(No Model.)

J. G. HEINZE & C. H. REINMUTH.

BUOYANT FABRIC.

No. 503,373. Patented Aug. 15, 1893.

Fig. 5. Fig. 4.

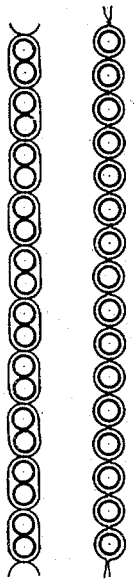


Fig. 3.

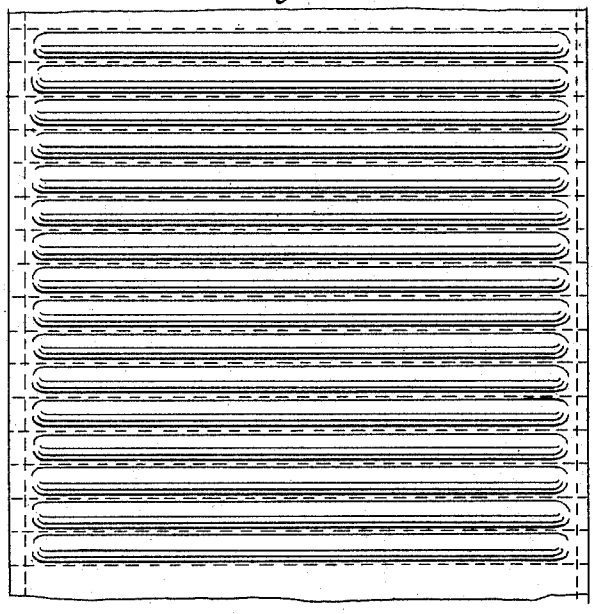
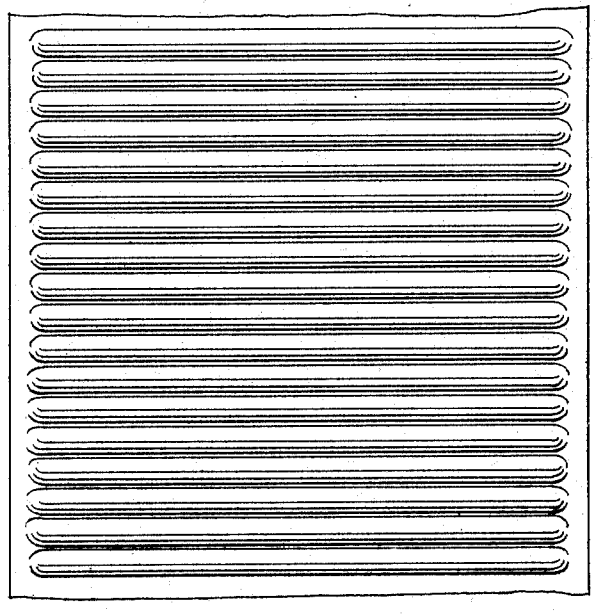


Fig. 2.

Fig. 1.



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UNITED STATES PATENT OFFICE.

JOHANN GOTTLOB HEINZE, OF GERA, GERMANY, AND CARL HEINRICH REINMUTH, OF ROCKVILLE, CONNECTICUT.

BUOYANT FABRIC.

SPECIFICATION forming part of Letters Patent No. 503,373, dated August 15, 1893.

Application filed November 15, 1892. Serial No. 452,090. (No specimens.)

To all whom it may concern:

Be it known that we, JOHANN GOTTLOB HEINZE, of Gera, Germany, and CARL HEINRICH REINMUTH, of Rockville, Connecticut, United States of America, have invented a Stuff Interwoven with Quills for Swimming Purposes, of which the following is a specification.

This invention has for its object a new article of manufacture, being a fabric into which the quills of feathers or whole feathers are woven, in order to produce a great buoyancy, and to prevent persons wrapped in such fabrics from drowning or sinking in the water. The fabric is intended to be used as a lining for garments, or the wearing apparel may be covered with the same. The fabric is composed of two ordinary stuffs which are woven simultaneously and connected by leading over alternately the warp-threads, or when woven separately they may be united by sewing and dividing off cells or compartments which are filled with feathers or the quills of feathers.

Figures 1 and 2 of the accompanying drawings, represent the new fabric in elevation and cross section obtained directly on the loom. Figs. 3 and 4 are elevation and cross section of a fabric obtained by sewing together two ordinary pieces of cloth, and Fig. 5 is a cross section illustrating a modified form.

In weaving two ordinary fabrics their warp-threads are alternately crossed and bound in by the weft, so that both fabrics form a whole. Then quills or whole feathers are brought from time to time into the shed, which by crossing again the warp-threads upon them are firmly bound in, and thus a fabric is formed being thick and extremely light and which will readily float on the water.

In producing the fabric by sewing together two pieces of cloth, we form at first a seam across the whole width, then bring in a certain quantity of feathers or quills and apply a second seam parallel to the first and so close to the same, that the feathers are firmly surrounded by the fabrics; this is shown in Figs. 3 and 4.

In order to save some of the work of making the cross seams, we fill the feathers on the last seam and secure them by a few stitches wide apart, then we fill in the same quantity of feathers alongside of the preceding charge which we then secure by a regular seam across the fabric. In repeating this process over and over again, we obtain a fabric as represented in cross section by Fig. 5.

Having thus described our invention, what we desire to secure by Letters Patent is—

As a new article of manufacture, a buoyant fabric consisting of two ordinary fabrics having inclosed parallel pockets formed between them by interweaving of the threads, and quills arranged in said pockets, substantially as set forth.

In testimony that we claim the foregoing as our invention we have signed our names in presence of two subscribing witnesses.

JOHANN GOTTLOB HEINZE.
CARL HEINRICH REINMUTH.

Witnesses:
MAX MEISSNER,
RICHARD OEHLER.