

No. 752,775.

PATENTED FEB. 23, 1904.

P. HINKEL.
CRIMPED SHEET.

APPLICATION FILED JUNE 12, 1903.

NO MODEL.

Fig. 1.

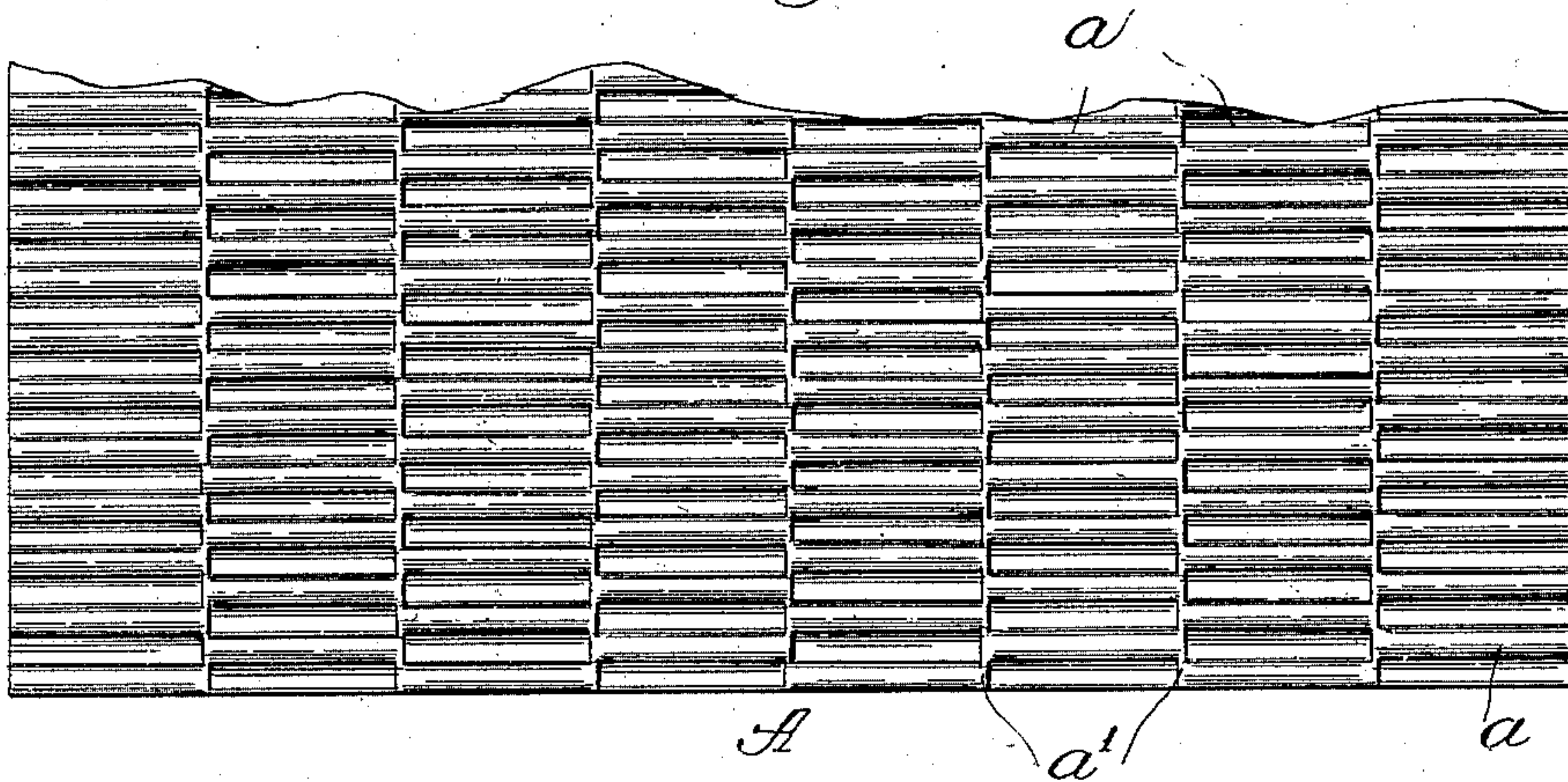


Fig. 2.

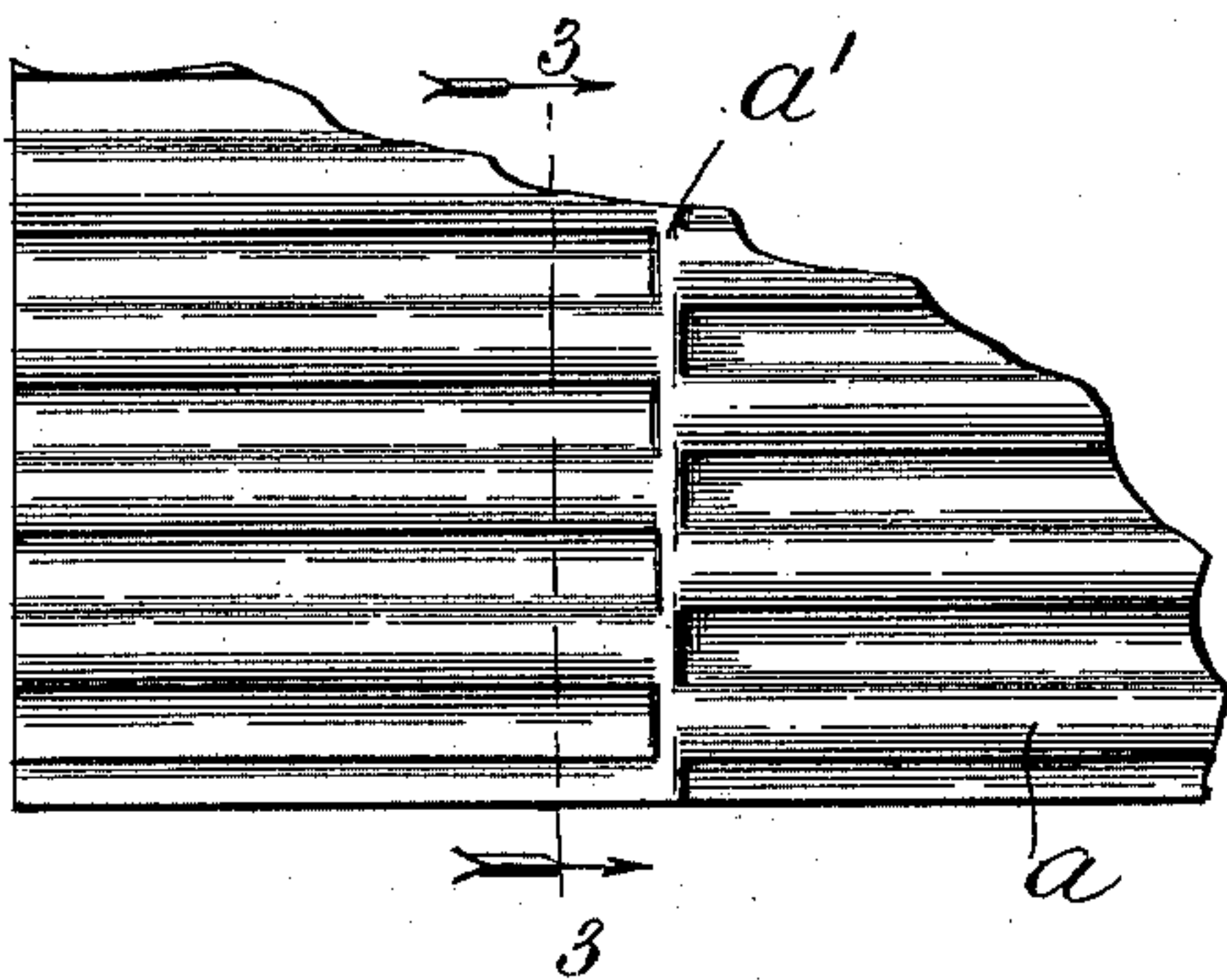


Fig. 3.

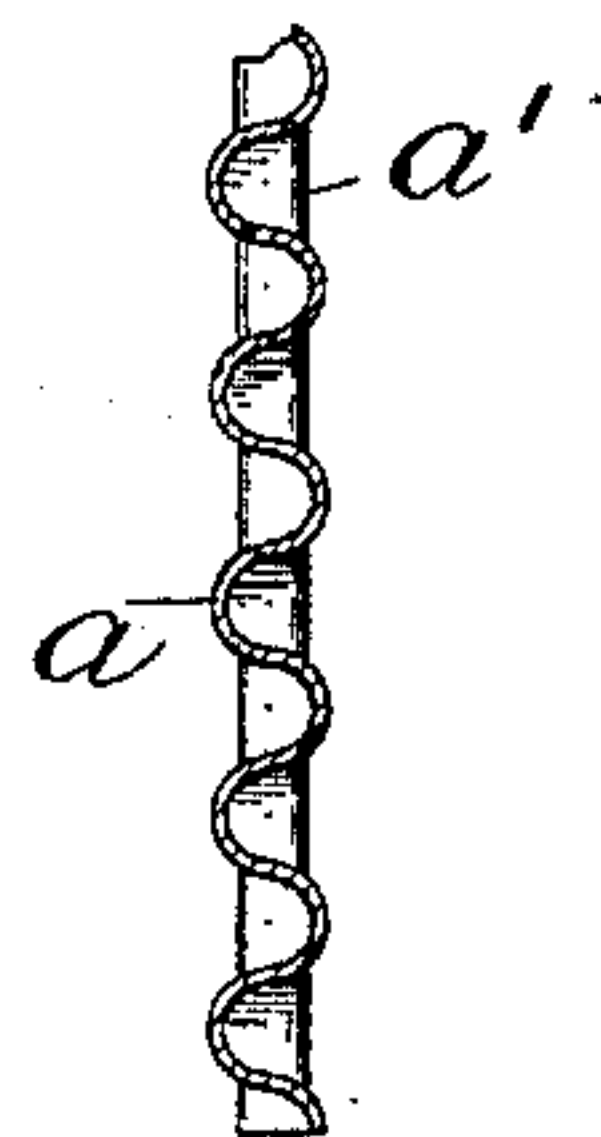
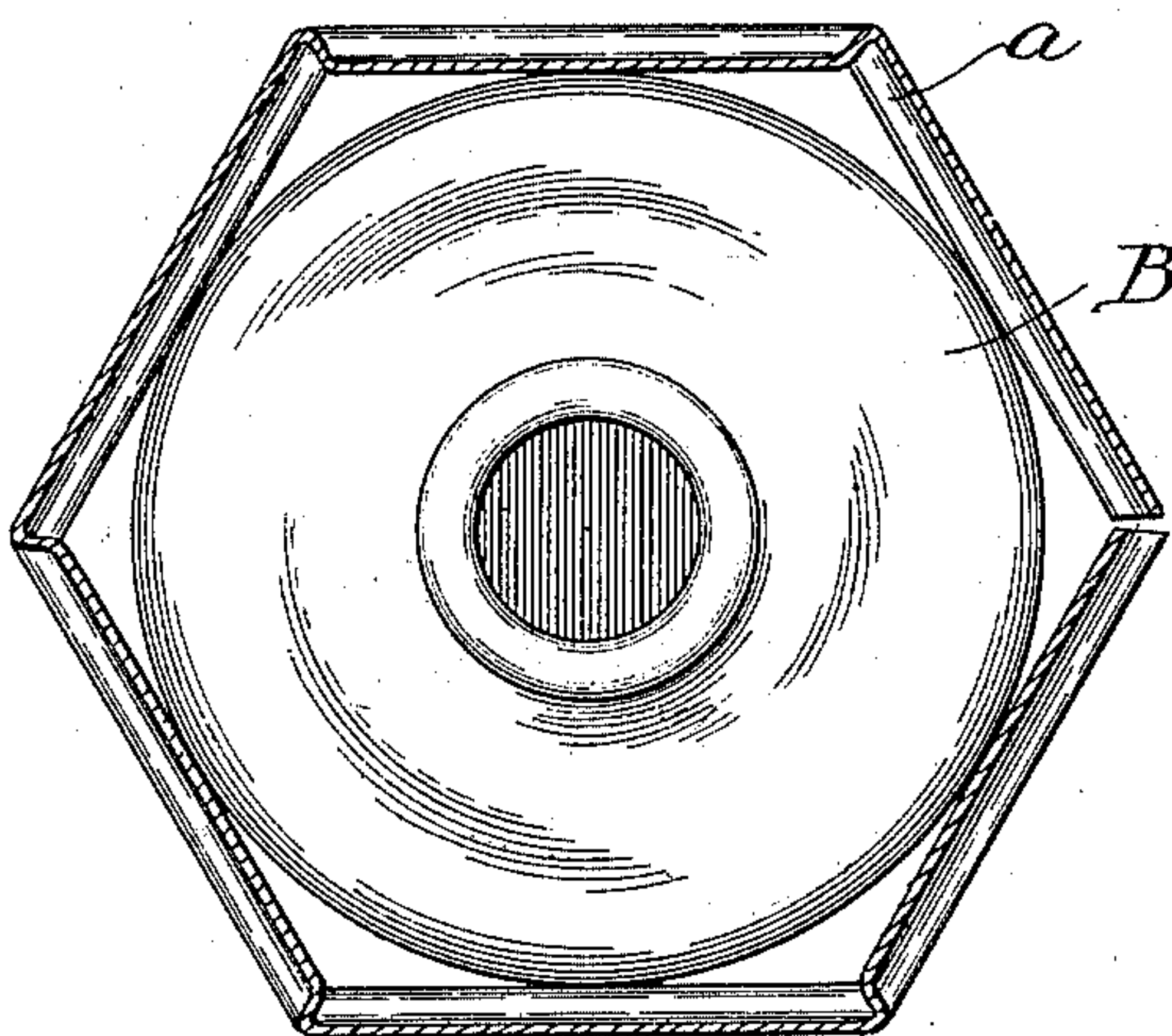


Fig. 4.



Witnesses
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UNITED STATES PATENT OFFICE.

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CRIMPED SHEET.

SPECIFICATION forming part of Letters Patent No. 752,775, dated February 23, 1904.

Application filed June 12, 1903. Serial No. 161,170. (No model.)

To all whom it may concern:

Be it known that I, PETER HINKEL, a citizen of the United States, and a resident of the city of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Crimped Sheets; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates more particularly to a crimped sheet, such as paper or the like, provided with longitudinal lines of crimps designed to afford resiliency to the sheet, adapting the same for packing purposes.

The object of the invention is to provide a packing-sheet designed to afford a resilient covering or envelop for fragile articles during transportation or otherwise and adapted to readily conform to the article to be packed therein and the great resiliency offered thereby protecting the same from breakage or injury.

It is also an object of the invention to provide a crimped sheet which possesses little extensibility either under lateral or longitudinal stress.

The invention consists in the matters hereinafter described, and more fully pointed out and defined in the appended claims.

In the drawings, Figure 1 is a fragmentary plan view of a crimped sheet embodying my invention. Fig. 2 is an enlarged fragmentary detail of the same. Fig. 3 is a section taken on line 3-3 of Fig. 2. Fig. 4 is a top plan view of a bottle or the like wrapped in a packing-sheet embodying my invention and illustrating the bending of said sheet at the ends of the crimps.

In said drawings a sheet A of paper or other suitable material is crimped to provide a plurality of lines *a* of short corrugations or crimps extending longitudinally of the sheet and staggered with respect to the crimps or corrugations of the adjacent lines. As shown, said crimps or corrugations are relatively short as compared with the width of the sheet, and the ends of adjacent corrugations terminate in

alinement with each other, as shown in Figs. 1 and 2, thereby providing a web or rib *a'* between the adjacent ends of the crimps, adapting the sheet to bend readily along said lines and providing great resiliency in the crimped portions, while increasing the resistance against bending intermediate said ribs or webs *a*, thus permitting the sheet to be readily wrapped around an article—as, for instance, the bottle B—with the webs *a'* extending longitudinally, as shown in Fig. 4, in which the paper is bent at the webs *a'* to provide six longitudinal lines of said crimps or corrugations, the package in the present instance when packed being hexagonal in cross-section and obviating waste of space.

The operation is as follows: The ribs or corrugations forming the crimps being short and deep and extending transversely around the package or bottle afford great resiliency against shocks or blows and are not readily flattened out, owing to said shortness and depth of said ribs forming the crimps. The webs *a'*, which extend longitudinally of the bottle or package, likewise afford similar protection, as they serve to strengthen the angles between the lines of corrugations while permitting the paper to be readily flexed thereat. Obviously any desired material may be used for the formation of said sheet, and the same may be used for many other purposes than those herein described. Preferably the sheet is crimped while still warm and moist direct from the last pair of calendering-rolls as the paper is made. Owing to the paper being still warm and slightly moist when crimped, the permanency of the crimping is assured. Obviously many details of construction may be varied without departing from the principles of this invention.

I claim as my invention—

1. An integrally-formed crimped sheet comprising parallel longitudinal lines of relatively short transverse ribs or crimps extending transversely of the sheet, those of adjacent lines arranged staggering with respect to each other and a vertical web or rib of the sheet between adjacent lines and extending transversely of the crimps thereby increasing the resiliency and rendering the sheet compara-

tively inelastic under longitudinal or transverse stress.

2. As an article of manufacture a sheet of paper crimped to provide a plurality of longitudinal integrally-connected lines of short transverse ribs or crimps, the adjacent ends thereof terminating in alinement with each other and staggered each to each and an integral, longitudinal, vertical web approximately equal in width to the depth of the corrugations and adapted to form a joint intermediate said staggered ends.

3. An integrally-formed crimped sheet comprising a plurality of longitudinal rows of bends or folds arranged in close proximity each with each and separated by a vertical web extending longitudinally of said rows, said bends or folds arranged staggering with respect to

those of adjacent rows and vertical webs acting to increase resistance to longitudinal stress and affording a line along which the sheet may be readily flexed.

4. A crimped sheet of packing-paper having relatively short transverse staggered ribs or crimps and intermediate integral webs extending transversely between the ends thereof and at approximately right angles thereto said sheet being adapted to be folded longitudinally of said webs.

In testimony whereof I have hereunto subscribed my name in the presence of two subscribing witnesses.

PETER HINKEL.

Witnesses:

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WILLIAM P. HINKEL.