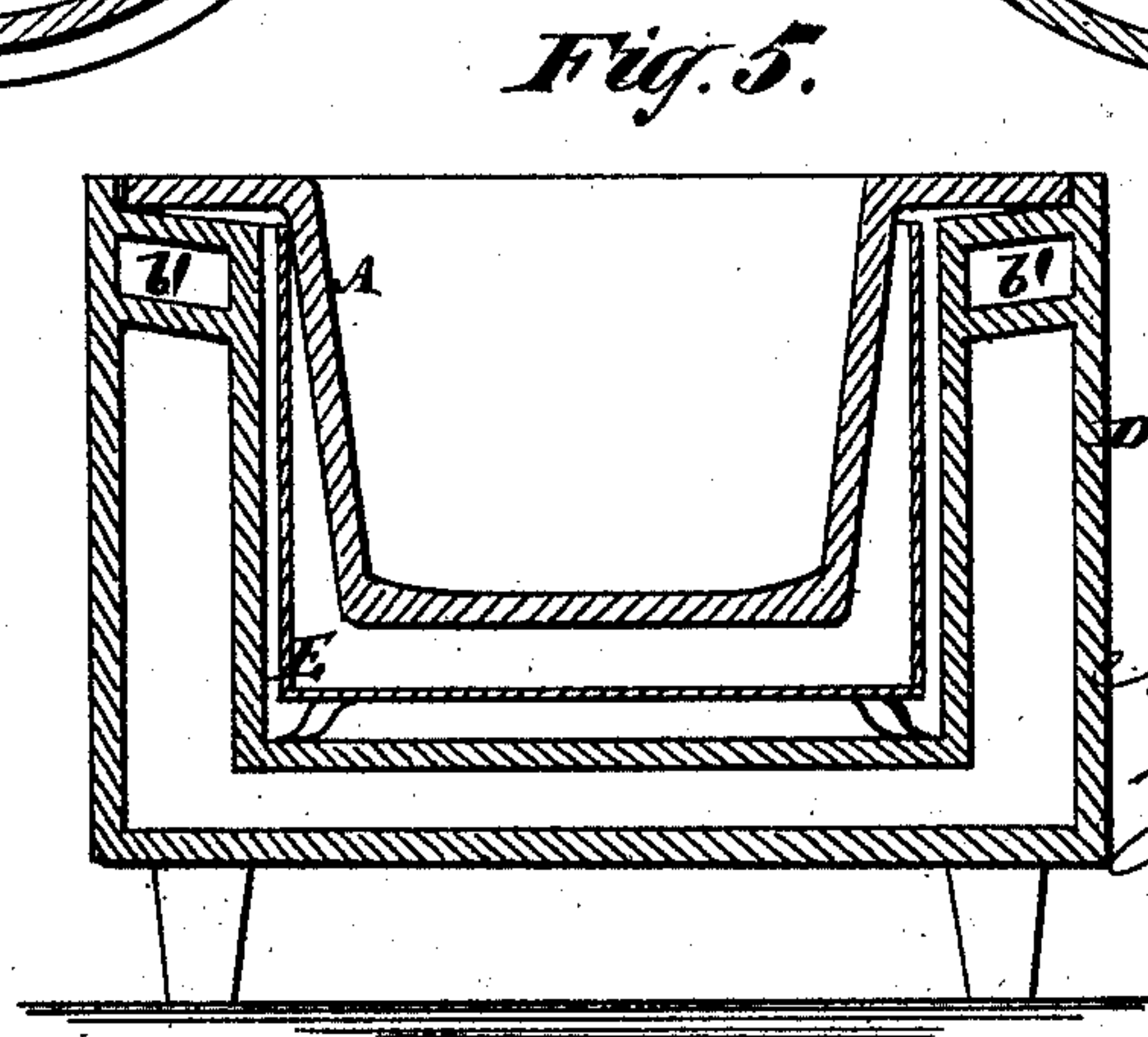
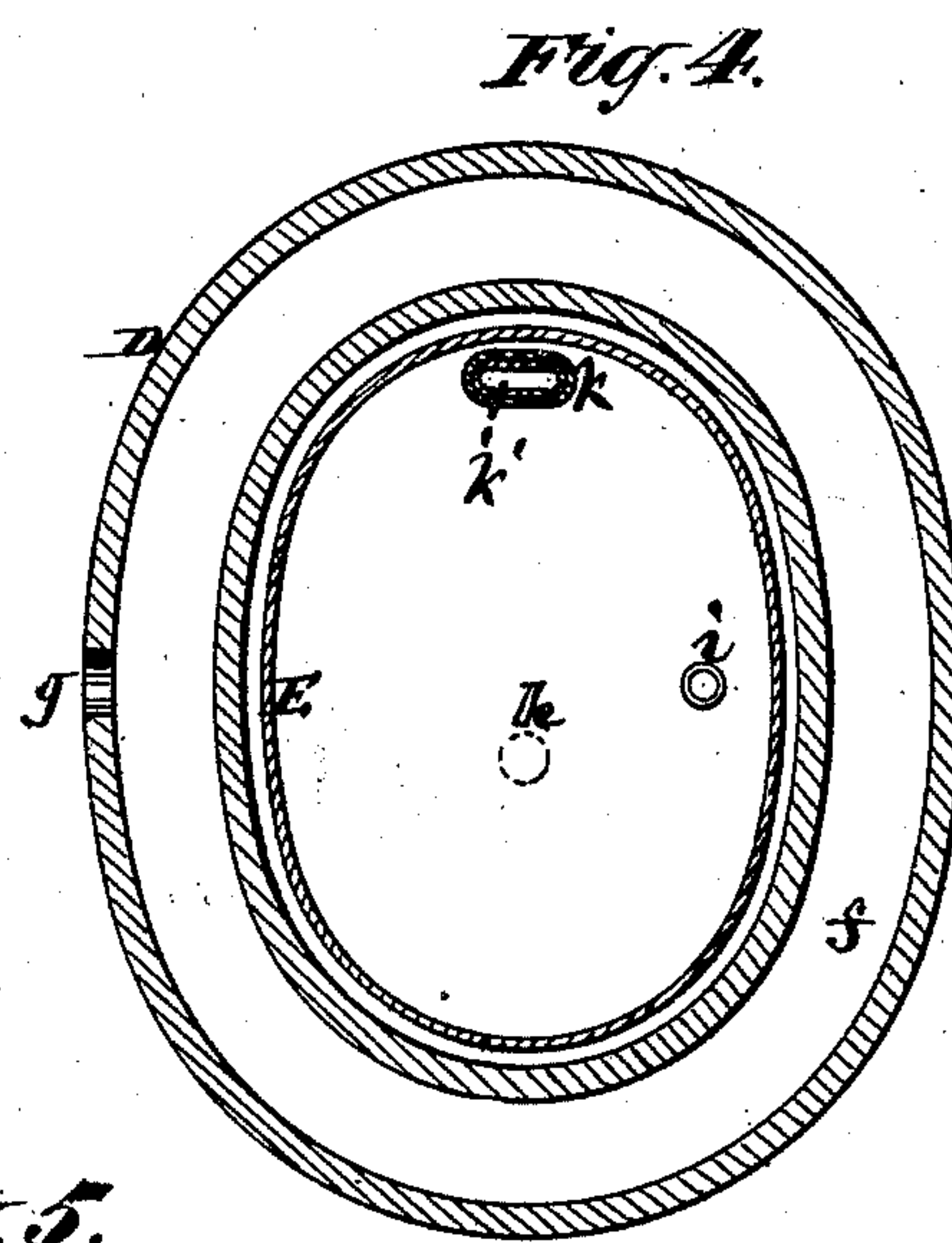
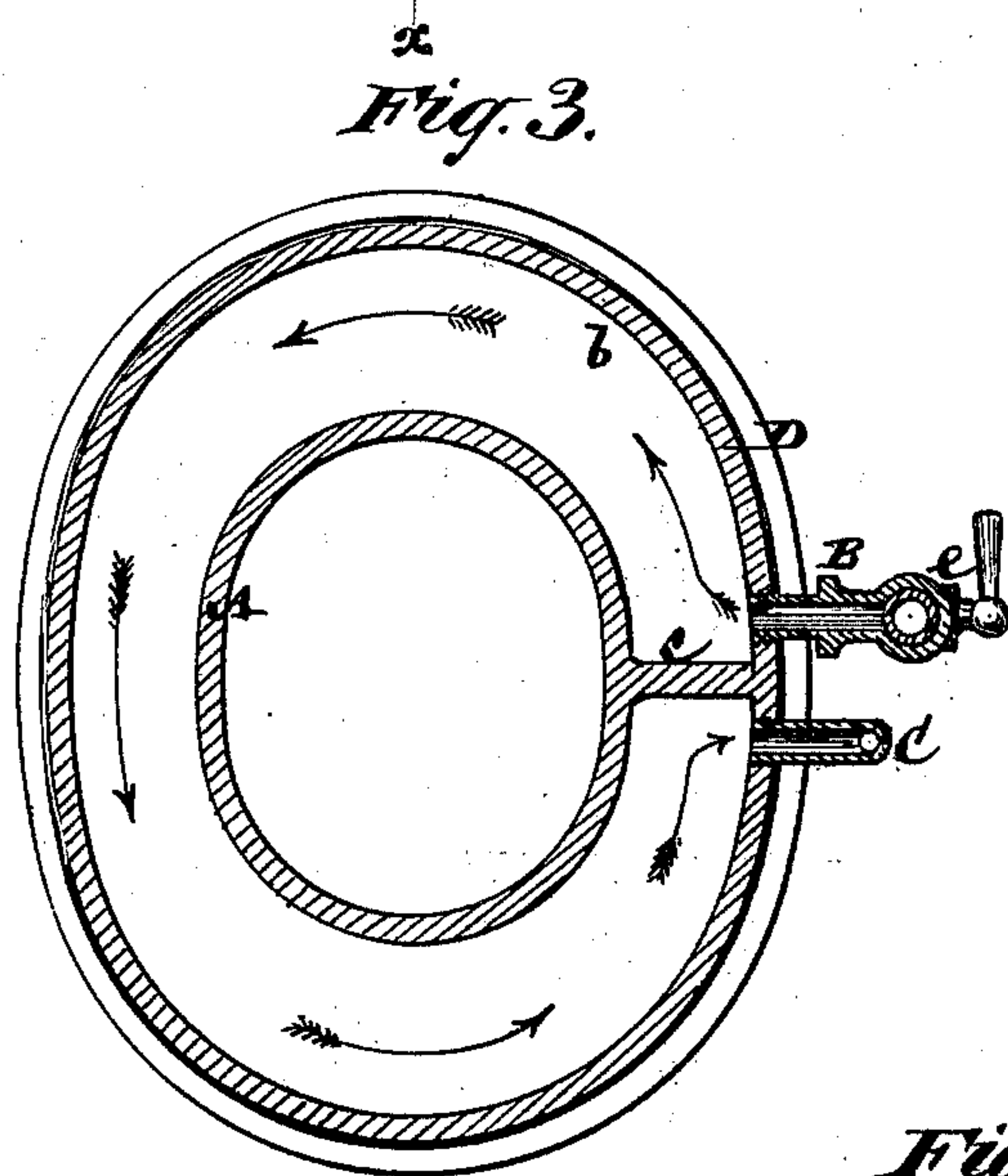
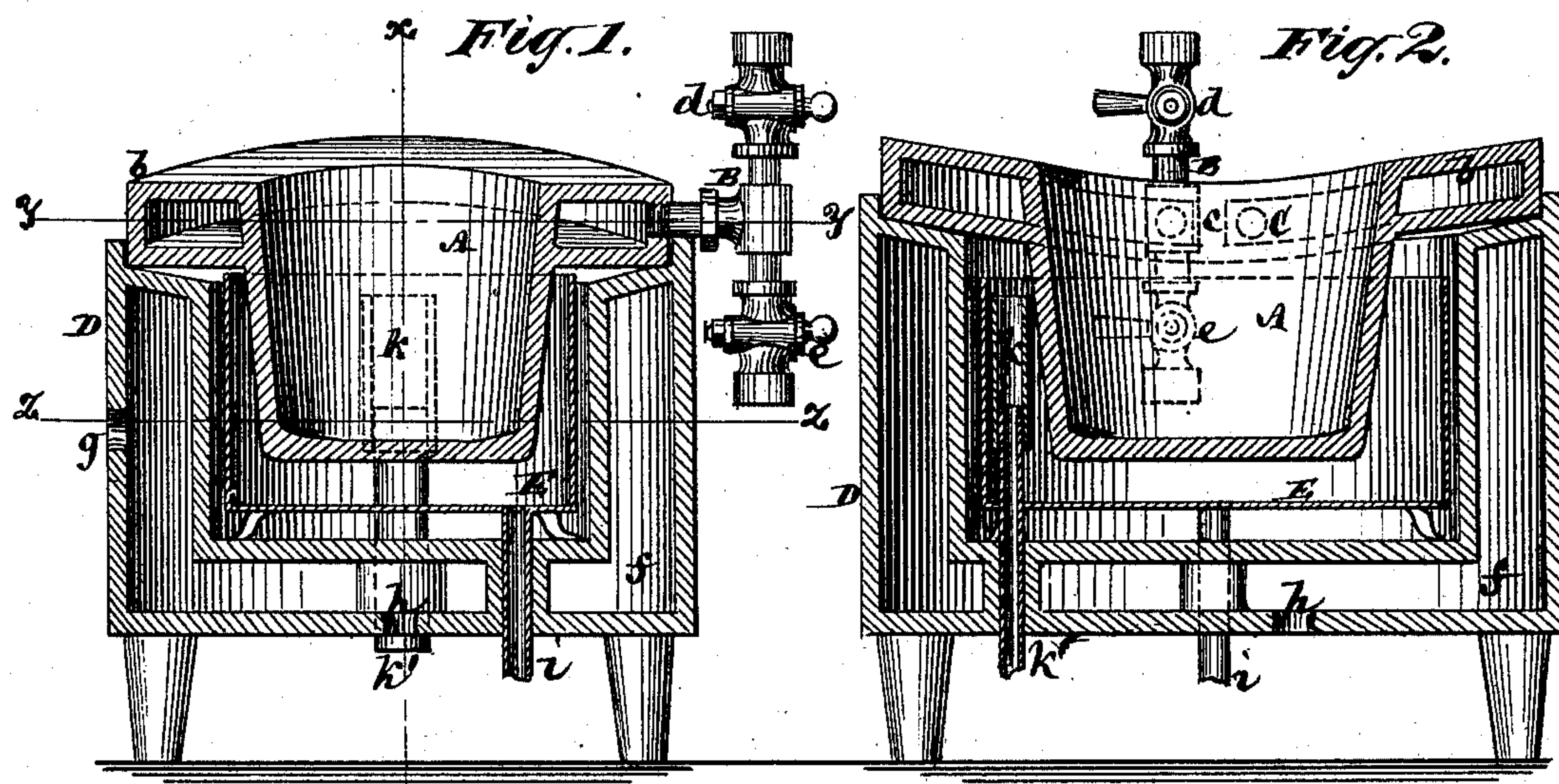


A. SOLMANS.
Apparatus for Pressing Hats.

No. 212,063.

Patented Feb. 4, 1879.



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UNITED STATES PATENT OFFICE.

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IMPROVEMENT IN APPARATUS FOR PRESSING HATS.

Specification forming part of Letters Patent No. **212,063**, dated February 4, 1879; application filed December 28, 1878.

To all whom it may concern:

Be it known that I, ALDEN SOLMANS, of South Norwalk, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Apparatus for Pressing Hats, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

This invention is more particularly designed for pressing felt hats, and relates to appliances for regulating the temperature of the mold or die of hat-finishing machines, such as those employed in the manufacture of felt hats, and has for its general object the production of a superior quality of hat at a cheaper rate.

The invention consists in certain novel constructions and combinations of parts, whereby the brim and crown portions of the hat, while under pressure, may be subjected to different temperatures relatively to each other by the circulation of heating and cooling fluids or liquids of different temperatures beneath and around those parts of the mold or die which contain or support respectively said brim and crown portions of the hat.

The invention also consists in certain combinations of means for circulating either steam or cooling-liquids through the chambers or receptacles which determine or vary the temperature of different portions of the mold or die containing or supporting the hat; and in a combination of an adjustable overflow-pipe with a pan or vessel receiving the female hat-mold within it, and a supply-pipe or inlet for keeping up a circulation of water or cooling-liquid within said pan or vessel.

In the accompanying drawings, Figure 1 represents a vertical section of a female die and lower portion of an apparatus for pressing hats with my invention applied. Fig. 2 is a further vertical section of the same on the line *x x* in Fig. 1. Fig. 3 is a horizontal section on the line *y y*, and Fig. 4 a further horizontal section on the line *z z*. Fig. 5 is a vertical section of a certain modification.

Referring in the first instance, or more particularly so, to Figs. 1, 2, 3, and 4 of the drawings, A is the lower mold or female die of a hat pressing or finishing machine. Said die

has its portion *b*, on which the brim of the hat is pressed, made hollow and formed with a partition, *c*, to provide for the circulation through it of steam or of a cooling-liquid, accordingly as it is required to hot or cold press the brim of the hat, the incoming fluid entering by a pipe-connection, B, on one side of the partition *c*, and the outgoing fluid to keep up the circulation passing off by a discharge-pipe, C.

The pipe-connection B may be fitted with duplicate cocks *d e*, one, *d*, of which serves to admit steam to the hollow brim portion *b* of the die A, and the other cock, *e*, to admit cooling-liquid—preferably water—to said brim portion, accordingly as it is required to heat or keep cool the latter.

The lower die, A, is seated and rests by its brim portion *b* within a receptacle or base, D, which is constructed with a steam space or jacket, *f*, at its sides and bottom, to which steam may be admitted by an inlet, *g*, and from which water of condensation may be drawn off by an outlet, *h*. Within such jacketed base D is a pan, E, which may rest by feet or legs upon the interior upper bottom surface of the base D, and is of sufficient size to receive loosely or freely within it the main body or crown portion of the lower die, A, leaving a free space for circulation of a cooling-fluid, such as water, outside of and around it, said cooling-liquid being admitted by a pipe, *i*, from beneath, and passing off by an overflow-pipe, *k k'*. This overflow-pipe is preferably made up of upper and lower sections, the upper one, *k*, of which is adjustable up or down upon the lower section, *k'*, to provide for the discharge of the cooling-fluid from the pan at different levels, for a purpose that will be hereinafter explained.

In the use of the apparatus for making felt hats, in which it is desirable to keep the crown portion of the hat cool and the brim portion of the hat hot while under pressure by the dies, steam is admitted by the pipe B and cock *d* to the hollow brim portion *b* of the die A, and water or other cooling-liquid admitted by the pipe *i* to the pan E, and the overflow-pipe *k k'* adjusted to vary the depth or amount of cooling-liquid in said pan, according to the extent of the crown of the hat it is required to

keep cool while under pressure. By thus cooling the portion of the mold or die A, or any part thereof, which contains the crown, said portion of the hat may be kept at such a low temperature as readily to retain its shape after the hat has been removed from the press, while, by introducing steam to the brim portion of the die A, the temperature of the brim of the hat is raised, which brings up the stiffening of the brim, and dispenses with the ironing of the brim necessary to bring up its stiffening when the whole hat is first heated in an oven and pressed in a cold mold, which leaves the brim weak.

The temperature of the portion of the die or mold which receives within it the crown part of the hat may also be regulated by introducing steam by the inlet *g* within the jacket *f* of the base D, and in some cases, or for certain kinds of hats, steam alone may be used in the space or jacket *f*, and cooling water or liquid be excluded from the pan; also, in some cases, or for certain kinds of hats, steam may be excluded from the brim portion *b* of the mold, and water or other cooling-liquid admitted by the pipe B on opening the cock *e*.

Instead of the brim portion *b* of the mold or die A being made hollow, the receptacle or base D, within which said die sits, may be constructed with a hollow upper portion or chamber, *b'*, as shown in Fig. 5, for the circulation of steam or of a cooling-liquid there-through, and on which the brim portion of the die sits. Such construction of the base A is

equivalent to construct the die itself with the hollow brim portion *b*.

I claim—

1. In an apparatus for pressing hats, the mold or female die and its receptacle or base, constructed with chambers or spaces, and provided with means for circulating fluids or liquids at different temperatures relatively to each other beneath the brim of the hat and around and beneath its crown or body, substantially as specified.

2. The combination, with the portion of the mold or die on which the brim of the hat rests, of a chamber beneath the latter and means for circulating either steam or a cooling-liquid through said chamber, essentially as described.

3. The combination, with the lower portion of the die which receives the crown portion of the hat, of one or more receptacles or chambers outside of said portion of said die for the circulation of heated or cooling fluids or liquids around and beneath said lower portion of the die, substantially as specified.

4. The combination of an adjustable overflow-pipe with a pan or vessel receiving the female hat mold or die within it and a supply-pipe or inlet for keeping up a circulation of water or cooling-liquid within said pan or vessel, essentially as described.

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