(No Model.) 2 Sheets—Sheet 1.

M. BIERMANN.

BATHING APPARATUS.

No. 551,573. Patented Dec. 17, 1895.

Fig: 1

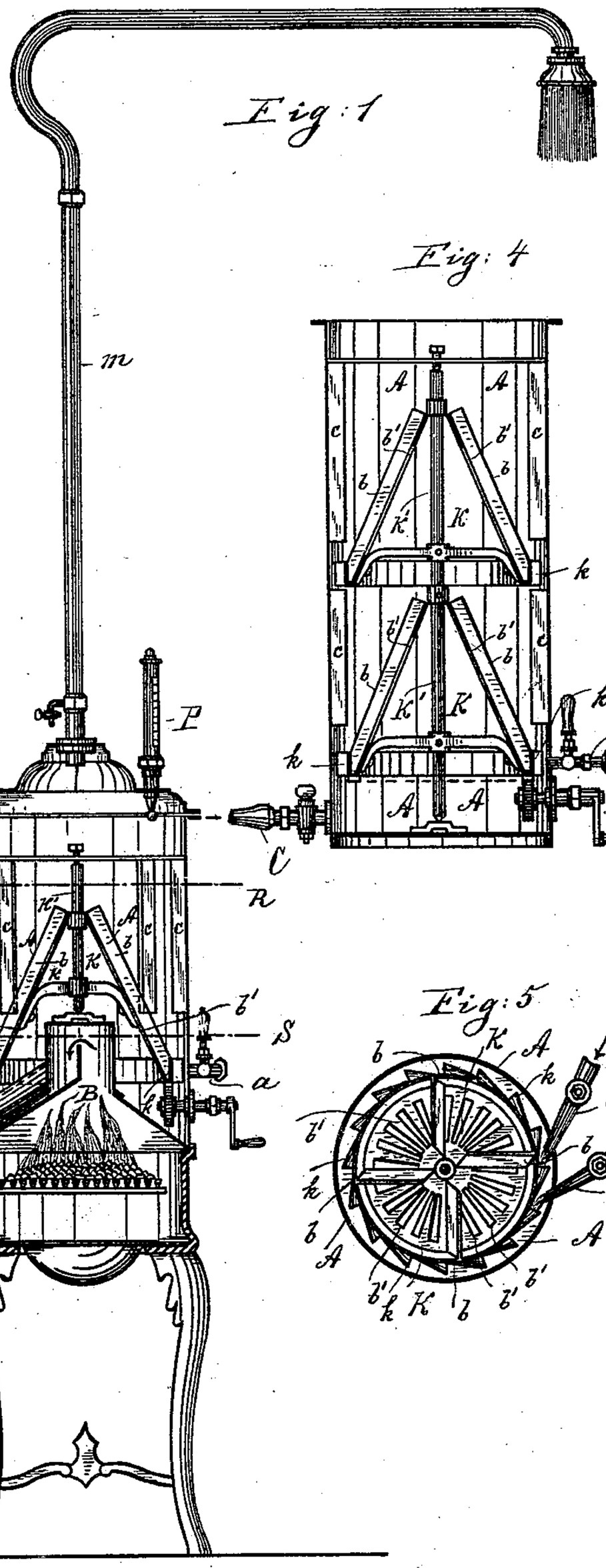

Fig: 2

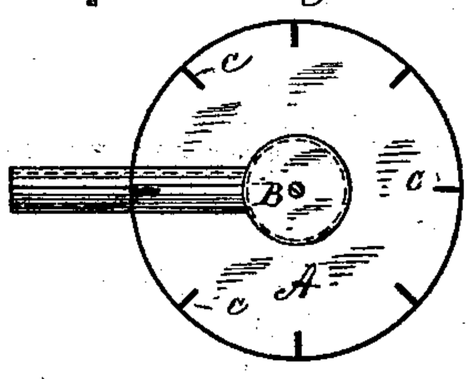

Fig: 3

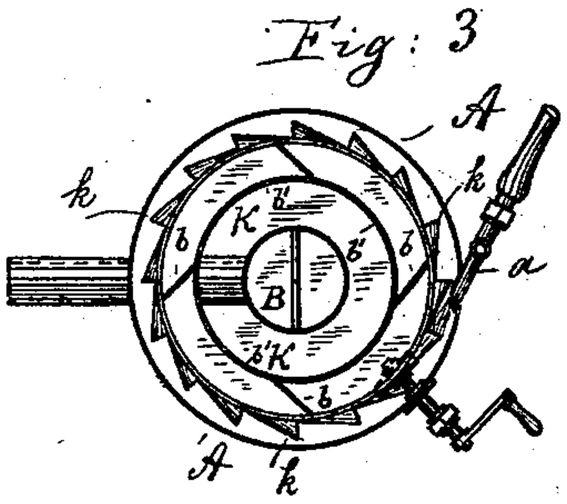

Fig: 4

Fig: 5

Witnesses:
Wm. Schulz.
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Inventor:
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by his attorneys
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(No Model.) 2 Sheets—Sheet 2.

M. BIERMANN.

BATHING APPARATUS.

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Fig: 6

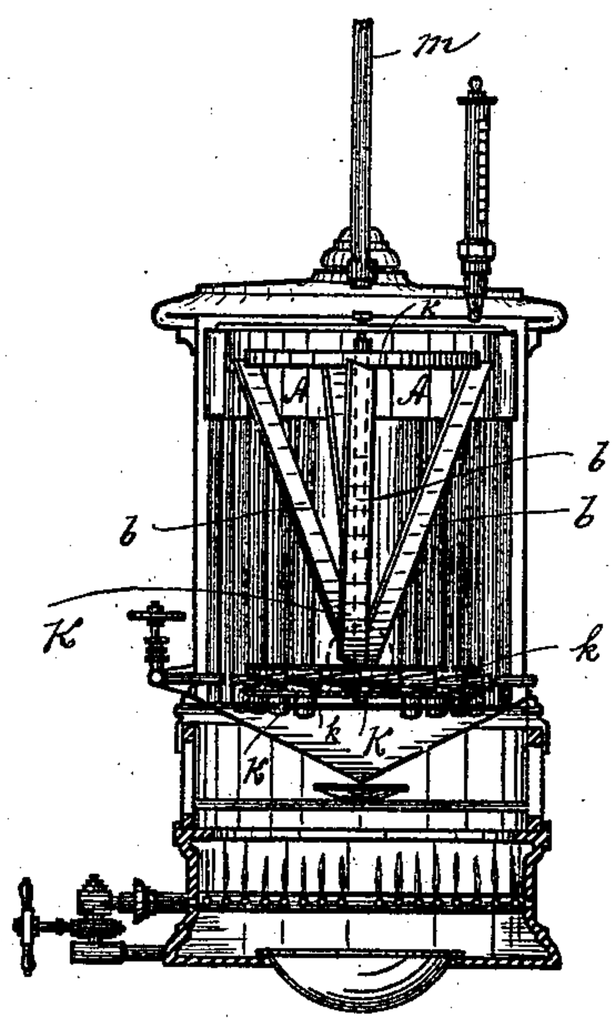


Fig: 8

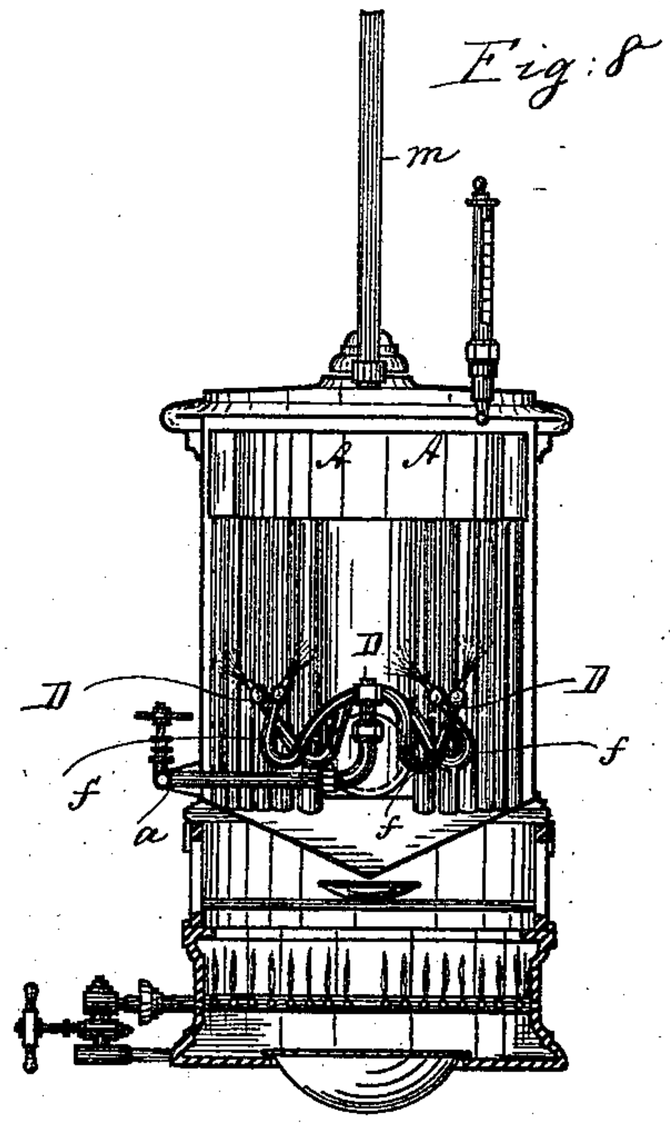


Fig: 7

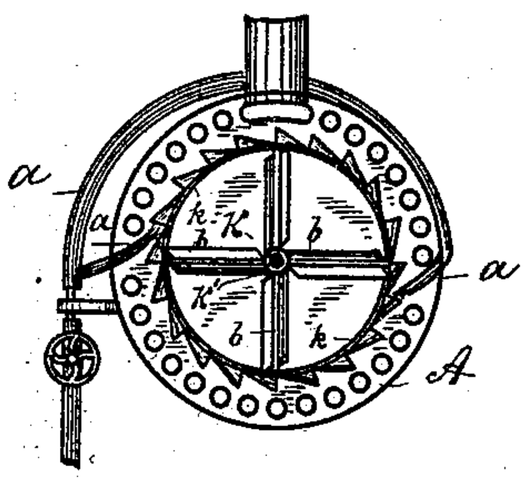
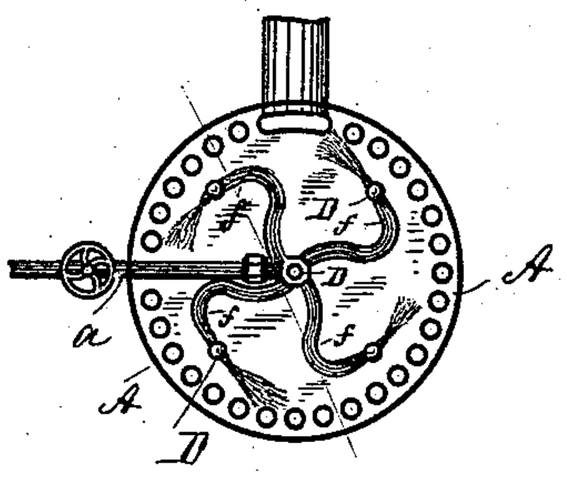


Fig: 9



Witnesses:
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A. Jonghmans.

Inventor:
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UNITED STATES PATENT OFFICE.

MAX BIERMANN, OF GERA, GERMANY.

BATHING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 551,573, dated December 17, 1895.

Application filed November 16, 1892. Serial No. 452,122. (No model.) Patented in Germany July 14, 1892, No. 69,307; in France August 12, 1892, No. 223,625; in Austria-Hungary August 27, 1892, No. 43,607 and No. 4,245; in England August 29, 1892, No. 15,511; in Switzerland August 29, 1892, No. 5,845; in Belgium September 2, 1892, No. 101,217, and in Italy September 10, 1892, XXVI, 32,637, LXIV, 154.

To all whom it may concern:

Be it known that I, MAX BIERMANN, a subject of the German Emperor, and a resident of Gera, Germany, have invented a new and Improved Bathing Apparatus, (for which I have obtained the following patents: in Germany, No. 69,307, dated July 14, 1892; in France, No. 223,625, dated August 12, 1892; in Italy, Vol. 26, No. 32,637, and Vol. 64, No. 154, dated September 10, 1892; in Austria-Hungary, No. 43,607, Tom. 43, Fol. 2,150, and No. 4,245, Tom. 27, Fol. 2,104, dated August 27, 1892; in England, No. 15,511, dated August 29, 1892; in Belgium, No. 101,217, dated September 2, 1892, and in Switzerland, No. 5,845, dated August 29, 1892,) of which the following is a specification.

This invention relates to an apparatus for gradually decreasing the temperature of water discharged from a mixing-vessel by nozzles or faucets, so that the bather is subjected to the salutary action of water that cools uniformly and by imperceptible stages.

In the accompanying drawings, Figure 1 is a longitudinal section of my improved apparatus; Fig. 2, a cross-section on line R R, Fig. 1; Fig. 3, a cross-section on line S S, Fig. 1; Fig. 4, a longitudinal section through a modification; Fig. 5, a cross-section of the apparatus, showing two cold-water inlets; Fig. 6, a longitudinal section of a modification of the apparatus; Fig. 7, a plan thereof; Fig. 8, a longitudinal section of a further modification, and Fig. 9 a plan thereof.

The letter A represents a vessel adapted for the reception or generation of warm water. The warm water may be either conducted into the apparatus through a pipe C, Fig. 4, or a fireplace B is formed in the lower part of the vessel to warm the water poured or fed into the same. With the vessel A there also communicate one or more cold-water-inlet pipes *a* and a mixed-water-exit pipe *m* that leads to a nozzle, faucet, hose or other discharging device.

Within the vessel A there is free to revolve a mixing-cone K, turning around spindle K′ and provided with slits *b*′ and a series of radially-projecting mixing-blades *b*. At its lower end the cone K is furthermore provided with paddles or buckets *k* to constitute a turbine. These buckets receive the impact of the cold water admitted by tube *a*, which thus serves to revolve the turbine. To aid the operation of the mixing-cone, a series of blades or ribs *c* project inwardly from the inner face of vessel A.

In use the water discharged through pipe *m* will be at its highest temperature at the time the cold-water supply of pipe *a* is turned on. Then the cold water will be gradually and thoroughly mixed with the hot water within vessel A to gradually and uniformly decrease the temperature of the water discharged. Thus the bather will be subjected to the desirable action of water cooling at any desired rate but always uniformly. A thermometer P may be used to note the gradual decline of temperature.

In Fig. 4 two cones K are shown to be contained within vessel A, such construction being useful where the invention is to be applied on a larger scale.

In Figs. 6 and 7 the cone is inverted, pointing with its apex downward, and there secured to a disk carrying the buckets *k*.

In Figs. 8 and 9 the cone-wheel is replaced by a revolving nozzle D, the bent and perforated arms *f* of which communicate with the cold-water-supply pipe *a*.

What I claim is—

The combination of a vessel having inwardly projecting blades *c*, with a cold water supply, a hot water supply, a mixed water discharge and a slitted revoluble mixer provided with mixing blades and buckets, substantially as specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

MAX BIERMANN.

Witnesses:

ARNOLD SCHIENER,

ALBIN SCHIRK.