

**D. STANLEY.**  
**Apparatus for Obtaining Motive-Power.**  
 No. 153,627. Patented July 28, 1874.

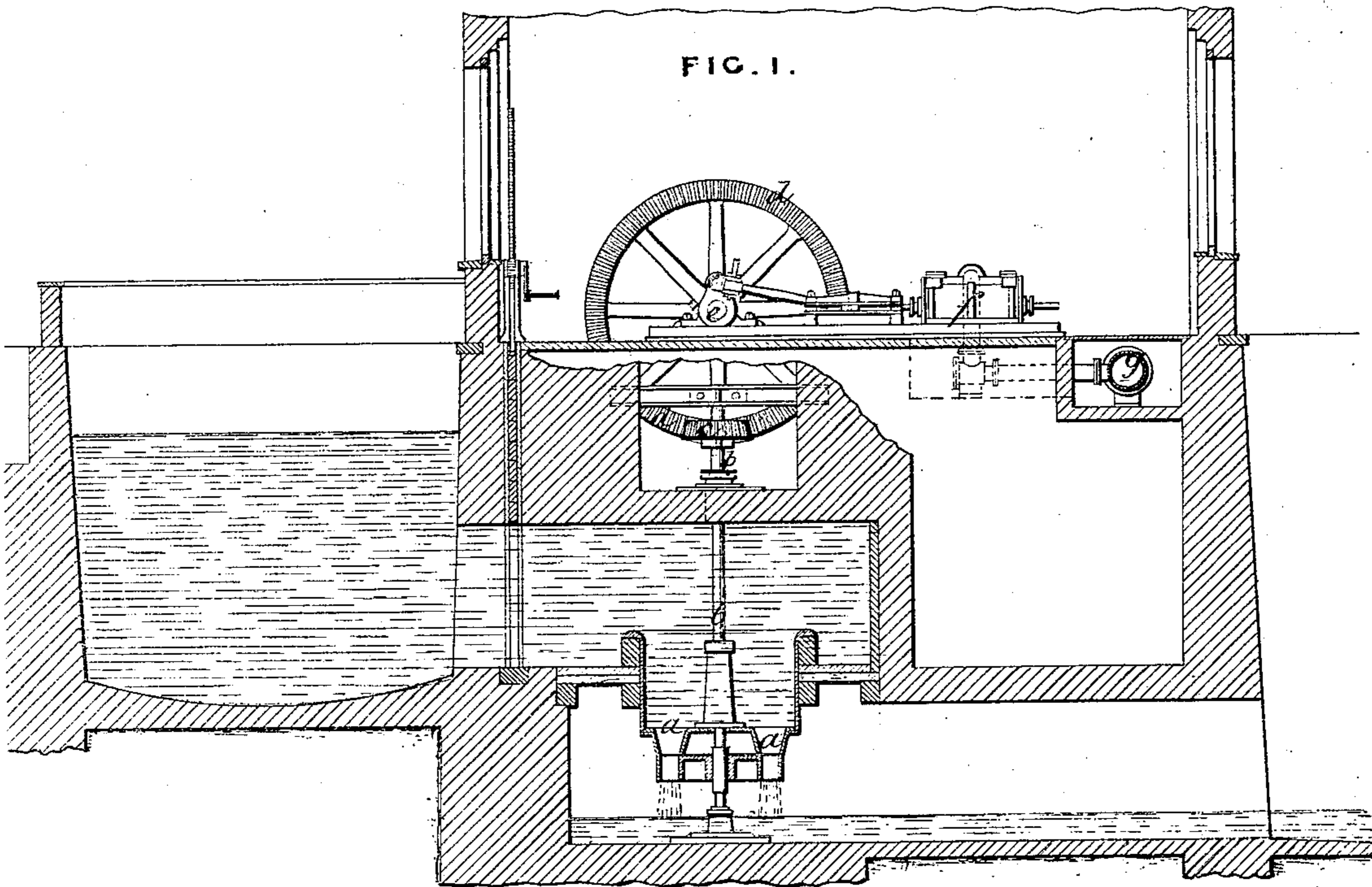
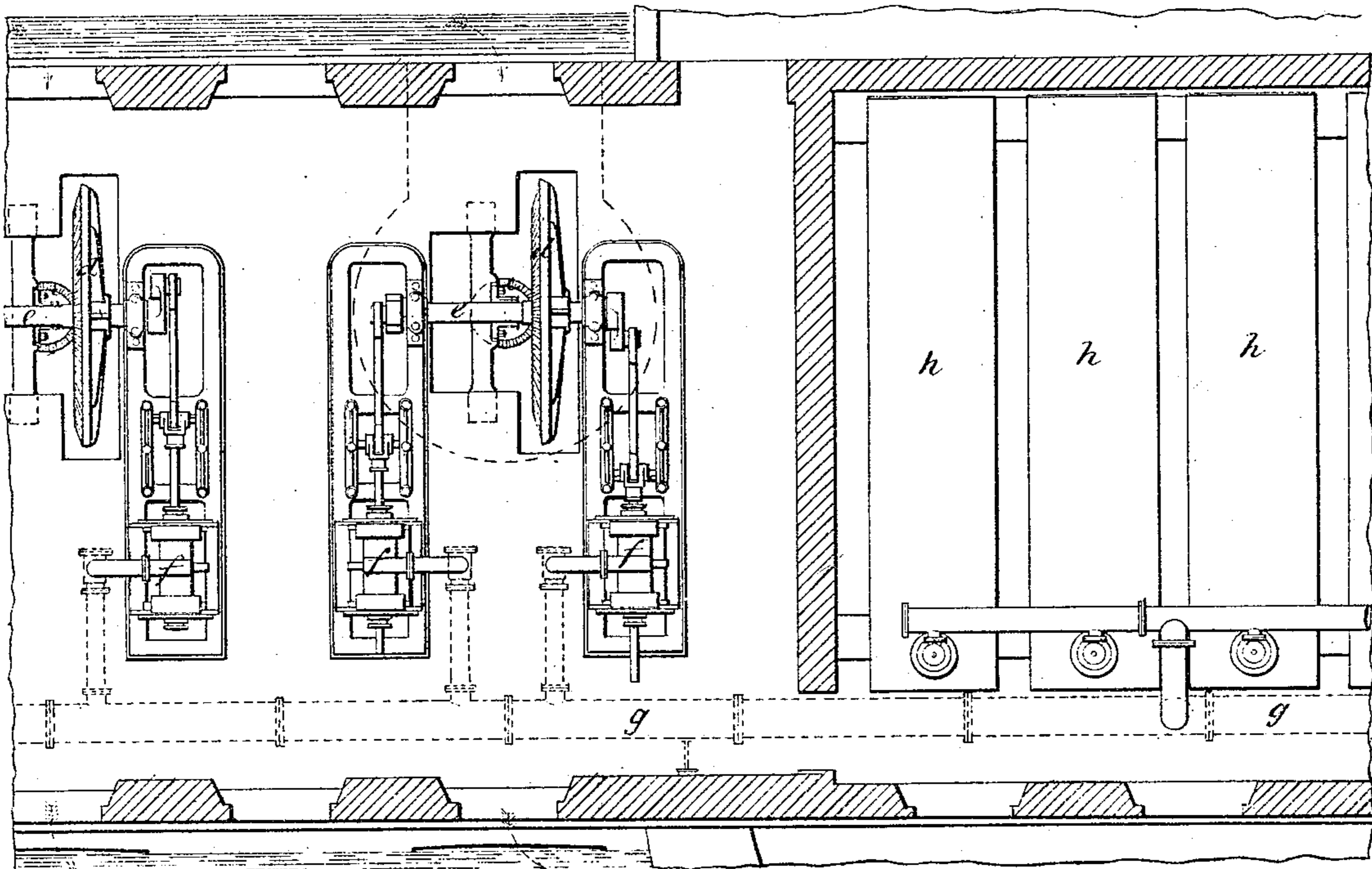


FIG. 2.



*George Davis*  
*Thomas Davis* } Witnesses

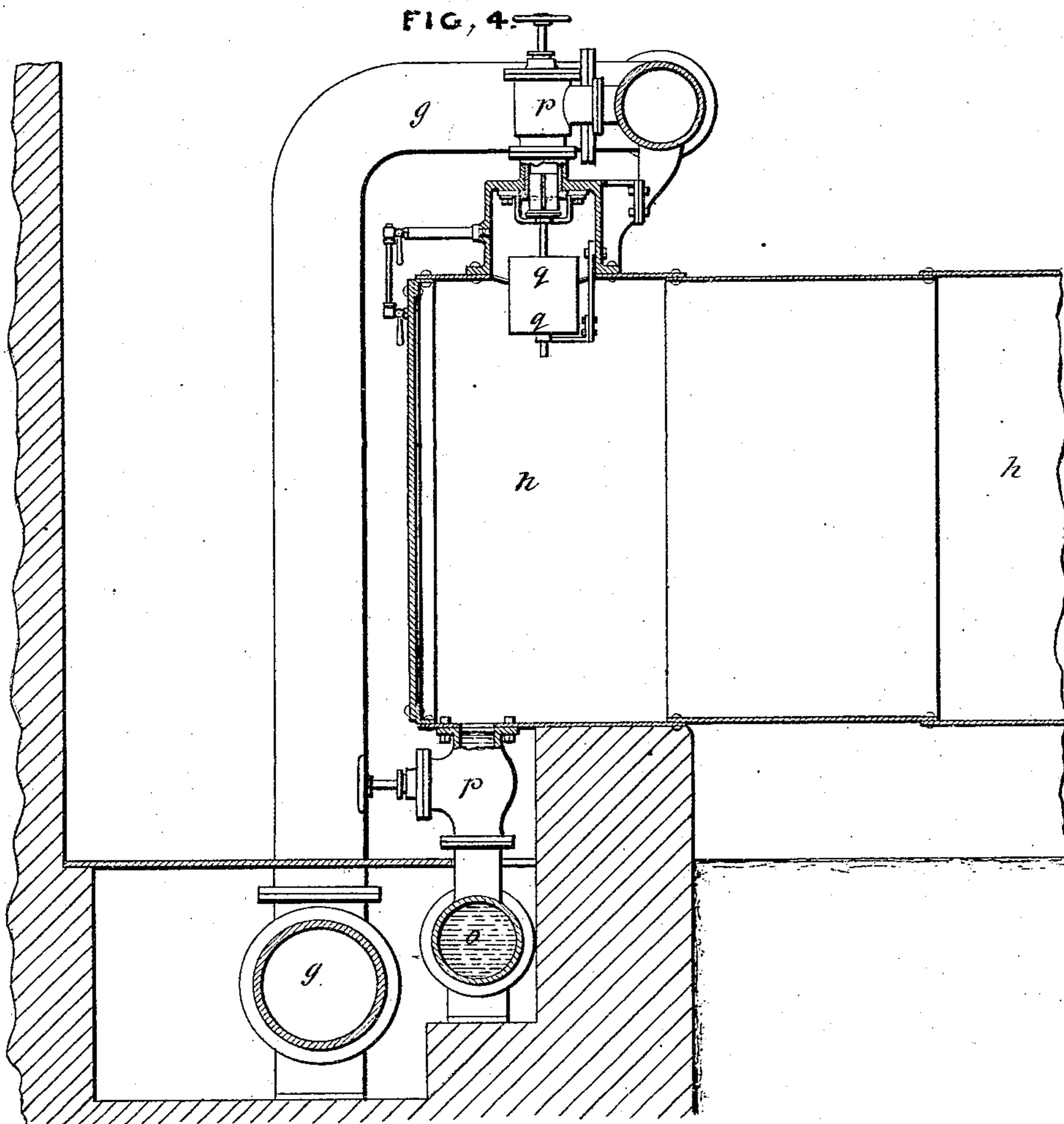
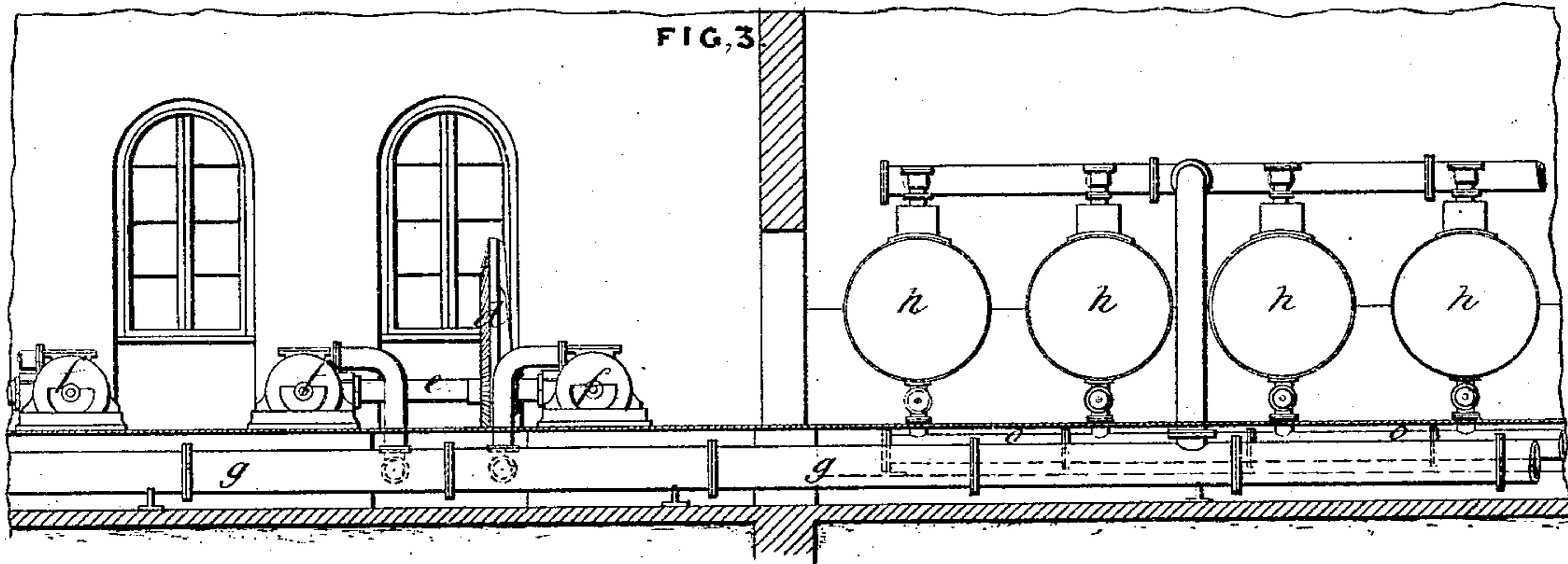
*Dane Stanley*

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*George Davies*  
*Thomas C. Davies* } Witnesses -

*Dane Stanley*

# UNITED STATES PATENT OFFICE.

DEANE STANLEY, OF MANCHESTER, ENGLAND.

## IMPROVEMENT IN APPARATUS FOR OBTAINING MOTIVE POWER.

Specification forming part of Letters Patent No. **153,627**, dated July 28, 1874; application filed July 11, 1873

*To all whom it may concern:*

Be it known that I, DEANE STANLEY, of Manchester, in the county of Lancaster, Kingdom of Great Britain and Ireland, have invented Improvements in the Method of and Apparatus for Obtaining and Applying Motive Power, of which the following is a specification:

The object of the invention is to obtain motive power by the employment of improved apparatus, in which turbine water-wheels, or other water-engines, actuate air-pumps for compressing air into a vessel or accumulator, so as to store up or accumulate the power thereby obtained, whence it can be conveyed by main and branch pipes to any distance where it may be required to apply the power, and then utilized for giving any kinds of machinery motion.

In order to enable others skilled in the art to make and use my invention, I will now proceed to describe more fully its construction and operation, on reference to the accompanying sheets of drawings, which form part of this specification.

Figure 1 is a partial sectional view, Fig. 2 a plan, and Fig. 3 an end elevation, of the improved apparatus, *a a* representing a turbine keyed on a vertical shaft, *b b*, at the upper end of which is a bevel-pinion, *c c*, driving a bevel-wheel, *d d*, keyed on a crank-shaft, *e e*, which actuates the air-pumps *f f*, for compressing the air and forcing it along the main pipe *g g* into the receivers or accumulators *h h*. Each turbine drives one pair of pumps.

The air may be maintained under the pressure

of a direct weight or of a column of water; in the latter case the accumulators communicate with pipes *o o*, by which it is conveyed from a source a sufficient height above the accumulators, to give the pressure desired.

Fig. 4 is a section, on a larger scale, of the end of one of the accumulators *h h*. *g g* is the main pipe for the compressed air; *o o*, the pipe for the "head" of water from the reservoir or source above, and *p p* are stop-cocks. *q q* is a float attached to a stop-valve, *r r*, which float (if at any time the compressed air should be all exhausted and the water rise toward the top of the accumulator) will rise and close the valve *r r*, so as to prevent the water from escaping into the main pipe. This arrangement will not require any safety-valve, as the pressure can never exceed that due to the height of the reservoir or source from whence the head of water is derived.

The continuation of the main pipe *g g* beyond the accumulators conveys the compressed air to any suitable distance, where it is utilized as a motive power for giving motion to air-engines of any ordinary construction for driving all kinds of machinery.

I claim—

The combination of the air-pumps, accumulators *h*, pipe *o*, communicating with an elevated reservoir, air-supply pipe *g*, and valve *r*, adapted to the exit-opening, and connected to a float within the accumulator, as described.

DEANE STANLEY.

Witnesses:

GEORGE DAVIES,  
THOMAS E. DAVIES.