No. 669,010. Patented Feb. 26, 1901.

N. E. KAHN.

HAT SHAPING MACHINE.

(Application filed July 18, 1900.)

(No Model.)

FIG. 1.

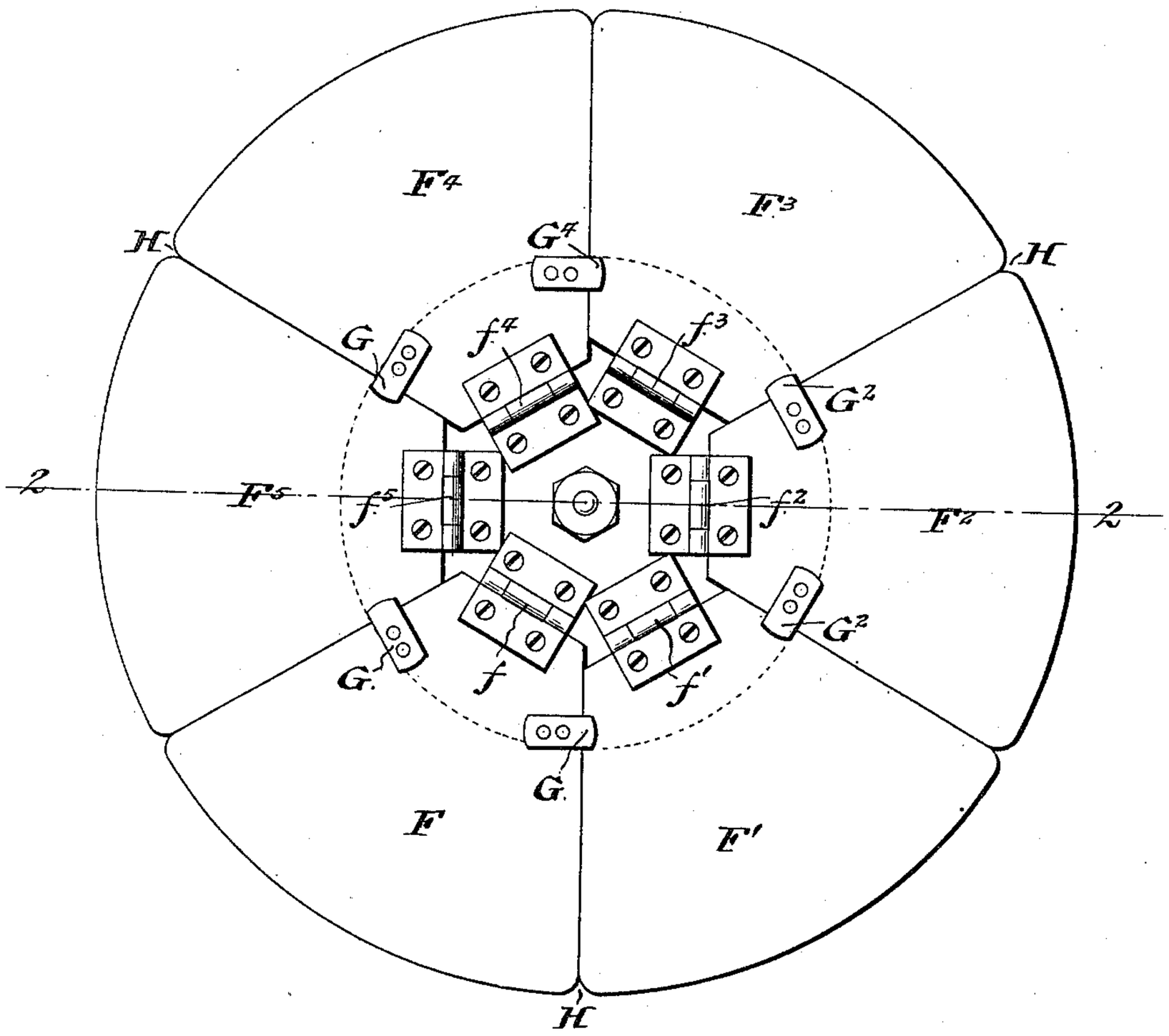
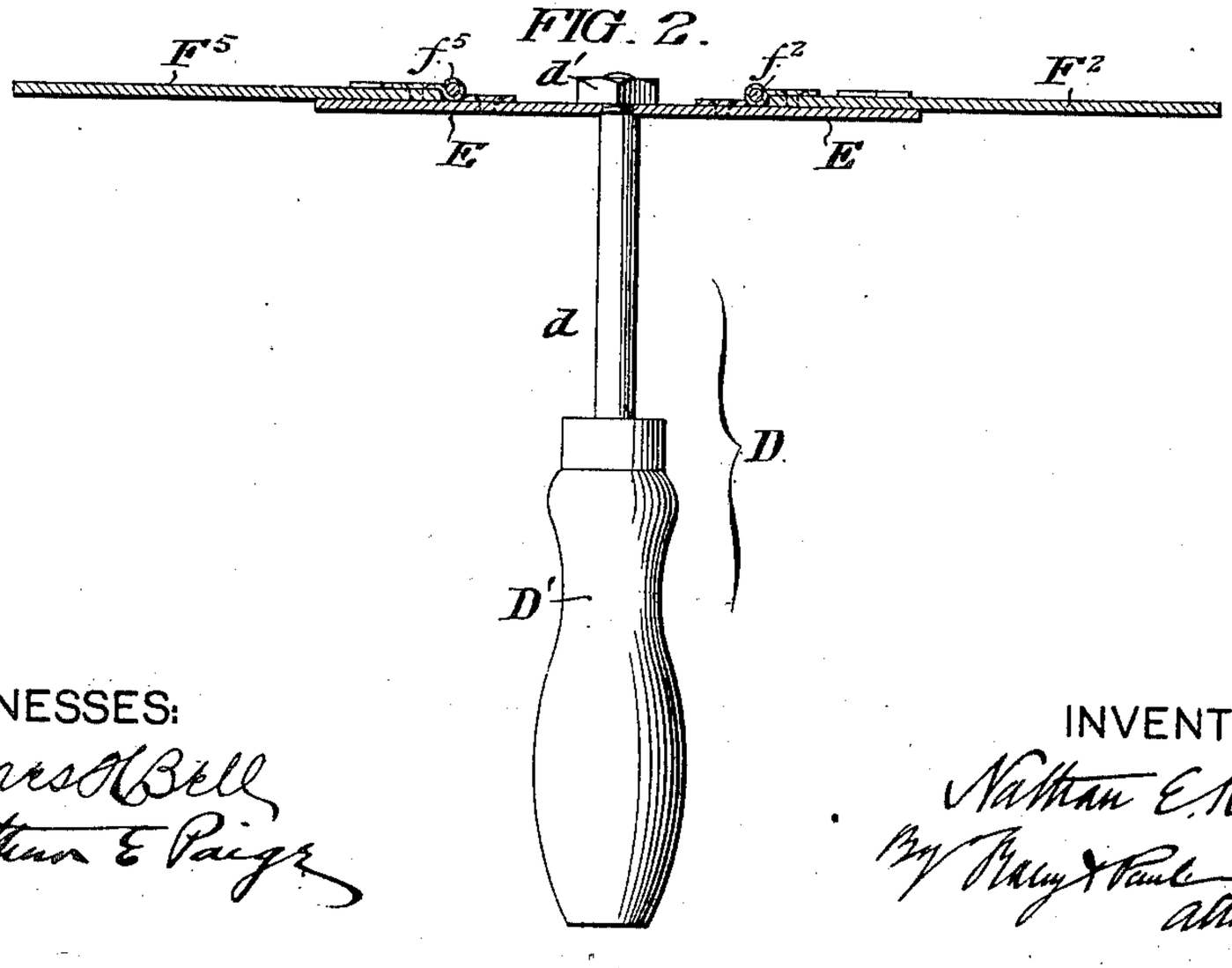


FIG. 2.



WITNESSES:

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NATHAN E. KAHN, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO ADELLA KAHN AND ARTHUR H. STEPHENSON, OF SAME PLACE.

HAT-SHAPING MACHINE.

SPECIFICATION forming part of Letters Patent No. 669,010, dated February 26, 1901.

Application filed July 18, 1900. Serial No. 23,988. (No model.)

To all whom it may concern:

Be it known that I, NATHAN E. KAHN, a subject of the Emperor of Russia, residing at No. 455 North Marshall street, in the city and county of Philadelphia, in the State of Pennsylvania, have invented certain new and useful Improvements in Formers for Hollow Textile Articles, such as Caps, &c., whereof the following is a specification, reference being had to the accompanying drawings.

In said drawings, Figure 1 is a top or plan view of the device with the parts in their fully-opened position, and Fig. 2 is a central transverse section on the line 2 2 of Fig. 1.

The object of my invention is to provide a means for forming a knit cap or analogous article by distending it from within, so that it shall lie flat while it is subjected to steaming and pressing or such other treatment as will cause it to be set in a final flat shape.

Referring to the drawings, D indicates the shank by which the implement is manipulated, consisting in the handle D′ and stem *d*. A flat disk E, of thin but stiff metal, is mounted upon the end of the stem *d*, which passes through it and is secured by means of a nut *d*′. This disk E is provided with a group of folding leaves F, F′, F^2, F^3, F^4, and F^5—in this instance six in number—which are hinged to the disk at *f* *f*′ f^2 f^3 f^4 f^5, respectively. Each leaf is approximately a truncated sector of a circle whose center coincides with that of the disk E, but whose total diameter is about twice as large as that of the disk. The ends of the peripheral portions of the leaves are preferably rounded slightly, as indicated at H, to avoid too sharp a projection at those points.

It will be observed that the hinges *f*, f^2, and f^4 are mounted at a less radial distance from the center than the other three which alternate with them, and consequently the leaves F, F^2, and F^4 have a somewhat greater radial depth than the other three. These leaves F, F^2, and F^4 are preferably provided with stop-pieces G, G^2, and G^4, which overlap the edges of the adjacent leaves. When the leaves are opened out to lie flat on the disk E, as shown in the drawings, they constitute a flat former with a continuous surface well adapted to distend a hollow pliable article and support it while being ironed or otherwise treated to set it in its final shape.

In order to insert or withdraw the former, the leaves are folded inward toward the center, and in this operation the leaves which are hinged nearest the center will turn freely together until their edges meet without jamming with the intermediate one at the sides, and that these other leaves will turn inward until they bring up symmetrically against the edges of the folded inner leaves. This permits the collapse of the "former" into a relatively small compass, so that it can be readily inserted into or withdrawn from a hollow article.

I have found that the use of six leaves gives the best results in practice, as the diameter of the folded implement is under these conditions sufficiently reduced, while the number of the working parts is not unduly increased; but I do not limit my claims to that particular number. I have also described and shown the bearing-surface on which the leaves are mounted as circular in outline; but in terming this element a "disk" I do not mean to limit myself to that particular outline.

Having thus described my invention, I claim—

1. The combination of a shank, a flat disk mounted thereon, and a plurality of flat leaves hinged to said disk, the hinges of said leaves being placed alternately at different radial distances from the center, substantially as set forth.

2. The combination of a shank, a flat disk mounted thereon, a plurality of flat leaves hinged to said disk, the hinges of said leaves being placed alternately at different distances from the center, and stop-pieces mounted at the edges of alternating leaves and overlapping the edges of the adjacent leaves, substantially as set forth.

NATHAN E. KAHN.

Witnesses:
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