

No. 736,142.

PATENTED AUG. 11, 1903.

J. H. O'BRIEN.  
LACE FASTENER.

APPLICATION FILED OCT. 31, 1902.

NO MODEL.

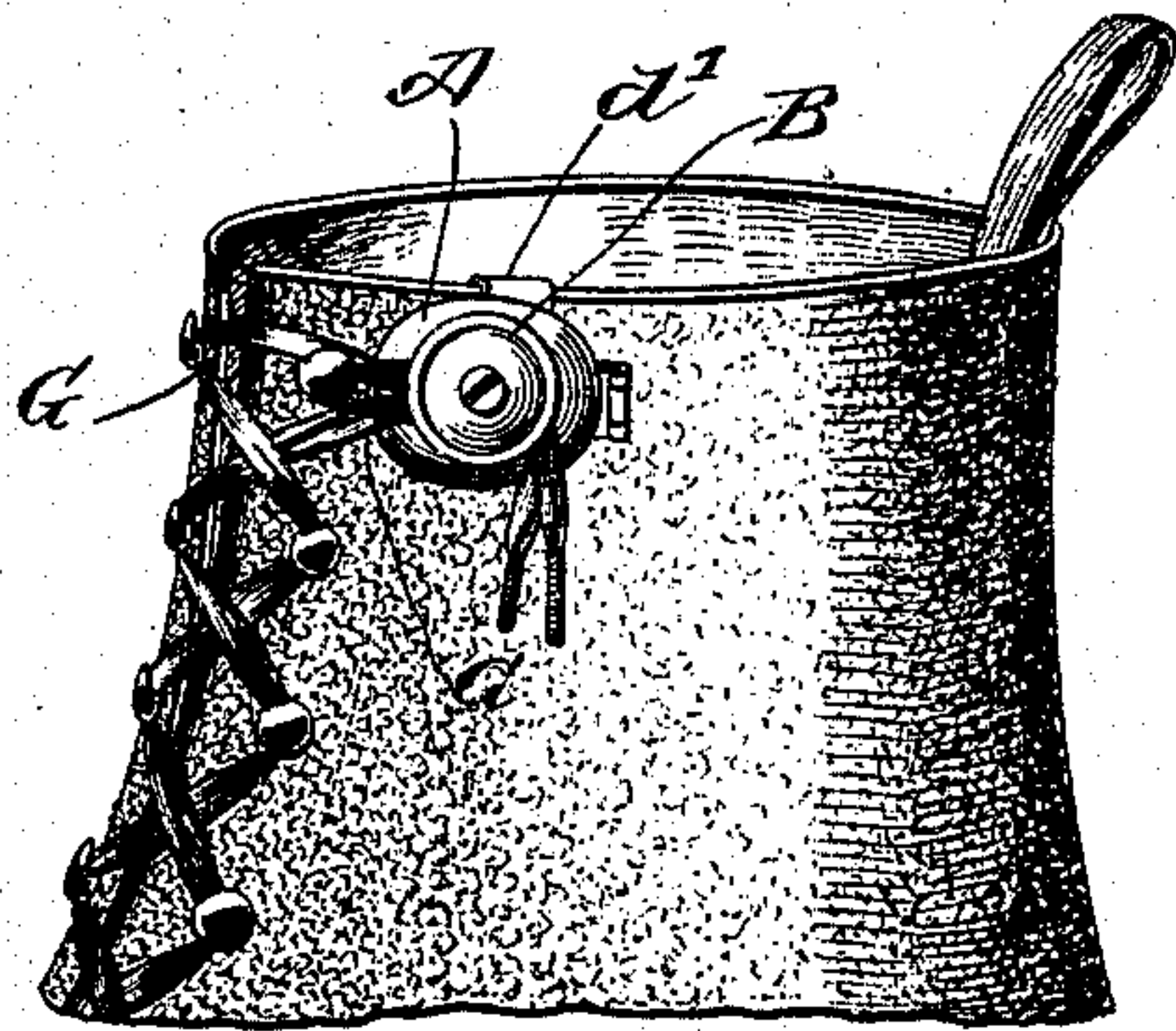


Fig. 1.

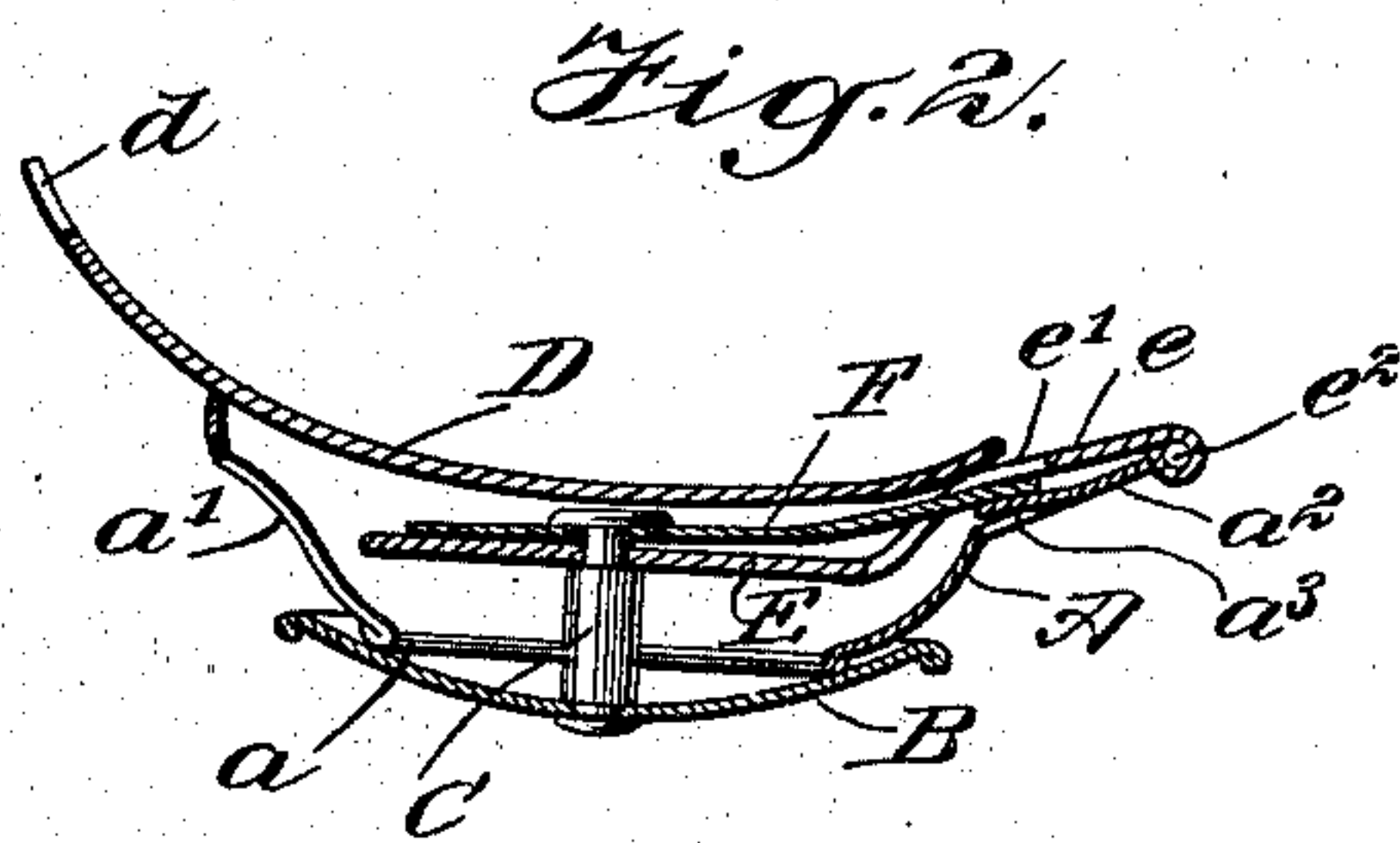


Fig. 2.

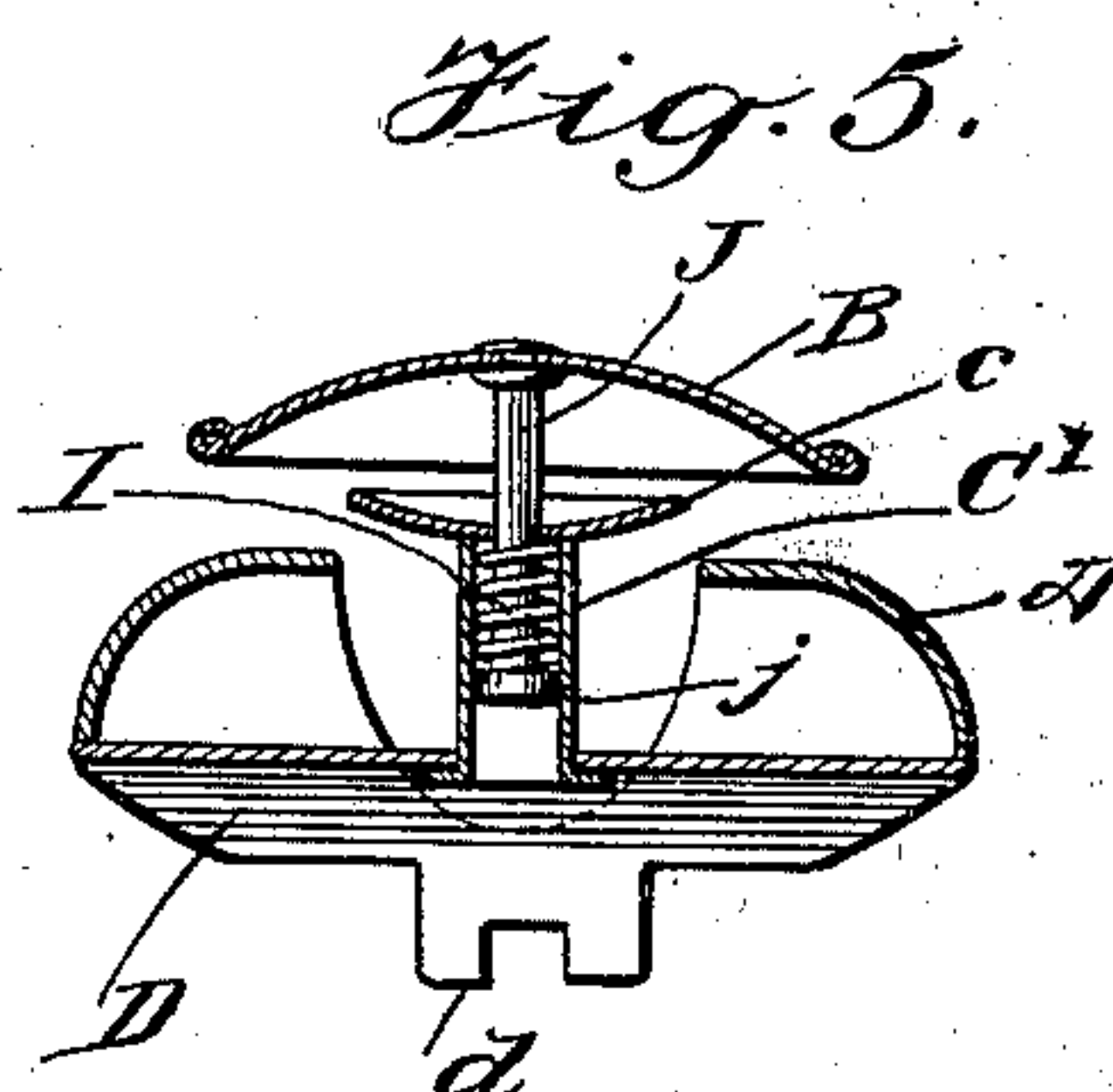


Fig. 3.

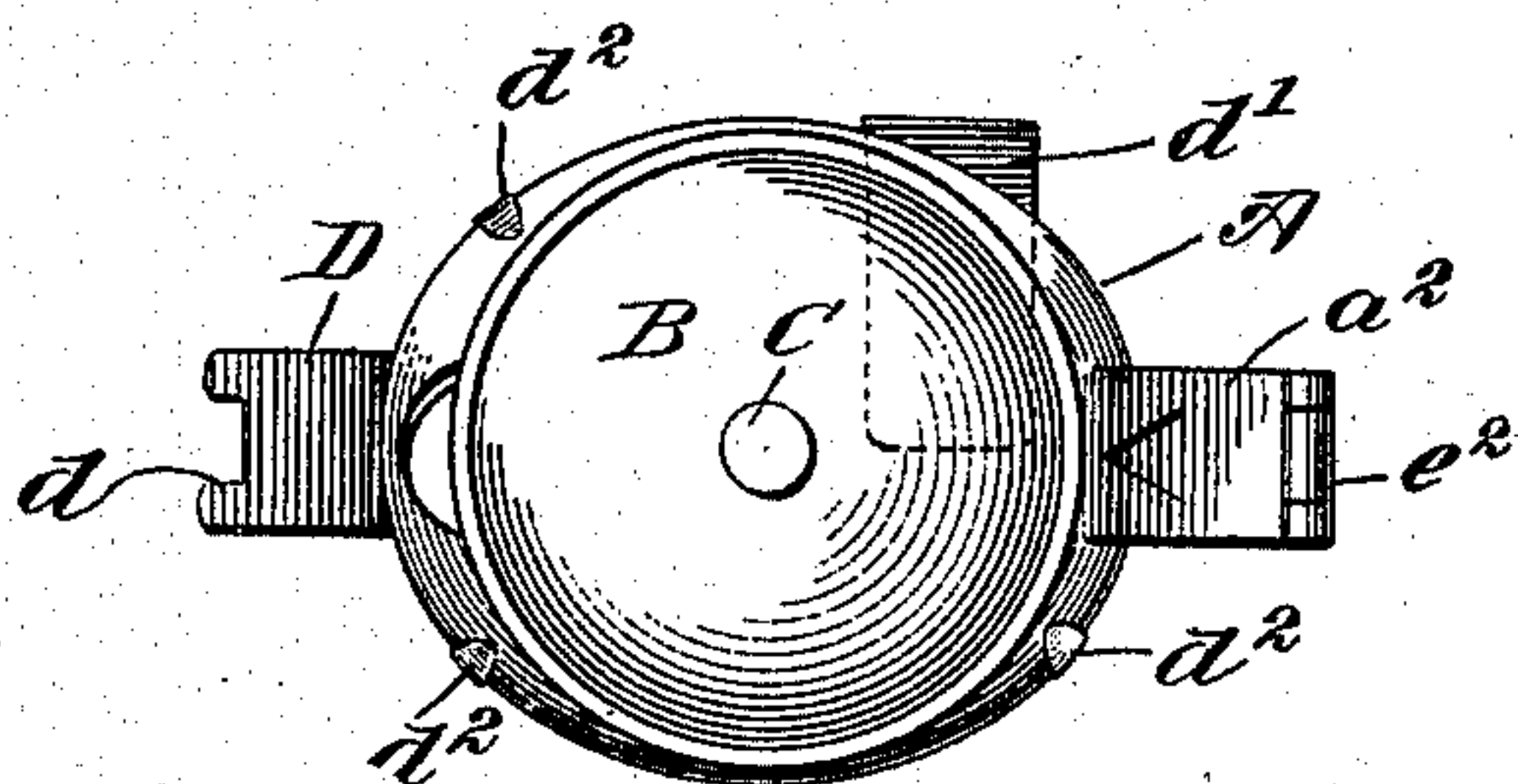


Fig. 4.

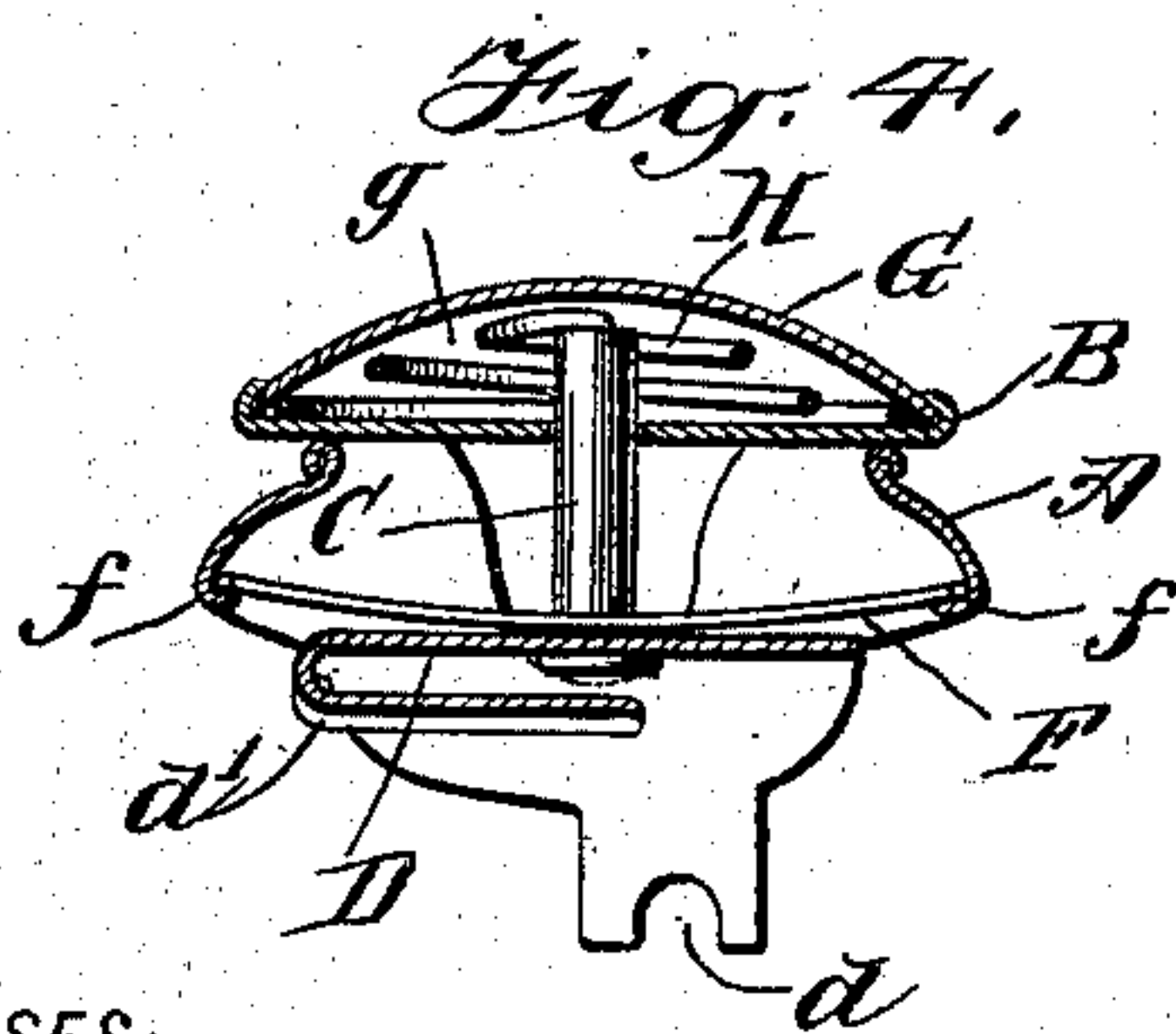


Fig. 5.

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## UNITED STATES PATENT OFFICE.

JAMES H. O'BRIEN, OF ILION, NEW YORK.

## LACE-FASTENER.

SPECIFICATION forming part of Letters Patent No. 736,142, dated August 11, 1903.

Application filed October 31, 1902. Serial No. 129,585. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES H. O'BRIEN, a citizen of the United States, and a resident of Ilion, in the county of Herkimer and State of New York, have invented a new and Improved Lace-Fastener, of which the following is a full, clear, and exact description.

My invention relates to improvements in lace-fasteners, the same being adapted for use in connection with shoes or boots, although the article is capable of wide application in any case where it is desirable to securely hold a lacing or cord.

One object that I have in view is to produce an article or contrivance which makes provision for taking up a length of a lace or cord and operates efficiently to secure the lace or cord against displacement or unfastening under the strain or pull thereon.

A further object that I have in view is to produce a contrivance consisting of a small number of parts, each simple in construction and adapted for quick assemblage to the end that the article may be manufactured cheaply.

A further object that I have in view in one form of construction to be hereinafter described is to so combine and arrange the parts that they will not only hold the lace or cord, but also operate under strain of the lace to tightly grip and thereby positively secure the lace against movement, whereby an increase in the pull on the lace secures a corresponding increase in the gripping action of the fastening device.

Further objects and advantages of the invention will appear in the course of the subjoined description, and the novelty will be defined by the annexed claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a perspective view of an upper portion of a boot or shoe illustrating my improved fastener applied to the same and engaging with the free portions of a lace. Fig. 2 is a longitudinal sectional view, on an enlarged scale, through one form of the improved lace-fastener. Fig. 3 is a front elevation of the construction of lace-fastener shown by Figs. 1 and 2. Figs. 4 and 5 are vertical transverse sections showing other ways in which

springs may be applied to the movable clamping member.

In the form of construction shown by Figs. 2 and 3 and represented in its applied position by Fig. 1 I employ a fastener having means for attaching the same to the outside of a boot or shoe upper, near the top edge portion thereof and adjacent to one row of lacing-studs. In this embodiment of the invention the fastener consists of a relatively stationary clamping member A, a movable clamping member B, a post or stud C, and an attaching or base plate D. The base-plate D is curved to conform approximately to the shape of the shoe-upper, and this plate is shown by Fig. 3 as having one end thereof notched, as at *d*, while near its other end the base-plate is furnished with a clip or tongue *d'*, adapted to be fitted over the top edge of the shoe-upper, said notched end of the plate being disposed for engagement with the uppermost lacing-stud of the series. The clip or tongue *d'* is intended to be made in one piece with the plate D, as shown more clearly by Fig. 4, although said tongue may be made in a separate piece and attached to said plate. The clamping member A is preferably of the dished form, (shown more clearly by Fig. 2,) and this member is provided with an enlarged opening *a* in its outer side and with a slot *a'* near one end portion thereof. The other end of the stationary member *a* is provided with a tongue *a''*, and this tongue is slitted to provide the bearing portion *a'''* for a spring, to be presently described. The complementary clamping member B is preferably of concavo-convex form and large enough to cover the opening *a* in the clamping member A; but this clamping member B is movable laterally toward and from the relatively stationary member A. The two clamping members are united by the post C and a pressure-plate E, and against this pressure-plate acts a spring F, which tends to normally pull the plate E, the post C, and the member B toward the member A, whereby the member B is held under yielding pressure in coöperative relation with the member A. The member B is large enough to overlap the relatively stationary member A, and to the middle portion of this movable member B is secured the outer end of the stud C, the inner



end of said stud passing through the plate E and spring F to securely connect the parts. (See Fig. 2.) The pressure-plate E is provided at one end with an extended tailpiece *e*, which is bent, as shown by Fig. 2, and is provided with a slot *e'*, and this tailpiece of the pressure-plate is hinged or pivotally connected at *e*<sup>2</sup> to the tongue *a*<sup>2</sup> of the clamping member A, whereby the pressure-plate is movable relatively to the member A. The spring F (shown by Fig. 2) is in the form of a flat or leaf spring, and it is arranged for one end portion thereof to pass through the slot *e'* of the pressure-plate, said free end of the spring engaging with the bearing-lip *a*<sup>3</sup> of the clamping member A. The pressure-plate E is disposed within the cavity of the dished member A, so that it lies between the spring F and the member B, and the free or unconfined end of this pressure-plate terminates adjacent to the slot *a'* of the member A, whereby a lace is adapted to press on the hinged plate E in order to force it toward the base-plate D. The relatively stationary member A is applied firmly against the outer face of the base-plate D, and said parts A D may be secured firmly and detachably together by any suitable means—such, for example, as the lips *d*<sup>2</sup>, which are integral with the plate D<sup>2</sup> and are bent to engage with the edge portions of the member A, as represented more clearly by Fig. 3.

In Fig. 1 the lace-fastener is shown as applied to the outside of the shoe-upper by slipping the notched end *d* of the plate D into engagement with one of the lacing-studs and by fitting the clip *d'* over the top edge of the shoe. This application of the base-plate brings the clamp formed by the members A B into position to receive the ends G of the lace. The lace may be easily thrust between the cooperating faces of the members A B, the latter being movable laterally with respect to the member A to permit of the introduction of the lace, and if there is a surplus length of the lace the same may be wound or coiled around the stud C. The tension of the spring F is exerted through the pressure-plate and the post C to draw the member B firmly against the lace interposed between the members A and B, and the ends G of the lace are passed through the slot *a'* of the member A, so that they will press against the free end of the pressure-plate E, whereby said plate is deflected toward the base-plate D by the tension or strain of the lace, and thus the plate E operates, through the post C, to draw the member B more tightly into engagement with the interposed lace and the member A. It is evident that the lace will be securely held by and between the cooperating members and that said lace may be easily and quickly disengaged from the fastener by simply pulling it from position between the two members, said lace being uncoiled from the post C, if it was previously wound thereon.

In Figs. 4 and 5 of the drawings I have

shown other ways in which the pressure of springs may be applied to the movable clamping member of the lace-fastener. In Fig. 4 a coiled spring H is arranged within the chamber *g* of a hollow clamping member, the latter consisting of the parts B G, which are suitably connected together. The spring H in this instance is fastened to the inner end of the post C, which passes loosely through an opening in the member B. In Fig. 5 of the drawings the post C' is hollow to receive the stem J of the clamping member B, said stem having a foot-piece *j*, around which is coiled the spring I, the energy of said spring being exerted against the foot-piece *j* to draw the member B into cooperative relation to the member A.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. A lace-fastener comprising a base having a notched arm and a tongue, a clamping member on said base, another clamping member movable laterally with relation to the first member, a post, and a spring for holding the clamping members in cooperative relation.
2. In a lace-fastener, the combination with a pair of clamping members, and a spring to hold them in cooperative relation, of a pressure-plate disposed in the path of a lace and controlling one of said members.
3. In a lace-fastener, the combination of a clamping member, a hinged pressure-plate within said member, a post, and another clamping member controllable by said pressure-plate and disposed in cooperative relation to the first-named clamping member.
4. In a lace-fastener, the combination of a base, a slotted clamping member, a pressure-plate hinged to the base and disposed in the slotted clamping member, a movable clamping member, a post, and a spring for holding the two clamping members in cooperative relation.
5. In a lace-fastener, the combination of a base, a slotted clamping member, a pressure-plate hinged to the base and disposed in said slotted member to lie in the path of a lace, a spring acting against said plate, a post on the plate, and a movable clamping member carried by the post.
6. A lace-fastener consisting of cooperating clamping members, a pressure-plate disposed in position for engagement by a lace and having operative connection with both members, and a spring which tends to normally hold the two members in yieldable engagement.
7. A lace-fastener consisting of a dished and slotted clamping member, a companion clamping member in cooperative relation thereto, a pressure-plate hinged to the first-named member and connected with the second-named member and disposed for engagement by a lace, and a spring which operates to hold the two members in cooperative relation.
8. A lace-fastener consisting of a dished



clamping member, a movable clamping member, a post fastened to said movable clamping member, a pressure-plate attached to one clamping member and to the post, and a  
5 spring arranged to hold the two members in cooperative relation.

In testimony whereof I have signed my

name to this specification in the presence of two subscribing witnesses.

JAMES H. O'BRIEN.

Witnesses:

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H. T. BERNHARD.