

(No Model.)

S. W. HUDSON.

WATER MOTOR.

No. 246,315.

Patented Aug. 30, 1881.

Fig 1.

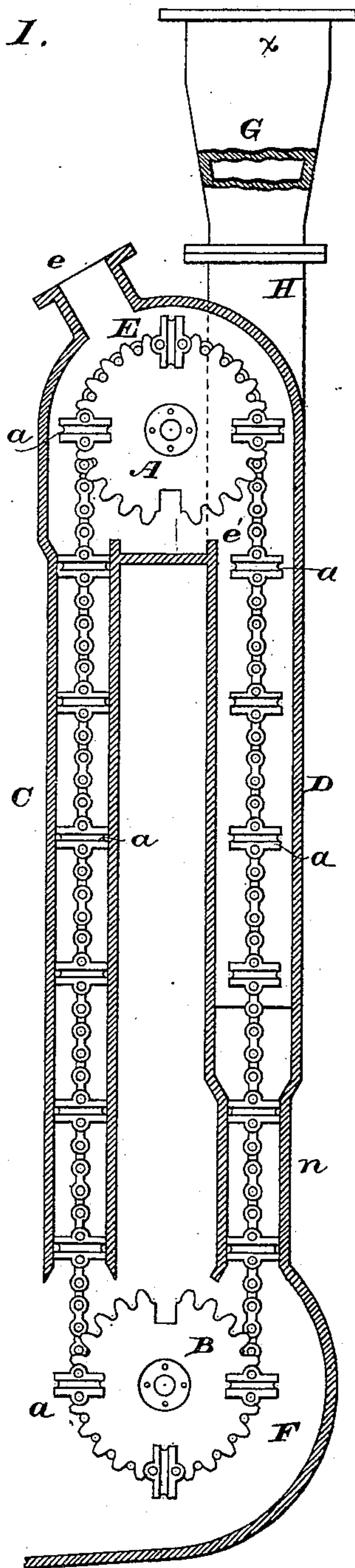
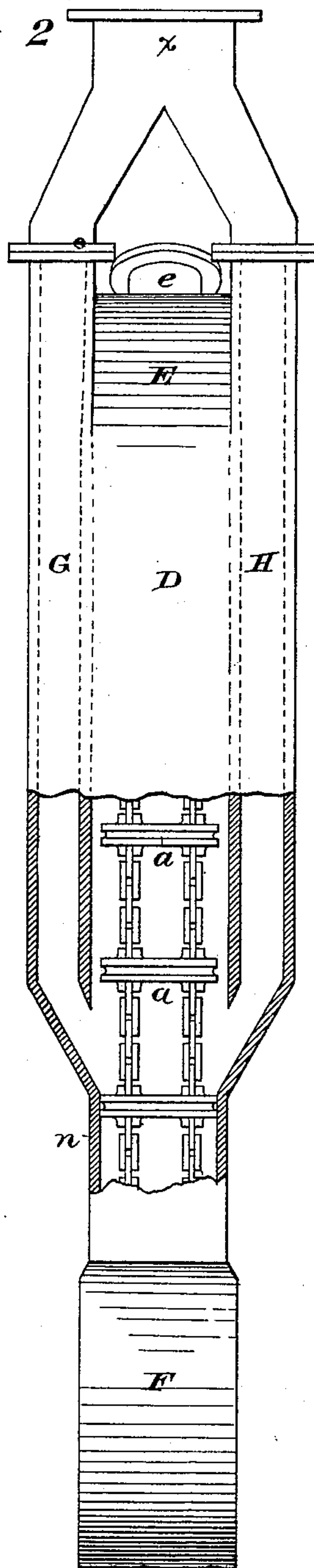


Fig 2



WITNESSES

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SAMUEL W. HUDSON, OF HUDSONDALE, PENNSYLVANIA.

WATER-MOTOR.

SPECIFICATION forming part of Letters Patent No. 246,315, dated August 30, 1881.

Application filed June 28, 1881. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL W. HUDSON, of Hudsondale, Carbon county, Pennsylvania, have invented certain new and useful Improvements in Water-Motors, of which the following is a specification.

My invention constitutes an improvement on the apparatus shown in Letters Patent No. 241,984, granted to me May 24, 1881; and its object is to improve the construction and increase the working capacity of the apparatus.

Figure 1 is a vertical section through my improved apparatus, and Fig. 2 is a side view, with the casing partly in section, showing the position and arrangement of the water-supply pipes.

The casing of the apparatus is composed of the upper and lower pulley-chambers, E and F, and the tubes C and D. Sprocket-pulleys A and B are mounted in suitable bearings in the chambers E and F, respectively. Endless chains carrying any suitable number of piston-heads *a* pass around the pulleys through the tubes C and D. The tube C is of a uniform cross-section, and the piston-heads fit it snugly, yet move freely without causing any great amount of friction. The section of the tube D is somewhat greater than that of the piston-heads, except from the point *n* to the bottom, where the difference is but slight, the piston-heads fitting that portion of the tube comparatively snugly.

G and H are chutes or water-supply pipes running parallel with the tube D, and opening into it at the point *n*, as shown in Fig. 2. These chutes extend above the top of the tube, and are united so as to form a common inlet at *x*. By this construction the water is delivered upon the piston-heads just at the point where its power is exerted, and in a line parallel with their movement. The piston-heads shown are oblong in shape, and it will be observed that the water impinges upon each end, carrying them down with an equal pressure. This manner of delivering the water to the pistons will also be of great advantage where the ordi-

nary circular piston having a single chain is employed, as in my patent before mentioned.

The apparatus organized as above described is capable of being used as an air-compressor, the air being carried up the tube C and compressed in the upper chamber of the apparatus, from where it can be conveyed through the opening *e*; or by leaving the outlet *e* open it may be used as a motor only; and when the apparatus is used as a motor only the upper compartment, E, and the tube C may of course be dispensed with.

The opening *e* may be provided with a suitable pressure-valve to regulate the pressure in the chamber E, which pressure can be adjusted relatively to the head of water, so as to prevent the water from rising in the tube above the point *e'*. The operation of the apparatus will be readily understood, and is substantially the same as that shown in my patent before mentioned.

I claim as my invention—

1. The combination, substantially as herein set forth, of the tube D, the chutes or supply-pipes running parallel with the tube, the chain or chains carrying piston-heads, and the sprocket-pulleys.

2. The combination, substantially as herein set forth, of the tube D, the chains and piston-heads, the pulleys, and the vertical chutes which deliver the water upon the piston-heads at the smaller portion of the tube, where its power is exerted.

3. The combination, substantially as herein set forth, of the tube D, the pulleys, the chains, the oblong piston-heads, and the vertical chutes G and H, which deliver the water upon the piston-heads at their ends.

In testimony whereof I have hereunto subscribed my name this 25th day of June, A. D. 1881.

S. W. HUDSON.

Witnesses:

F. BERTOLETTE,
L. H. BARBER.