

R. Faries,
Steam Generator,
No 61,060,
Patented Jan. 8, 1867.

Fig. 2

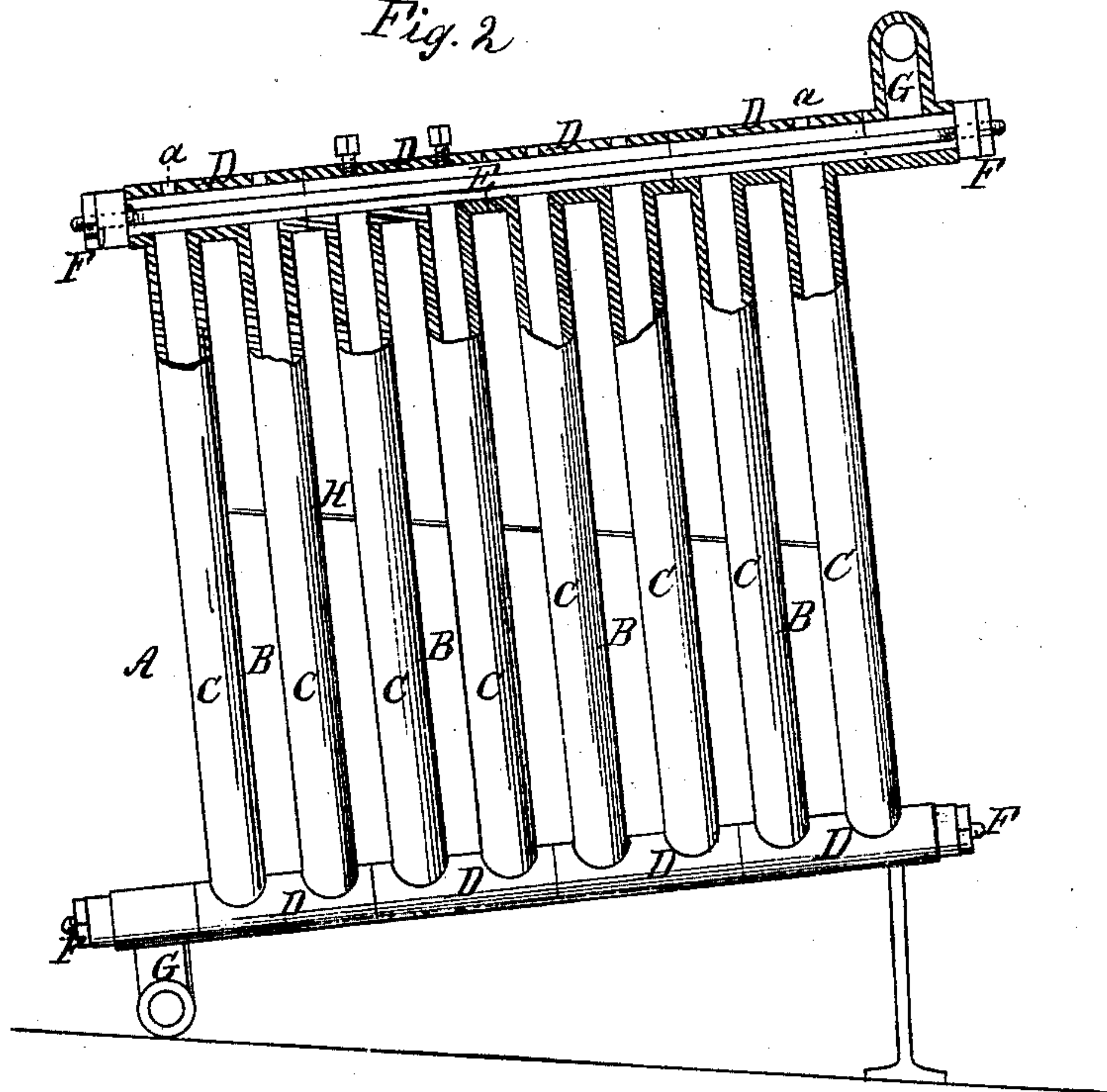
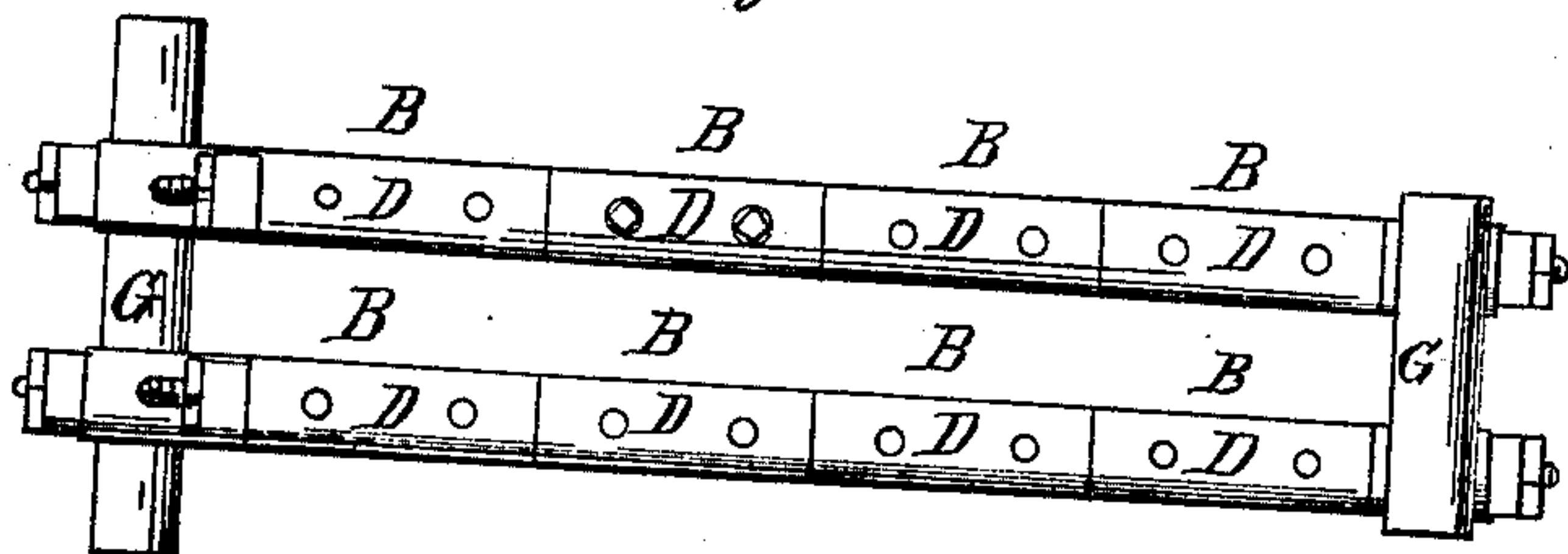


Fig. 1



Witnesses
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ROBERT FARIES, OF MAROA, ILLINOIS.

Letters Patent No. 61,060, dated January 8, 1867.

IMPROVEMENT IN STEAM GENERATORS.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, ROBERT FARIES, of Maroa, Macon county, State of Illinois, have invented a new and useful Improvement in "Steam Generators;" and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing, forming part of this specification.

The present invention consists in constructing a steam generator of a series of similar pipes or cylinders, provided at each end with transverse openings or eyes, and so secured together that the eyes of one pipe or cylinder will correspond with the eyes of another pipe or cylinder of the same kind and size, whereby a communication for water and steam is effected between and through the entire series or number of pipes or cylinders, among the many advantages secured by which may be here mentioned, as the most important, that its construction is exceedingly cheap and simple, while at the same time great strength and absolute safety from explosions are obtained, and the generator rendered durable, as will be obvious from the following detail description thereof, reference being had to the accompanying plate of drawings, in which—

Figure 1 is a plan or top view of a steam generator, made according to the present invention; and

Figure 2, an elevation of one side of the same, with a portion of the upper ends of the pipes or cylinders constituting the same, in vertical section.

Similar letters of reference indicate like parts.

A, in the drawings, represents the steam generator, which is formed of a series of sections, B B, of any number, according to the size of generator desired, each of which sections is composed of two similar parallel pipes, C C, joined together at each end by a similar cross-pipe, D, communicating with each pipe, C, which pipes, D, of the several sections, B, when to be joined together, are placed end to end, or so as to exactly correspond, and then bound or jointed tightly together, by means of a rod, E, passed through the whole series at one and both ends, with screw-nuts, F, upon each of their ends, the screwing of the said nuts in the proper direction causing the several sections to be drawn together with great tightness. In the generator shown in the drawings two series of sections B are shown, both series being connected together at their upper and lower cross-pipes, but at opposite corners by elbow-pipes, G, so as to form a continuous communication through all the several pipes C of each series, the two series being held apart by means of a plate, H, interposed between them at, or if anything a little below, the water line of the several pipes, so as to prevent the heat from striking directly against such portions of the pipes as contain no water, but only steam. The steam generator formed by the two series of section-pipes, as above explained, is secured so as to stand in an inclined position, as plainly shown in fig. 1, in which case the plate H will be horizontal, or nearly so. In the upper ends of the several cross-pipes of the steam generator, in line, however, with the parallel pipes C C, apertures, a, are made, for the purpose of cleansing the latter pipes, which apertures are to be stopped by screw-plugs, or in any other suitable manner.

The several pipes of the steam generator above explained may be made of cast iron, and two or more of them cast in one piece, or made of sheet metal, and riveted, or in any other proper manner, to form the cross-pipe or opening between them. When a number of pipes are formed and secured together as above explained, or in any other proper or suitable manner, they form a boiler, or section of a boiler, in the shape of a slab, if it may be so termed, any number of which slabs may be secured together to make a boiler of the capacity or form required.

I do not wish to limit myself to any of the minor attachments of the above-described steam generator, nor to any particular manner of setting it up, for after the "slabs" are once formed they can be "set up" in a variety of modes, as, for instance, in the manner described above, or so set up as to enclose a furnace, with the fire upon the inside, surrounded with pipes, &c. The pipes may be also held together other than the manner explained, as, for instance, by flanges upon each end of their cross-pipes, bolted or otherwise properly secured together; and therefore I do not limit myself to the particular manner explained. By setting the steam generator in an inclined position, as explained, all refuse matters, mud, &c., contained in the water from which the steam is generated will be all gathered together at the lower corner of the generator, from whence it can be removed with readiness and facility.

I claim as new, and desire to secure by Letters Patent—

The combination of the parallel pipes C C, perforated cross-pipes D, elbow-pipes G, secured as described, and plate H, substantially as and for the purpose specified.

ROBERT FARIES.

Witnesses:

C. C. BURROUGHS,
J. B. GREELY.