(No Model.)

G. A. ANDERSON.

EXHAUST MECHANISM.

No. 574,369. Patented Jan. 5, 1897.

FIG. 1.

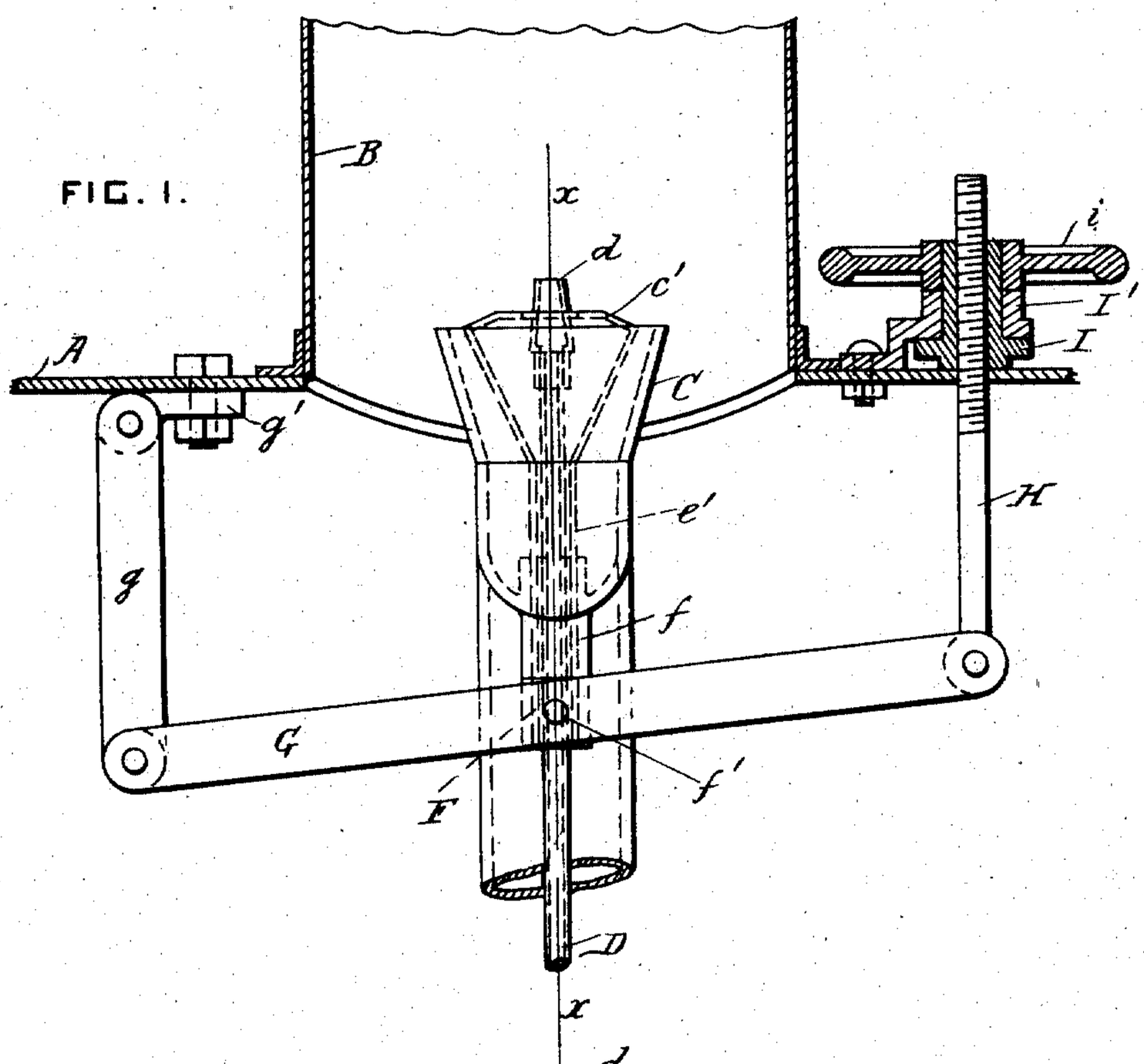
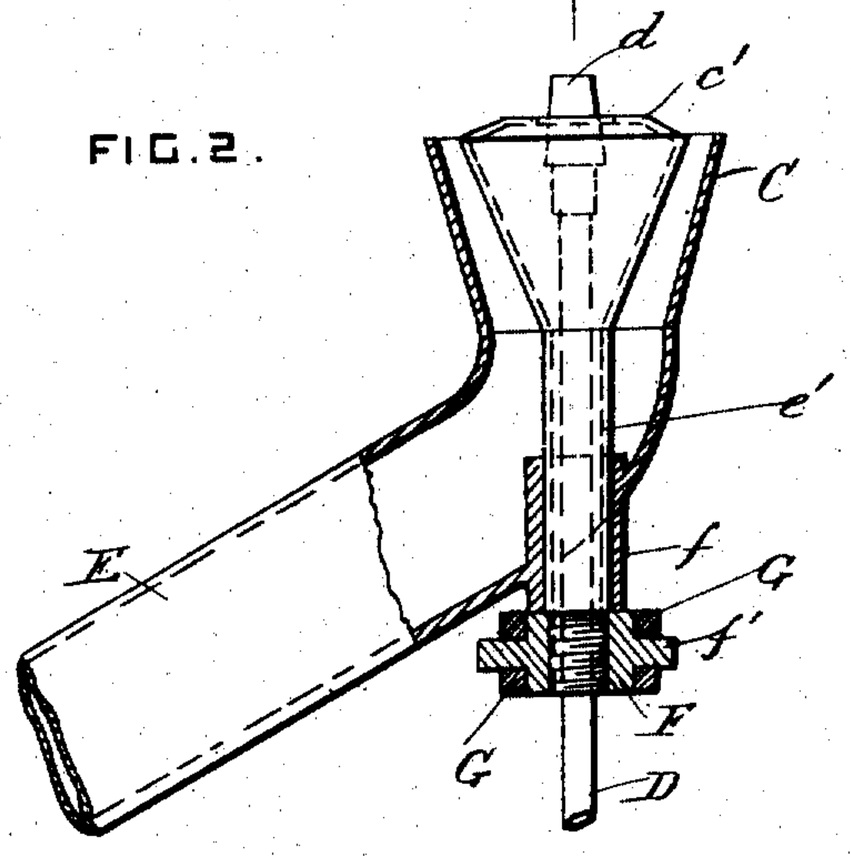


FIG. 2.



Witnesses
Frank D. Gregory
John O. Johnson

Inventor
Gustaf A. Anderson.
By Attorney Herbert W. Jenner.

UNITED STATES PATENT OFFICE.

GUSTAF ARVID ANDERSON, OF WAYNESBOROUGH, PENNSYLVANIA, ASSIGNOR TO THE GEISER MANUFACTURING COMPANY, OF SAME PLACE.

EXHAUST MECHANISM.

SPECIFICATION forming part of Letters Patent No. 574,369, dated January 5, 1897.

Application filed April 9, 1896. Serial No. 586,780. (No model.)

To all whom it may concern:

Be it known that I, GUSTAF ARVID ANDERSON, a subject of the King of Sweden and Norway, residing at Waynesborough, in the county of Franklin and State of Pennsylvania, have invented certain new and useful Improvements in Exhaust Mechanism; 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.

This invention relates to exhaust mechanism; and it consists in the novel construction and combination of the parts hereinafter fully described and claimed.

In the drawings, Figure 1 is a front view of the exhaust mechanism. Fig. 2 is a vertical section taken on the line *x x* in Fig. 1.

A is a portion of the shell of a boiler of approved construction, and B is a portion of its smoke-stack.

C is the nozzle of the exhaust-pipe of a steam-engine, which projects upwardly under the smoke-stack. This nozzle is stationary and is supported in any approved manner. The nozzle C is provided with a conical mouth, and *c'* is a conical plug for varying the size of the annular orifice of the nozzle.

D is a pipe for high-pressure steam provided with a nozzle *d*. This pipe D is stationary and it is secured inside and concentric with the nozzle C.

E is a portion of the exhaust-pipe which is arranged at an angle to the nozzle C.

The conical plug *c'* is hollow, and it is provided with a tubular stem *e'*, which slides vertically in a guide *f* at the lower part of the nozzle C. The steam-pipe D and its nozzle are arranged centrally in the said plug and its tubular stem.

F is a nut secured on the lower end of the stem *e'* and provided with laterally-projecting pivots *f'*.

G are levers which engage with the pivots *f'*. At one end the levers G are pivotally supported by two similar links *g* from a bracket *g'*, secured to the shell of the boiler. At the other end a rod H is pivoted to the levers G and extends upwardly through a hole in the shell of the boiler. The projecting end *h* of the rod H is screw-threaded and engages with a nut I. The nut I is journaled in a bracket I', secured to the shell of the boiler. A hand-wheel *i* is secured to the nut I, and when revolved operates to raise or lower the plug *c'*, and thereby varies the blast caused by the exhaust-steam.

The blast of high-pressure steam is regulated by means of a valve. (Not shown in the drawings.)

What I claim is—

1. The combination, with a stationary exhaust-pipe nozzle, of a vertically-slidable hollow plug provided with a depending tubular stem, and operating to vary the exhaust-blast, and a stationary blast-pipe for high-pressure steam arranged inside the said stem and plug and projecting from the upper end of the plug, substantially as set forth.

2. The combination, with a stationary exhaust-pipe nozzle provided with a guide at its lower part, of a hollow plug provided with a tubular stem slidable in the said guide, a stationary blast-pipe for high-pressure steam arranged inside the said stem and plug and projecting above the upper end of the plug, and lever mechanism pivotally connected to the lower projecting end of the said stem, and operating to vary the position of the said plug, substantially as set forth.

3. The combination, with a stationary exhaust-pipe nozzle, of a slidable plug provided with a stem having laterally-projecting pivots at its lower end, levers engaging with the said pivots, links pivotally supporting one end of the said levers from the boiler-shell, a screw-threaded rod pivoted to the other end of the levers and projecting through the boiler-shell, and a hand-nut engaging with the projecting end of the said rod and operating to adjust the position of the said plug, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

GUSTAF ARVID ANDERSON.

Witnesses:

DANIEL S. BEARD,

E. G. CLYMANS.