

No. 713,755.

Patented Nov. 18, 1902.

J. FAILENSCHMIDT.
APPARATUS FOR BLEACHING, DYEING, &c.

(Application filed Mar. 1, 1902.)

(No Model.)

Fig. 1.

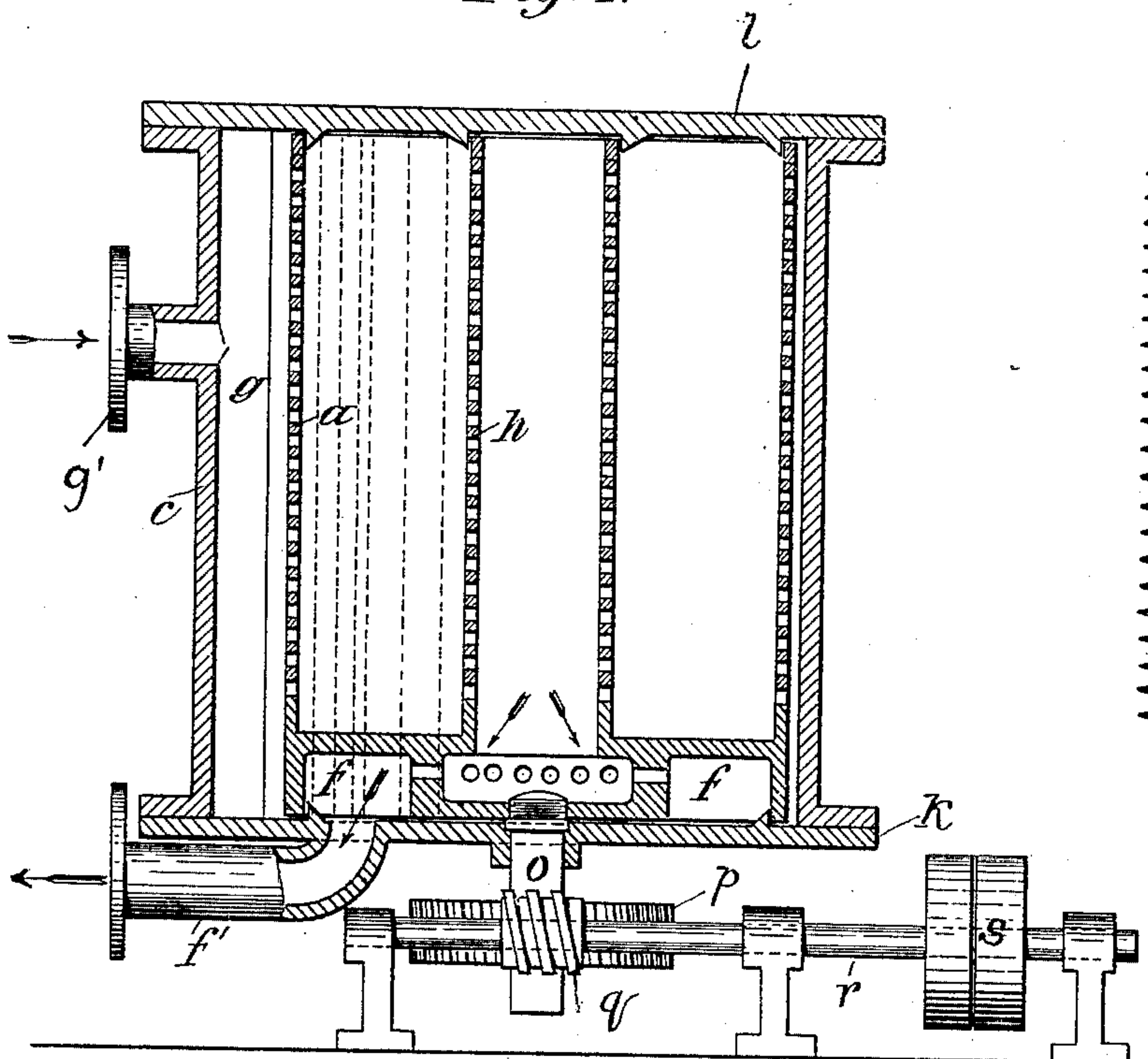


Fig. 3.

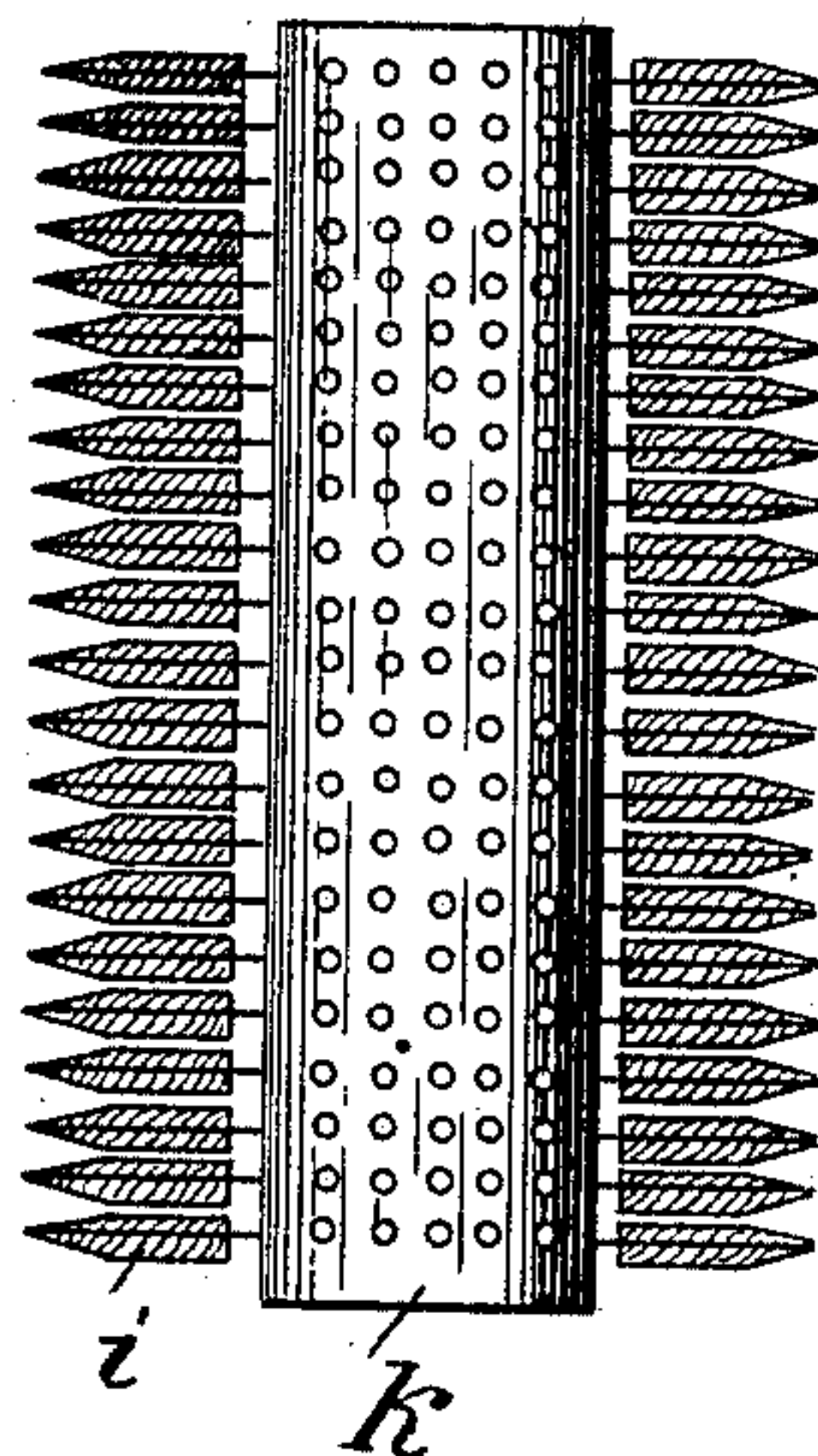


Fig. 2.

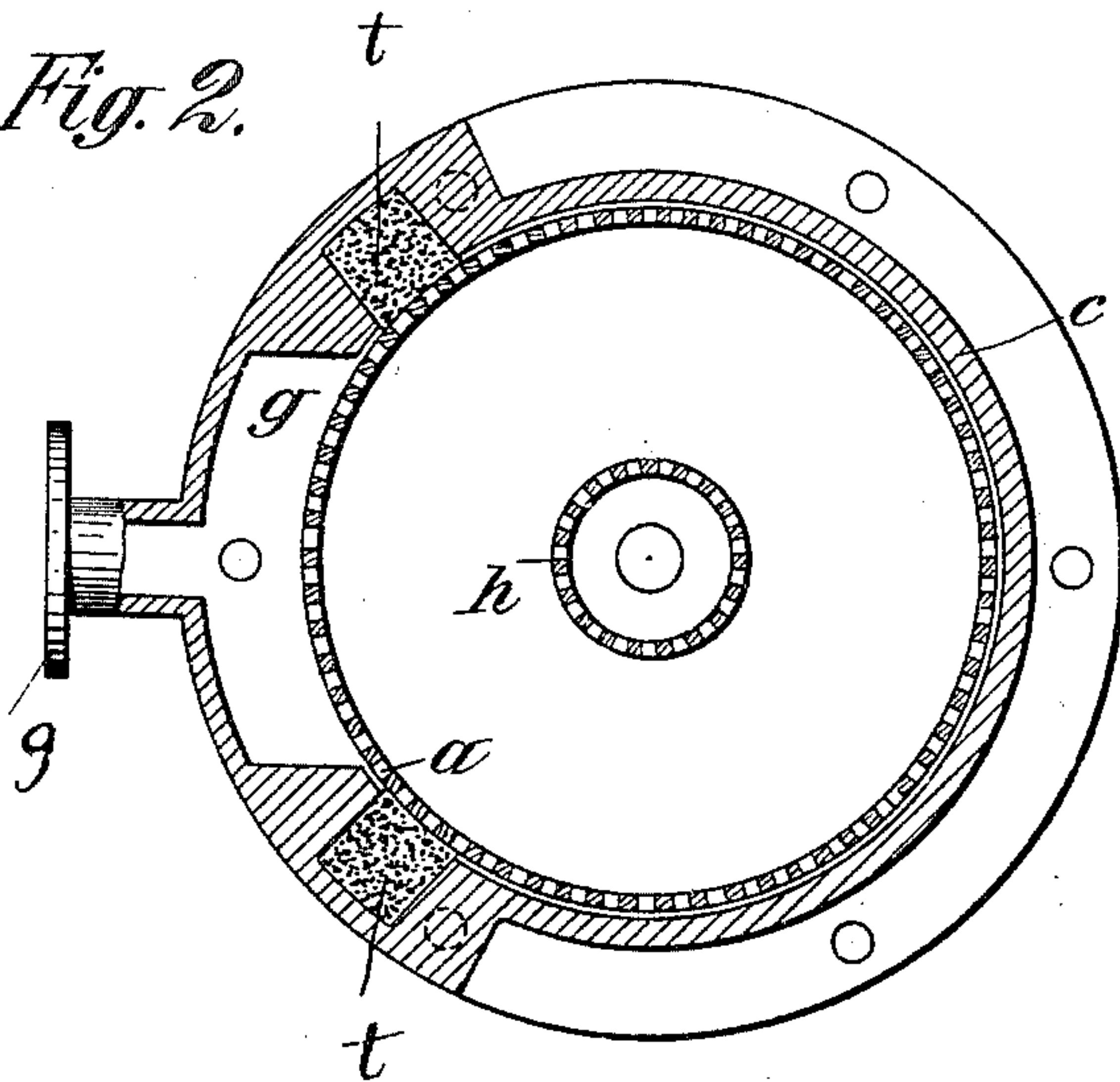
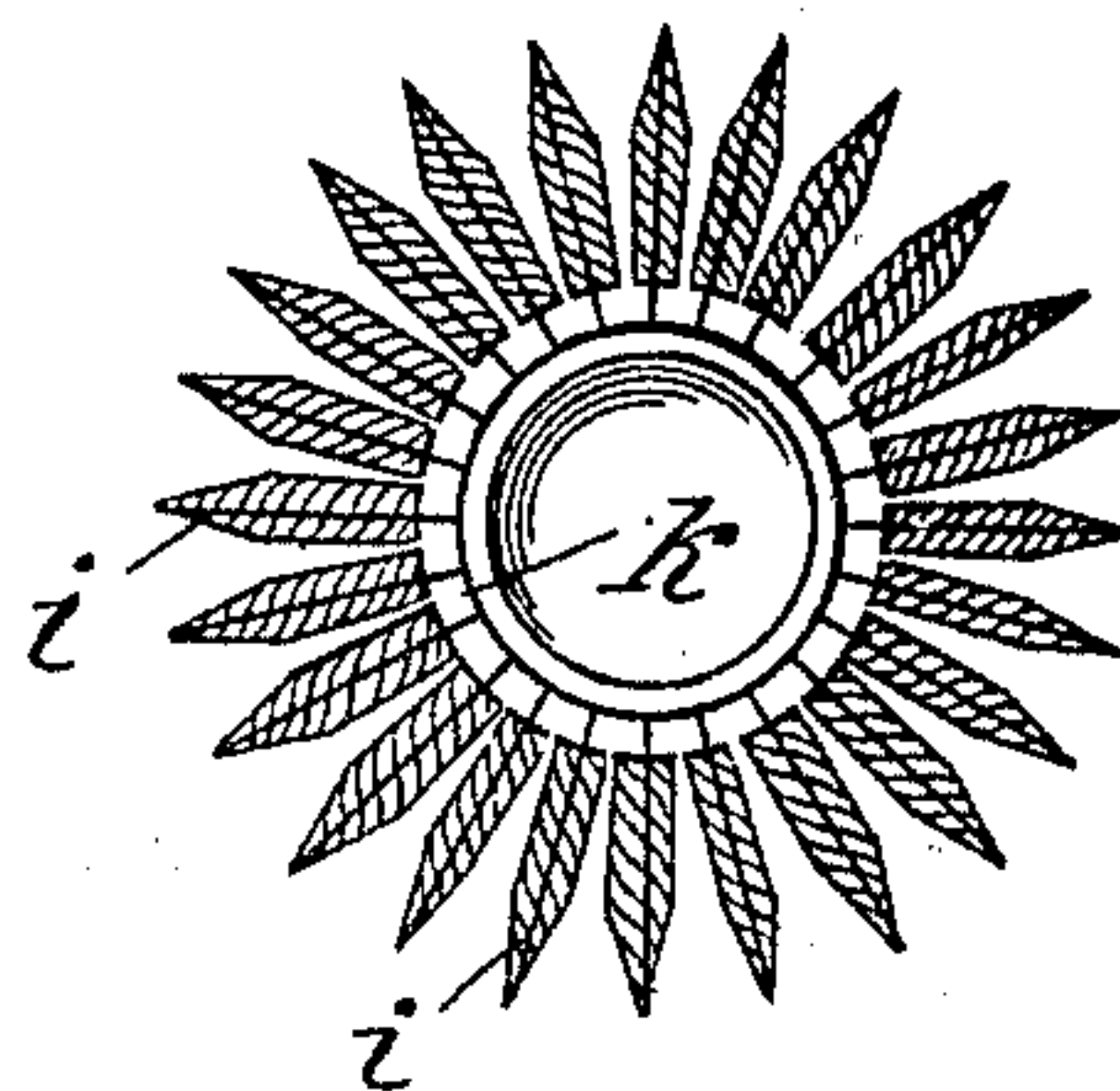


Fig. 4.



Witnesses
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APPARATUS FOR BLEACHING, DYEING, &c.

SPECIFICATION forming part of Letters Patent No. 713,755, dated November 18, 1902.

Application filed March 1, 1902. Serial No. 96,276. (No model.)

To all whom it may concern:

Be it known that I, JACOB FAILENSCHMIDT, engineer, a subject of the King of Würtemberg, residing at Mulheim-on-the-Ruhr, Prussia, German Empire, have invented new and useful Improved Apparatus for Treating Fibers, Fabrics, or the Like with Bleaching, Dyeing, or Like Liquors, of which the following is a specification.

This invention relates to apparatus in which bleaching, dyeing, or like liquors are made to pass in continually-changing directions through the goods to be treated. Such an apparatus is described in the English Patent No. 13,575 of 1901, the present invention consisting in improvements in the construction there described.

In the drawings, Figure 1 is a vertical section, and Fig. 2 is a sectional plan, of the improved apparatus. Figs. 3 and 4 show an apparatus for dyeing pin and warp cops.

a, Fig. 1, is a cylindrical vessel the shell of which is perforated. Concentrically placed in this boiler is a cylindrical compartment or tube *h*, also perforated. The vessel *a* is contained in an outer receptacle *c* and is mounted therein on a vertical axis *o*, which passes through the bottom *k* of the receptacle and carries a worm-wheel *p*, gearing with worm *q* on the shaft *r*. By driving the latter by means of the pulley *s* the vessel *a* is rotated in the receptacle *c*. The receptacle *c* nearly fits close against the vessel *a*, and on one side it is expanded to a chamber *g*, in the wall of which is a union *g'* for connecting the chamber with a suction or pressure pump. Below the bottom of the vessel *a* is formed a chamber *f*, which is in communication with the interior of the tube or chamber *h* and has a union *f'* for connection with the pressure or suction pump. On either side of chamber *g* is a packing *t*, Fig. 2, which, however, may be omitted if the vessel *a* fits the vessel *c* sufficiently closely.

The operation of the apparatus is as follows: The goods to be treated are placed in the annular space between the vessel *a* and the inner chamber or tube *h*. The cover *l* is then fastened on, and the unions *g'* and *f'* are connected with the pressure and suction sides

of a pump, respectively or conversely. Liquor is now circulated through the pump and forced, say, into the chamber *g*, whence it passes through the material radially to the inner chamber *h*, which is in communication with the suction side of the pump through chamber *f* and union *f'*, so that the pump returns the liquor to chamber *g*, thus maintaining a continuous circulation while the vessel *a* is kept in rotation.

The above-mentioned apparatus for dyeing pin and warp cops consists of a tube *k'*, upon which the cops are arranged closely, standing at the side of each other. The tube *k'* is closed upon the top and open on the bottom and is pulled onto the tube *h*, Fig. 1, in such manner that the lower edge of *k'* meets the bottom of the receptacle *a*. At the flow of the dyeing liquid the latter flows from the chamber *g* through the perforations of the casing of the receptacle *a*, permeates the cops, enters the tube *h*, flows off through the tube *f*, and permeates in a new circulation the cops.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is—

1. In an apparatus for bleaching or dyeing fabrics, the combination of an outer cylindrical casing having a laterally-extending chamber at one side thereof, a cylindrical vessel supported to rotate within the casing in close proximity to the wall thereof, said vessel having a closed bottom and perforated sides and the latter forming a movable wall in front of said chamber, a perforated tube supported centrally within the said vessel and communicating at its lower end with a chamber formed between the bottom of the casing and the bottom of the rotary vessel, and means for delivering liquor into one of said chambers and withdrawing it from the other, substantially as set forth.

2. In an apparatus for bleaching or dyeing fabrics, the combination of an outer cylindrical casing having a laterally-extending chamber at one side thereof, a cylindrical vessel supported to rotate within the casing in close proximity to the wall thereof, said vessel having a closed bottom and perforated

sides and the latter forming a movable wall in front of said chamber, packing supported on each side of the chamber and engaging the cylindrical vessel, a perforated tube supported centrally within the said vessel and communicating at its lower end with a chamber formed between the bottom of the casing and the bottom of the rotary vessel, and means for delivering liquor into one of said

chambers and withdrawing it from the other, 10 substantially as set forth.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

JACOB FAILENSCHMIDT.

Witnesses:

WILLIAM ESSENWEIN,
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