

No. 640,177.

Patented Jan. 2, 1900.

J. M. CAVINS.
BELT FASTENER.

(Application filed July 13, 1899.)

(No Model.)

Fig. 1.

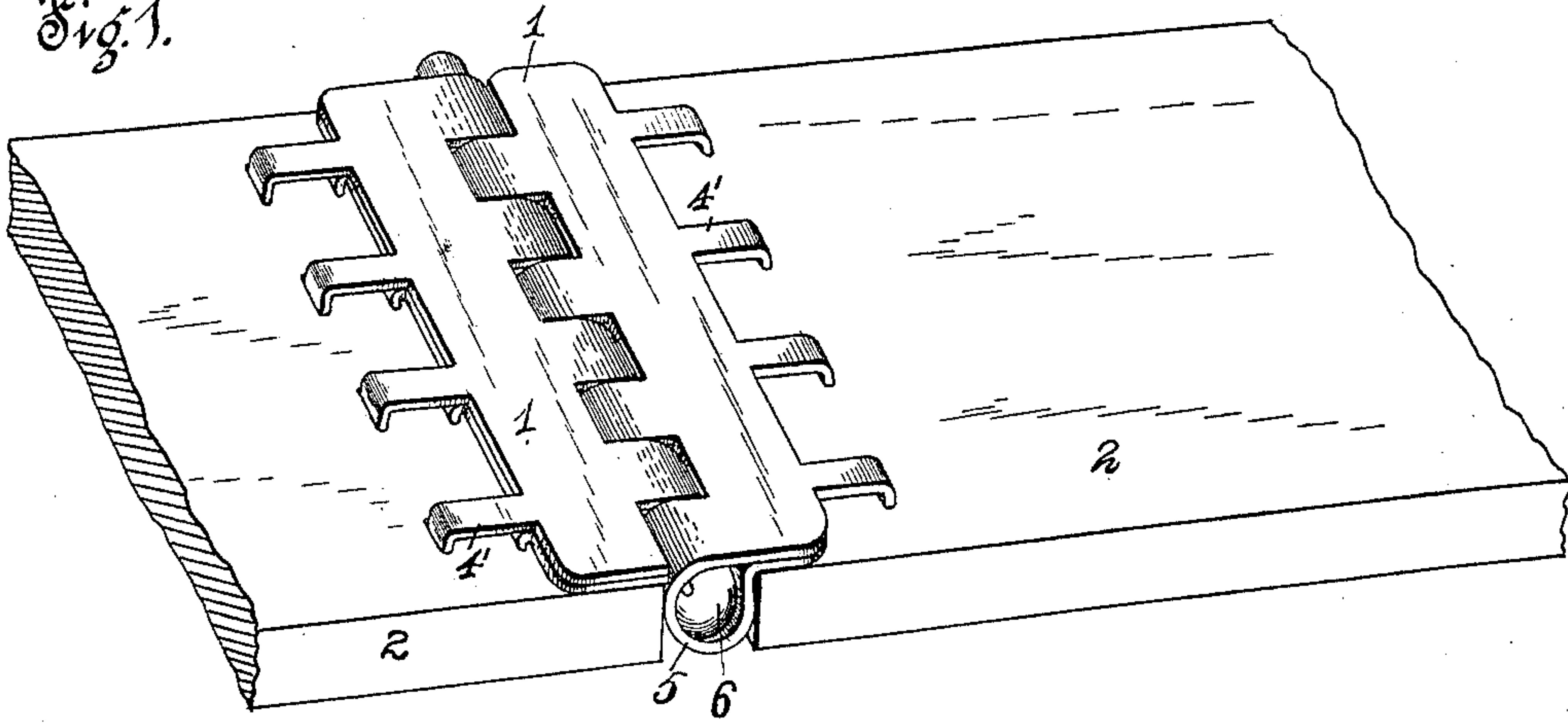


Fig. 2.

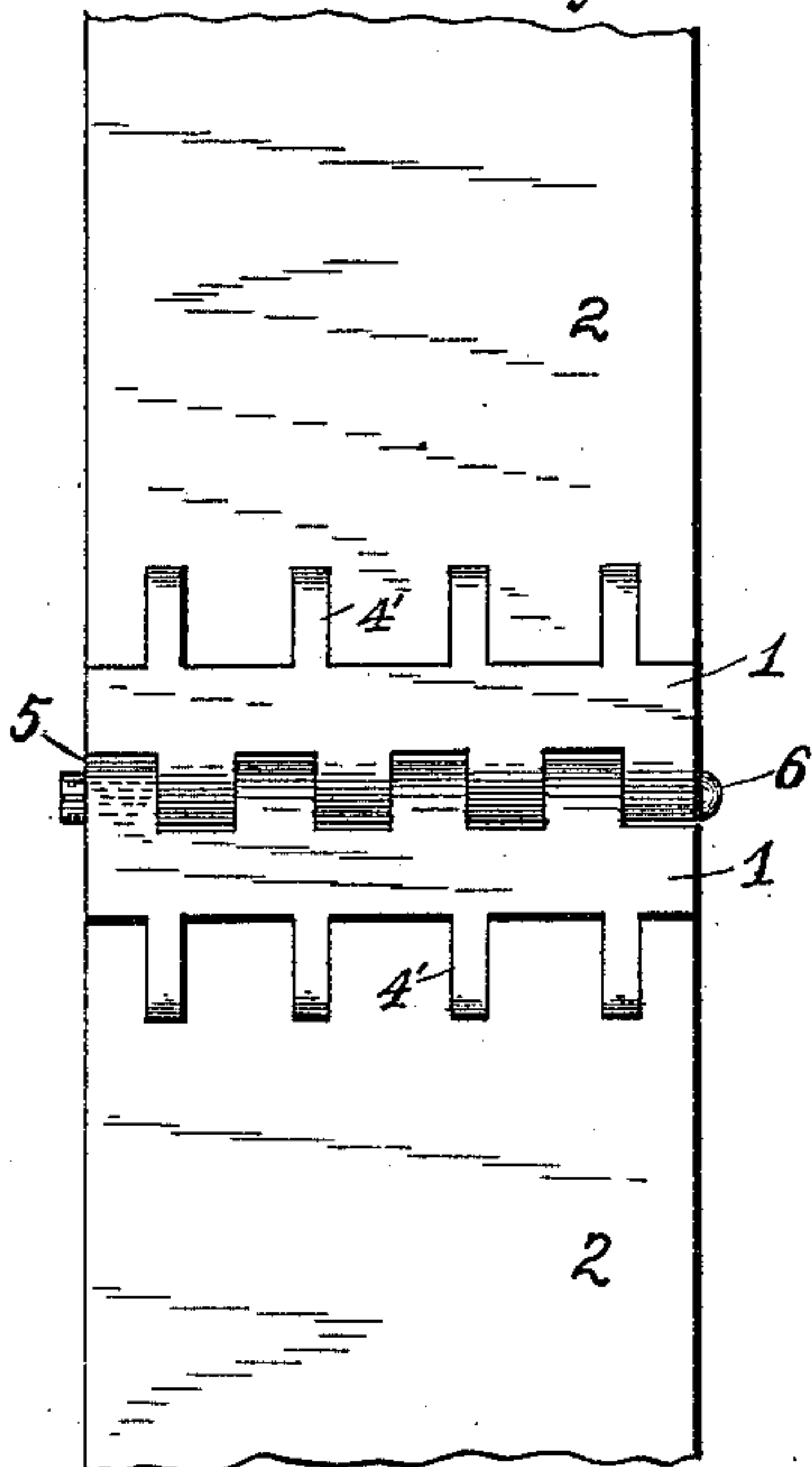


Fig. 3.

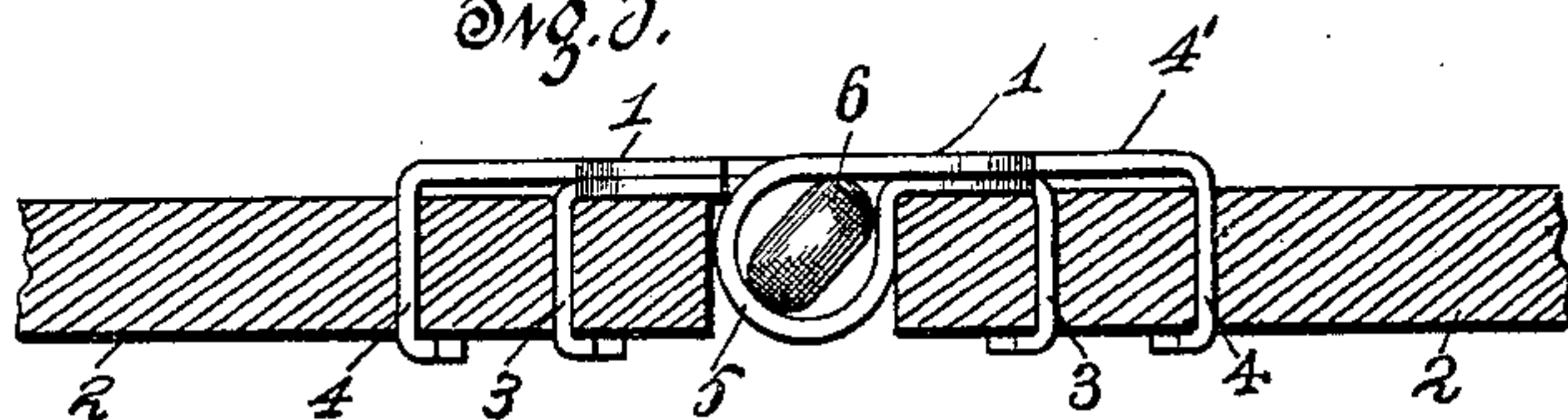


Fig. 4.

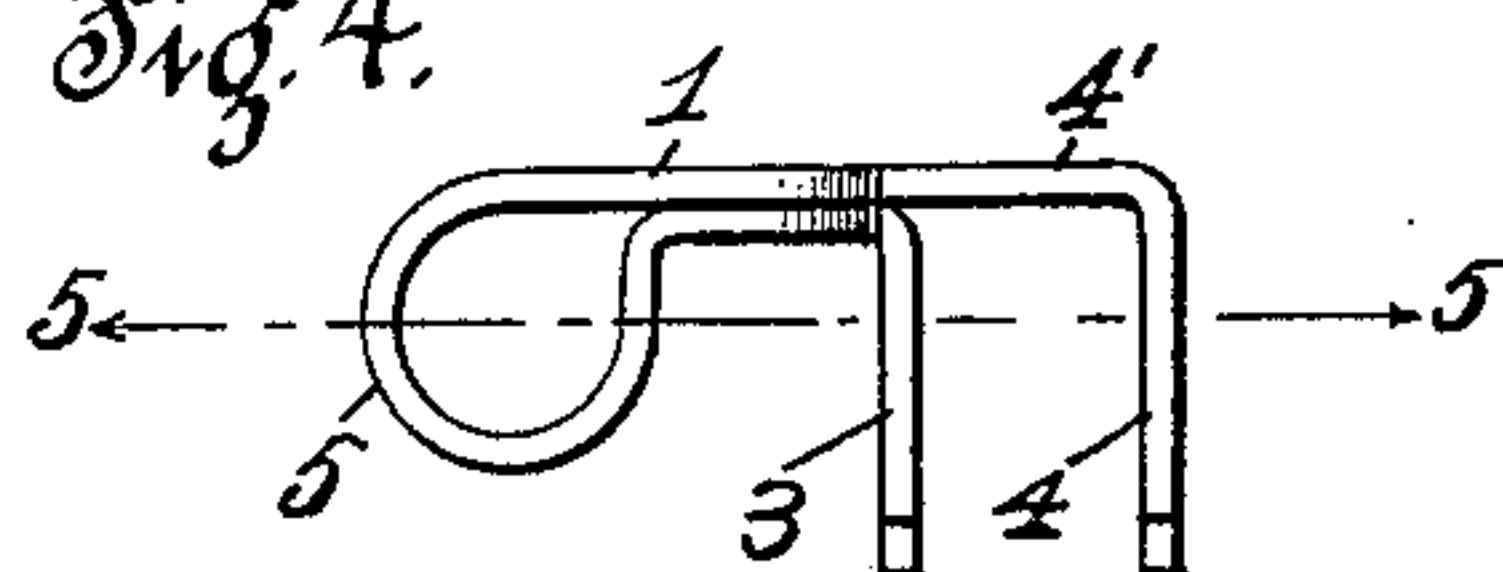


Fig. 5.

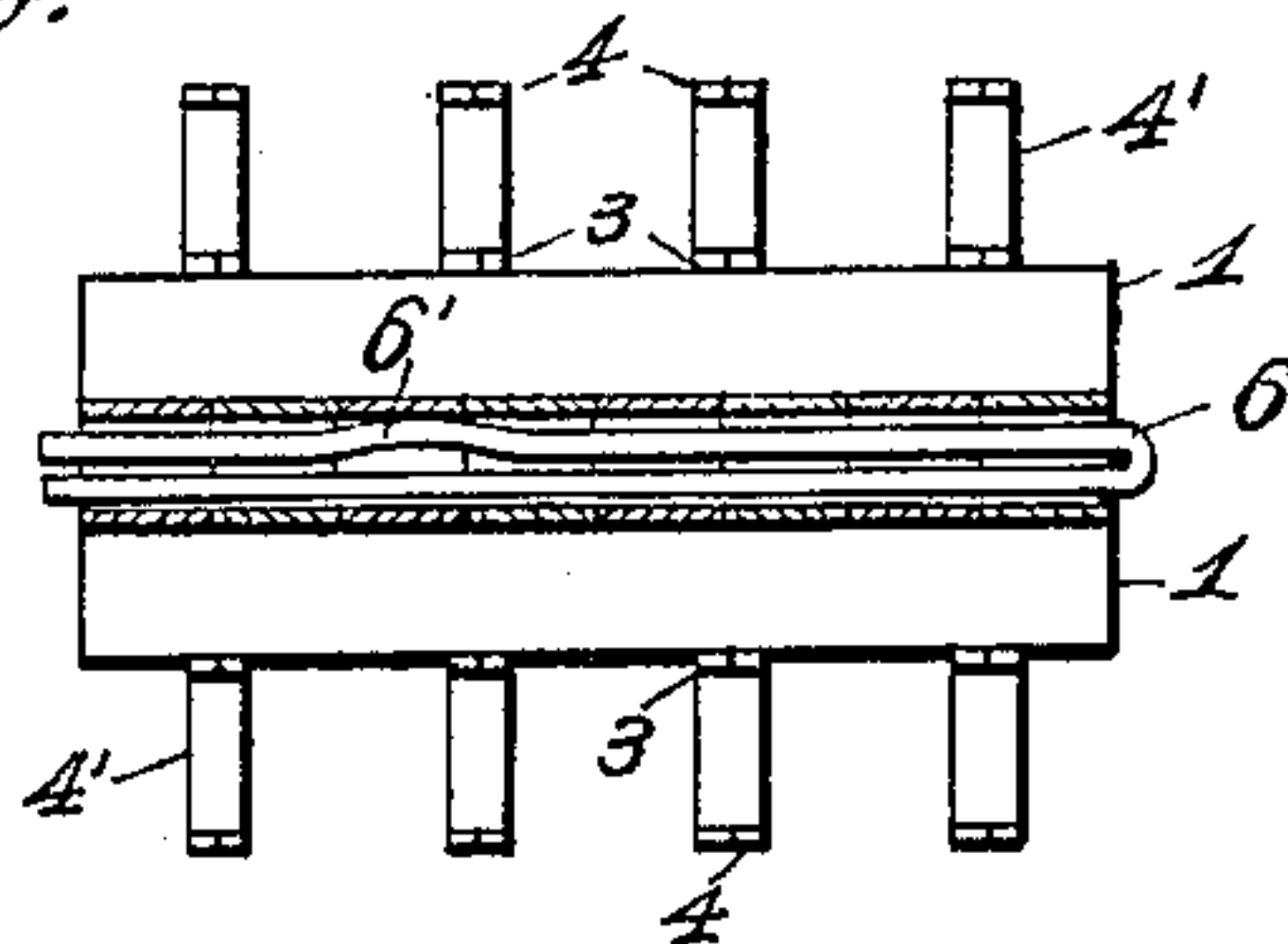
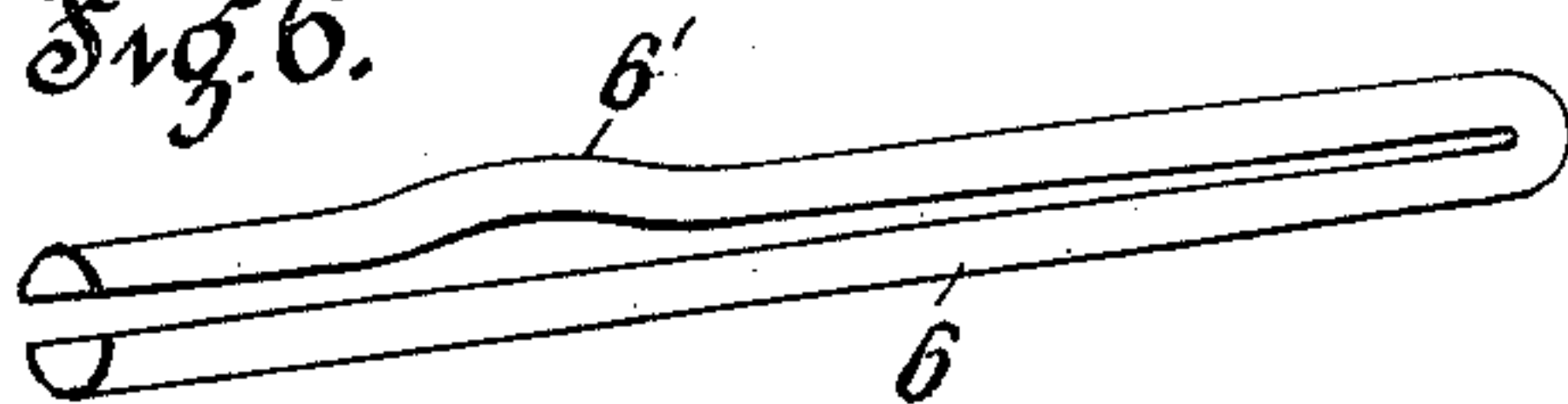


Fig. 6.



Witnesses

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UNITED STATES PATENT OFFICE.

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BELT-FASTENER.

SPECIFICATION forming part of Letters Patent No. 640,177, dated January 2, 1900.

Application filed July 13, 1899. Serial No. 723,684. (No model.)

To all whom it may concern:

Be it known that I, JOHN M. CAVINS, a citizen of the United States, residing at St. Louis, State of Missouri, have invented certain new and useful Improvements in Belt-Fasteners, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention has relation to improvements in belt-fasteners; and it consists in the novel arrangement and combination of parts more fully set forth in the specification and pointed out in the claims.

In the drawings, Figure 1 is a perspective view of a section of a belt, showing my invention applied thereto. Fig. 2 is a top plan thereof. Fig. 3 is an end view of the fastener, showing the belt, however, in section. Fig. 4 is an end view of one of the leaves detached. Fig. 5 is a section on line 5 5 of Fig. 4, showing, however, the complete hinge, with the addition of the hinge-pin; and Fig. 6 is a perspective of the hinge-pin detached.

The object of my invention is to construct a belt-fastener which will effect a hinged connection between the adjacent ends of the belt fastened or coupled thereby, one which will permit the ready coupling or uncoupling of said ends, one which will insure a maximum resistance to tensile strain to which the belt may be subjected, one which produces a minimum degree of stiffness on either side of the hinge-line, and one possessing further and other advantages more apparent from a detailed description of the invention, which is as follows:

Referring to the drawings, 1 represents either leaf or section of the hinge by which the connection between the ends of the belt is effected, said leaf being formed of a single piece of metal folded or bent against itself, the free edges of the folded members being flush with one another. Disposed along the edge of the inner member or that which comes in direct contact with the belt 2 are a series of arms or prongs 3, integral with the said member and deflected substantially at right angles thereto, said arms serving to secure said member to the belt. Projecting from the free edge of the outer folded member of the leaf and disposed immediately over the arms 3 are a second series of securing-arms

4, the bases 4' of which serve to remove the arms 4 proper from the arms 3 a distance equal substantially to the thickness of the belt, the arms 3 being themselves removed from the hinge-line a distance equal to the thickness of the belt. The distance between the outer end of the leaf and the center of the adjacent or terminal prong is equal to one-half the distance between the centers of any two successive prongs, these distances serving to distribute the strain on the hinge to best advantage.

The edge along which the metal or original sheet is folded is formed into a loop 5, the diameter of which corresponds approximately to the thickness of the belt, this arrangement permitting perfect freedom of deflection of the belt on either side of the hinge-line as the belt passes around the pulley. The loop 5 is recessed at intervals, the recesses of one leaf receiving the solid portions remaining on either side of the recesses of the other leaf, so that when the two leaves are assembled the metal will be continuous along the hinge-line. The loops 5 are bent inwardly, so as to come entirely between the opposite ends of the belt, the ends of the belt each abutting against the adjacent wall of the loop of its respective leaf. When the leaves are assembled in the manner indicated, a hinge-pin 6 is inserted into the common opening of the loops, the pin being preferably formed of a single piece of wire of sufficient length and substantially semi-cylindrical in cross-section doubled upon itself along its plane or flat face, whereby when the pin is completed it will be practically cylindrical. The spring or resiliency of the arms of the bent pin insures its remaining in place within its housing; but as a further precaution against the working out of said pin I form a slight node or swell 6' along one of the arms thereof, said node insuring sufficient frictional contact for the purpose of retaining the pin in place under ordinary circumstances.

While the fastening-prongs 3 and 4 are herein shown as superposed—that is, one prong 4 being directly over its corresponding inner prong 3—it is obvious that they may alternate or “break joint” with one another; but the arrangement here shown is the preferred one from a standpoint of economy. After the prongs 3 4 have been inserted into the material of the belt the projecting ends are bent

against the belt in a direction toward the hinge-line, as best seen in Fig. 3. The present construction of hinge is economical and durable, and when the respective sections are assembled they form a hinge which is pliable, permitting the belt to pass over the pulley with a minimum degree of stiffness.

Having described my invention, what I claim is—

1. As an article of manufacture, a belt-fastener comprising two leaves or sections, each composed of a single piece of metal folded or doubled against itself, the free edges of the folded members being substantially even or flush with one another, a series of securing arms or prongs deflected from the edge of the member immediately in contact with the belt, a series of securing-arms formed integrally with the upper or exposed member, the bases of said arms being extended outwardly beyond the edge of said member, a loop formed along the line of the fold and turned wholly below the plane of the exposed member of the folded section, the diameter of the loop corresponding approximately to the thickness of the belt, the loops of the respective sections

being recessed whereby they may be coupled, and a hinge-pin inserted into said loops, substantially as set forth.

2. As an article of manufacture, a belt-fastener comprising two leaves or sections, each composed of a single piece of metal folded or doubled against itself, the free edges of the folded members being substantially even or flush with one another, a series of securing arms or prongs deflected from the edge of the member immediately in contact with the belt, a series of securing-arms formed integrally with the upper or exposed member, the bases of said arms being extended outwardly beyond the edge of said member, a loop formed along the line of the fold of each leaf or section, the loops of the respective sections being recessed whereby they may be coupled pivotally together, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN M. CAVINS.

Witnesses:

EMIL STAREK,
GEO. L. BELFEY.