P. BERNSTEIN.

HYDRAULIC AIR COMPRESSOR.

APPLICATION FILED OCT. 11, 1909.

955,124.

Patented Apr. 19, 1910.

Fig:1

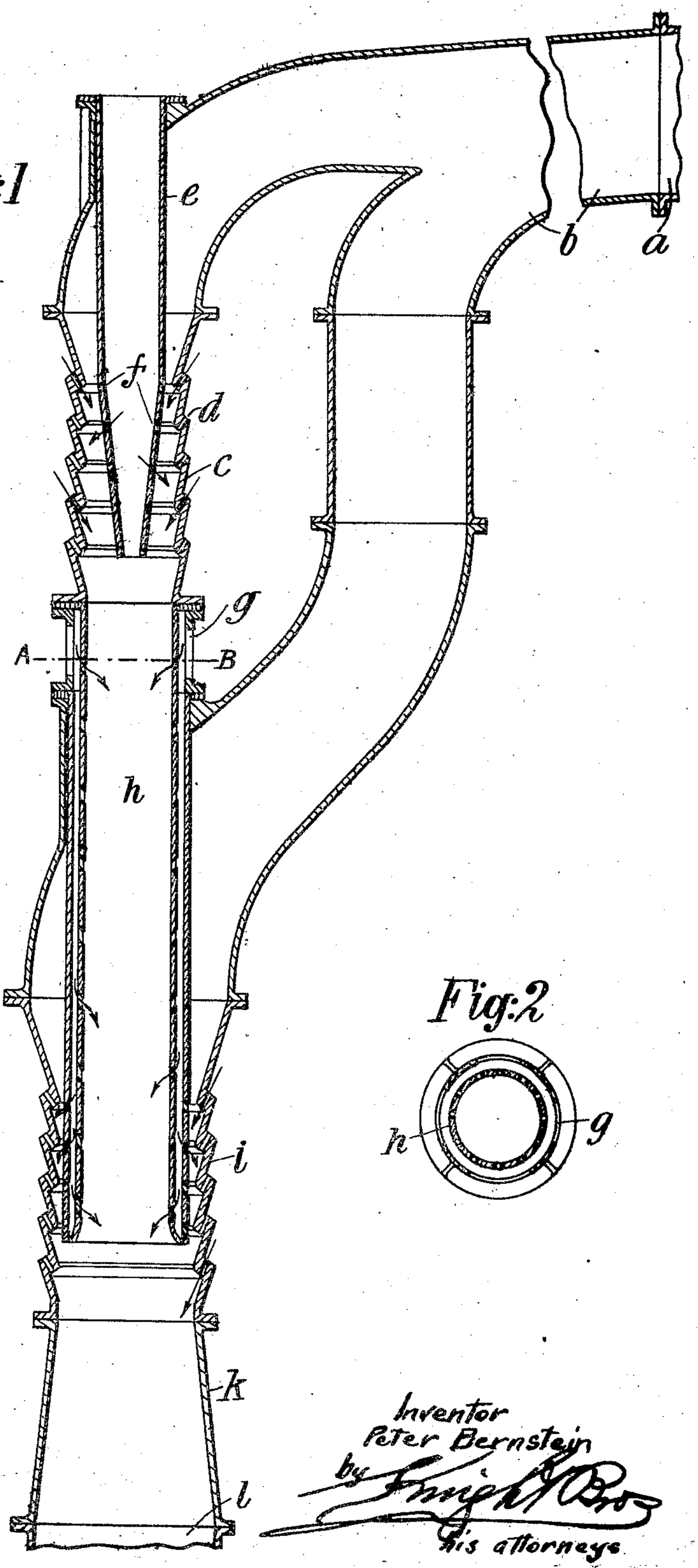

Fig:2

Witnesses

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UNITED STATES PATENT OFFICE.

PETER BERNSTEIN, OF MULHEIM-ON-THE-RHINE, GERMANY.

HYDRAULIC AIR-COMPRESSOR.

955,124. Specification of Letters Patent. Patented Apr. 19, 1910.

Application filed October 11, 1909. Serial No. 521,979.

To all whom it may concern:

Be it known that I, PETER BERNSTEIN, a subject of the Emperor of Germany, residing at Mulheim-on-the-Rhine, in the Empire of Germany, have invented new and useful Improvements Relating to Hydraulic Air-Compressors, of which the following is a specification.

The efficiency of a hydraulic air compressor depends on the effective suction of air with comparatively low water speeds. This object has only been attained to a limited extent by the known types of construction.

The object of the present invention is to provide improved apparatus having as many places of suction as possible, constructed and arranged as hereinafter described, whereby greater efficiency is obtained.

The invention is illustrated in the accompanying drawing, in which—

Figure 1 is a cross section of apparatus constructed according to the invention.

a is the connection to the inflow of water, *b* is the water subdividing pipe, which may consist of two or more arms. *c* is a twyer pipe with the air suction apertures *d*, *e* is an air pipe in the center of the twyer pipe having openings *f*; this air pipe is tapered downward in accordance with the decreasing amount of air.

g is an air suction pipe provided with openings, *h* is a pipe double-walled, or consisting of separate connected pipes, which is also perforated; *i* is a second twyer pipe; *k* is a connection, and *l* is the stand pipe.

Fig. 2 is a cross section of Fig. 1 on line A—B.

The action is as follows:—The water drawn off from the upper channel of a water-fall passes through the multiple-armed subdividing pipe *b* into the air sucker, consisting of a number of separate twyer pipes with single or double-walled air pipes located therein. The subdivision thus produced of the column of water into a number of rings considerably increases the surface of the sucking water, owing to each of the so-formed water rings having an internally and externally sucking action.

What I claim is:—

1. In suction apparatus for hydraulic air compressors, the combination of a water supply pipe, a water subdividing pipe having two or more arms, a twyer pipe connected with one arm and having a central perforated air supply pipe, a double walled perforated pipe in communication at its upper end with the atmosphere and with the discharge from the said twyer and air supply pipe, a second twyer pipe connected with another arm of the water subdividing pipe and receiving the lower end of the double walled perforated pipe and a stand pipe into which all the pipes discharge, substantially as herein shown and described.

2. In suction apparatus for hydraulic air compressors, the combination of a water supply pipe, a water subdividing pipe having two or more arms, a twyer pipe connected with one arm and having a central perforated air supply pipe tapered toward its lower end, a double walled perforated pipe in communication at its upper end with the atmosphere and with the discharge from the said twyer and air supply pipe, a second twyer pipe connected with another arm of the water subdividing pipe and receiving the lower end of the double walled perforated pipe and a stand pipe into which all the pipes discharge, substantially as herein shown and described.

In witness whereof I have hereunto set my hand in presence of two witnesses.

PETER BERNSTEIN.

Witnesses:

LOUIS VANDORN,

CARL DEPNER.