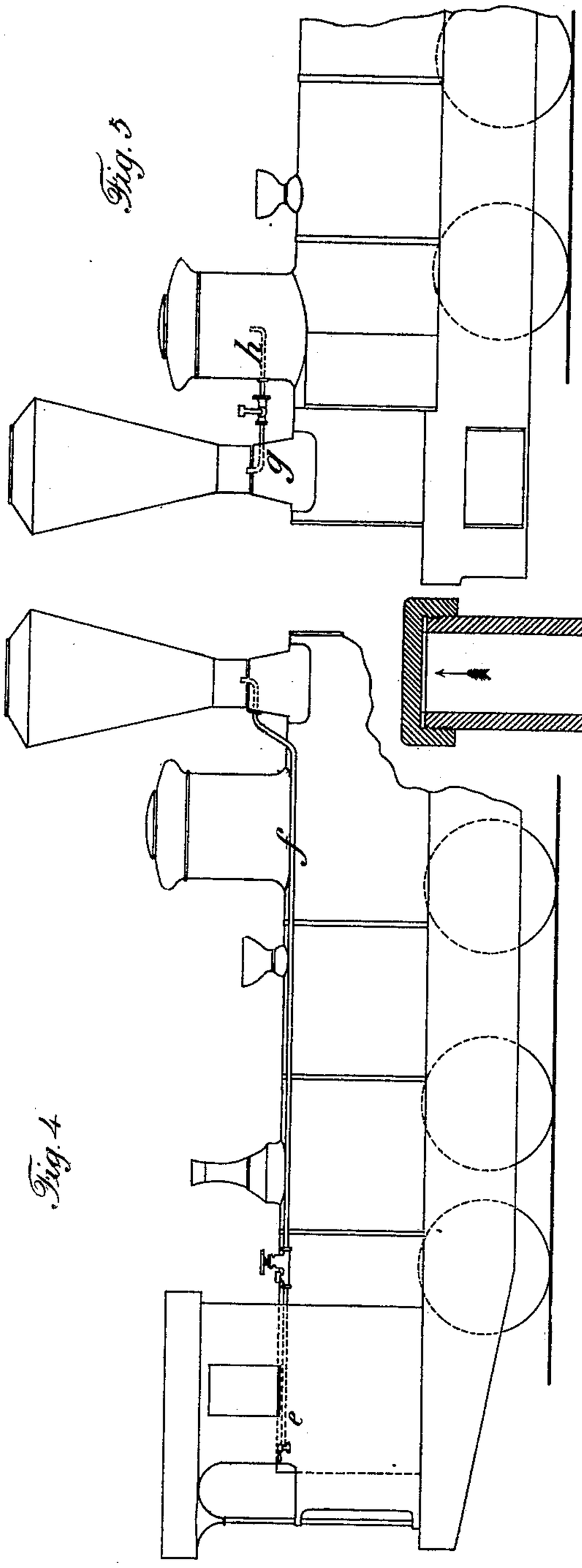


Fig. 4

Fig. 3.

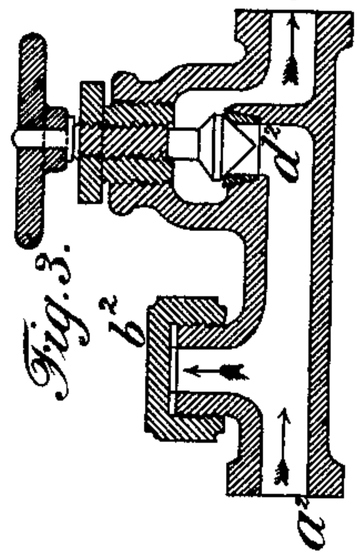


Fig. 2.

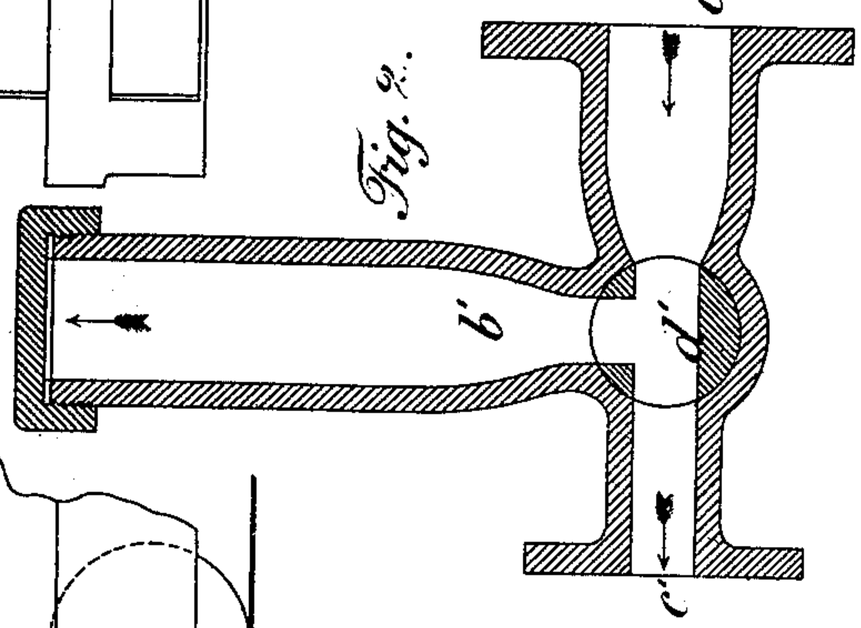
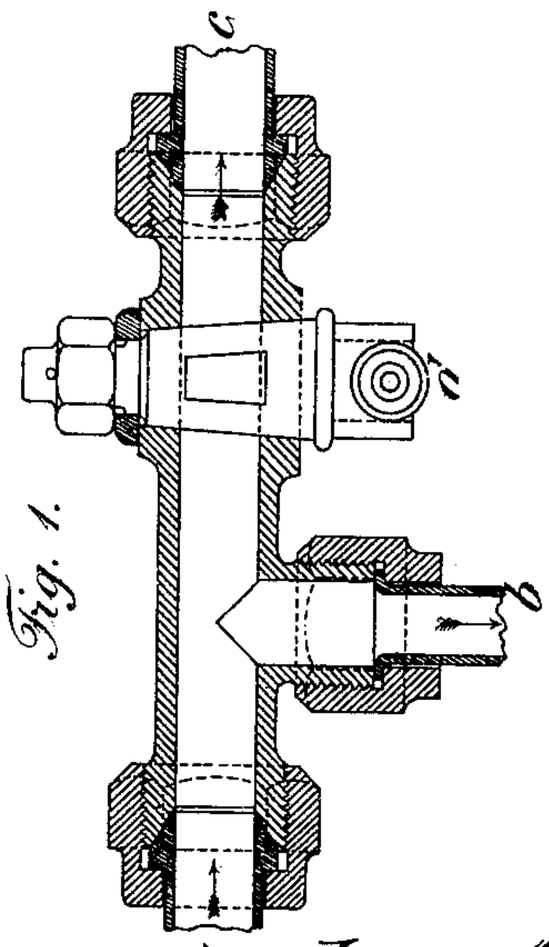


Fig. 1.



Witnesses.
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Henri Guillaume

Inventor
Otto Gebauer
by Henry Orth
Atty

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O. GEBAUER.

Devices for Transmitting Steam from Boilers.

No. 198,373. **Patented Dec. 18, 1877.**

Fig. 10.

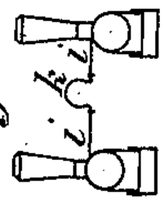


Fig. 9.

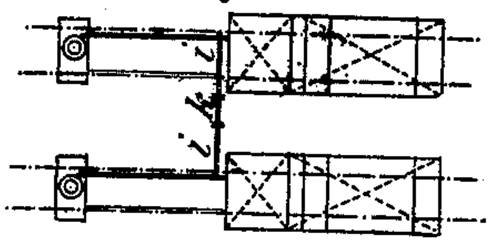


Fig. 8

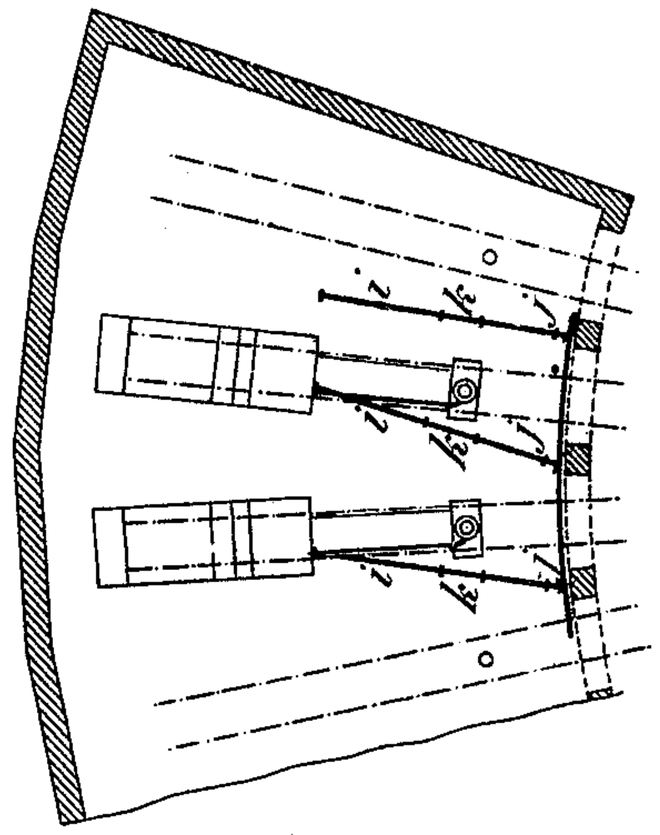


Fig. 6.

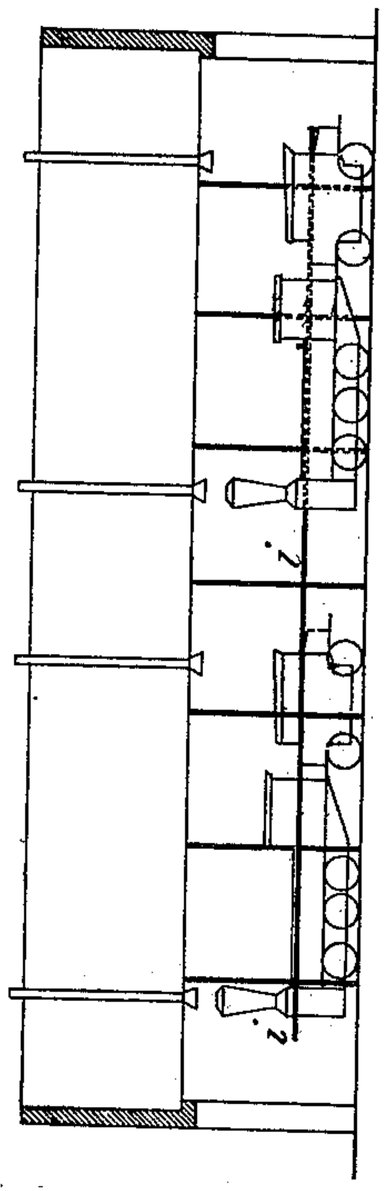
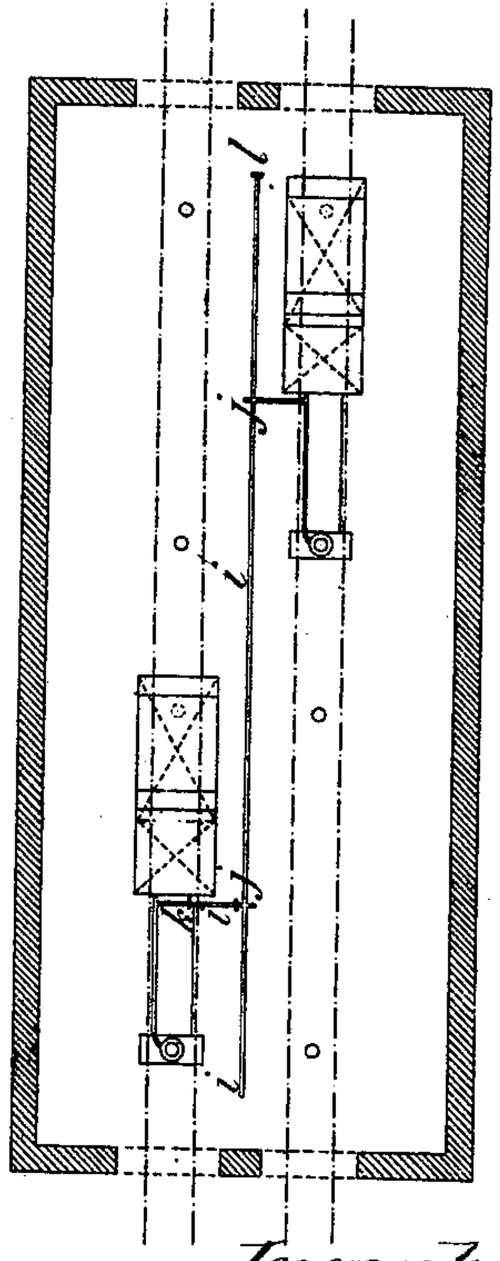


Fig. x.



Witnesses.
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Henri Guillaume

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Otto Gebauer
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UNITED STATES PATENT OFFICE.

OTTO GEBAUER, OF PRAGUE, AUSTRIA.

IMPROVEMENT IN DEVICES FOR TRANSMITTING STEAM FROM BOILERS.

Specification forming part of Letters Patent No. **198,373,** dated December 18, 1877; application filed July 30, 1877.

To all whom it may concern:

Be it known that I, OTTO GEBAUER, of Prague, Empire of Austria, have invented a certain new and useful Improvement in Steam-Boilers, of which the following is a specification:

This invention has for its object quickly "firing" and getting up steam in boilers, more especially locomotive and portable boilers.

The invention consists in simultaneously transmitting steam from a boiler in which steam has already been got up into the steam space or dome and the flue or stack of one or more other boiler or boilers.

In carrying out this invention, the steam from the one boiler is conducted into the steam space or dome and into the flue or stack of one or more other boiler or boilers simultaneously, to heat the water and create a draft in such boiler or boilers in which steam is to be gotten up.

In a locomotive-shed or boiler-house where several locomotives or boilers are situated, a single set of pipes with separate branches may be arranged so that the steam from any one boiler may be easily conducted to any other boiler in the same shed.

In the open air the locomotives or portable engines may stand side by side, and the steam from the one boiler be conducted directly into the chimney or funnel and into the dome of the other by means of pipes.

Without departing from the substance of this invention, the exhaust-steam from an engine may be used in this way instead of live steam from a boiler.

By this invention steam may be got up in a cold locomotive in about a quarter of an hour, or less, and with a saving of from fifty to seventy-five per cent. of firing-wood, and of from twenty-five to fifty per cent. of coals.

Another advantage is, that the stokers are less subject to the inconveniences, and even danger, connected with starting the firing, as by the old method, in consequence of the insufficient draft at first, smoke, flames, and combustible gases constantly issue from the fire-box when the doors are opened.

In the accompanying drawings this invention is shown applied to locomotives; but it is evident that, without departing from the substance of this invention, it may be applied to all other kinds of steam-boilers.

Figures 1, 2, and 3 show different forms of pipes with cocks or valves to be fitted on the locomotive-boilers, and which apparatus I call the "stoker's help." Figs. 4 and 5 show two locomotives provided with these arrangements. Figs. 6 and 7 show the arrangements in a straight locomotive-shed. Fig. 8 shows the arrangements in a semicircular locomotive-shed. Figs. 9 and 10 show the arrangements in the open air.

In all the figures the same letters denote similar parts.

In Figs. 1, 2, and 3 are shown different arrangements to be fitted to the boilers. $a\ a^1\ a^2$ are the pipes for leading the steam from the boiler. $b\ b^1\ b^2$ are the connecting-pipe ends, which are to be closed when not in use. $c\ c^1\ c^2$ are the pipes leading to the chimney. $d\ d^1\ d^2$ are cocks or valves.

In Fig. 4 either the apparatus shown in Fig. 1 or that shown in Fig. 3 is inserted between the pipe *e*, leading to the boiler, and the pipe *f*, leading to the funnel or chimney.

In Fig. 5 the apparatus shown in Fig. 2 is inserted between the pipe *g*, leading to the funnel, and the pipe *h*, leading to the steam-dome.

In Figs. 6, 7, 8, 9, and 10, the communication between the two locomotives is effected by means of the pipes *i*, provided with cocks *j*, and short connecting-pipes *k*. A water-escape cock, *l*, may be arranged on the pipe *i*.

I claim—

1. The combination of two or more steam-generators with suitable devices adapted to transmit steam from one generator simultaneously into the steam space or dome, and the flue or stack of one or more other generators, to heat the water therein and create a draft, as described, and for the purpose specified.

2. The combination, with two or more boilers having their steam spaces or domes and their flues or stacks connected as described, and provided with a three-branch coupling

having a suitable valve or stop-cock, of a removable connecting or branch pipe, to connect the steam space or dome of one boiler with the steam space or dome and the flue or stack of another boiler in which steam is to be gotten up, all arranged and operating substantially as described, for the purposes set forth.

In witness that I claim the foregoing I have hereunto set my hand this 9th day of June, 1877.

OTTO GEBAUER.

Witnesses:
FRIEDR. SCHÜLLER,
MAX SCHÜLLER.