

No. 608,444.

Patented Aug. 2, 1898.

D. D. DENNIS.  
TRUSS.

(Application filed Jan. 10, 1898.)

(No Model.)

Fig. I.

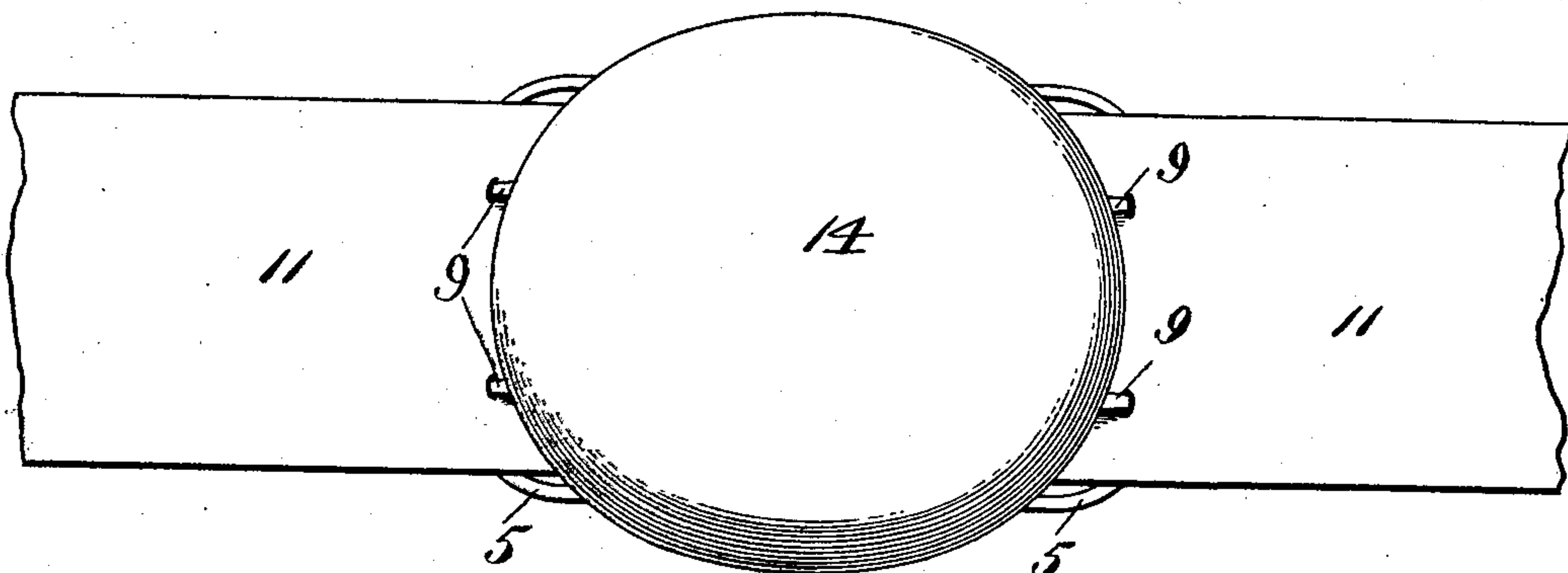


Fig. II.

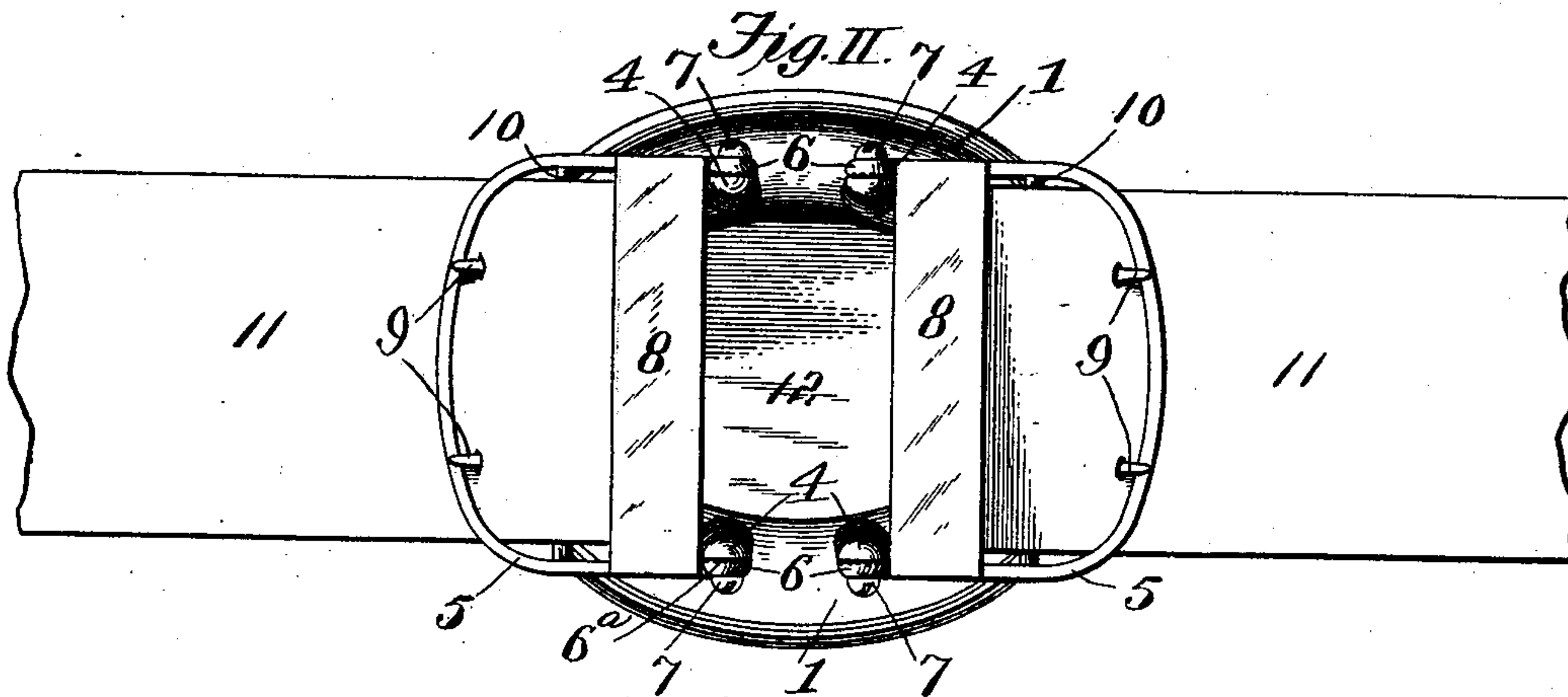


Fig. III.

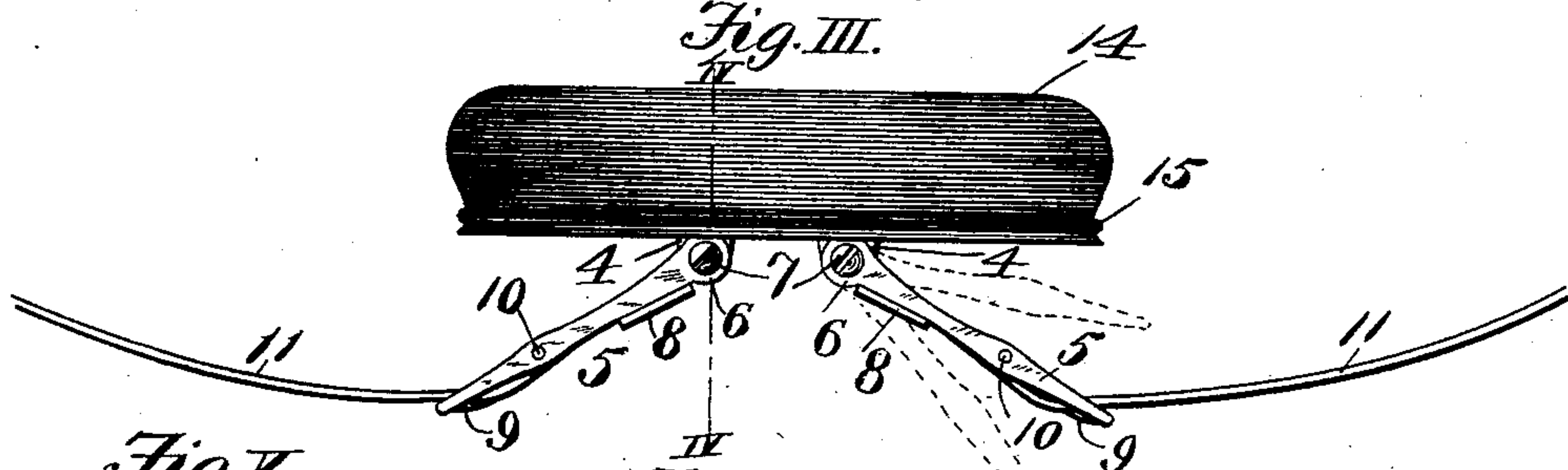


Fig. IV.

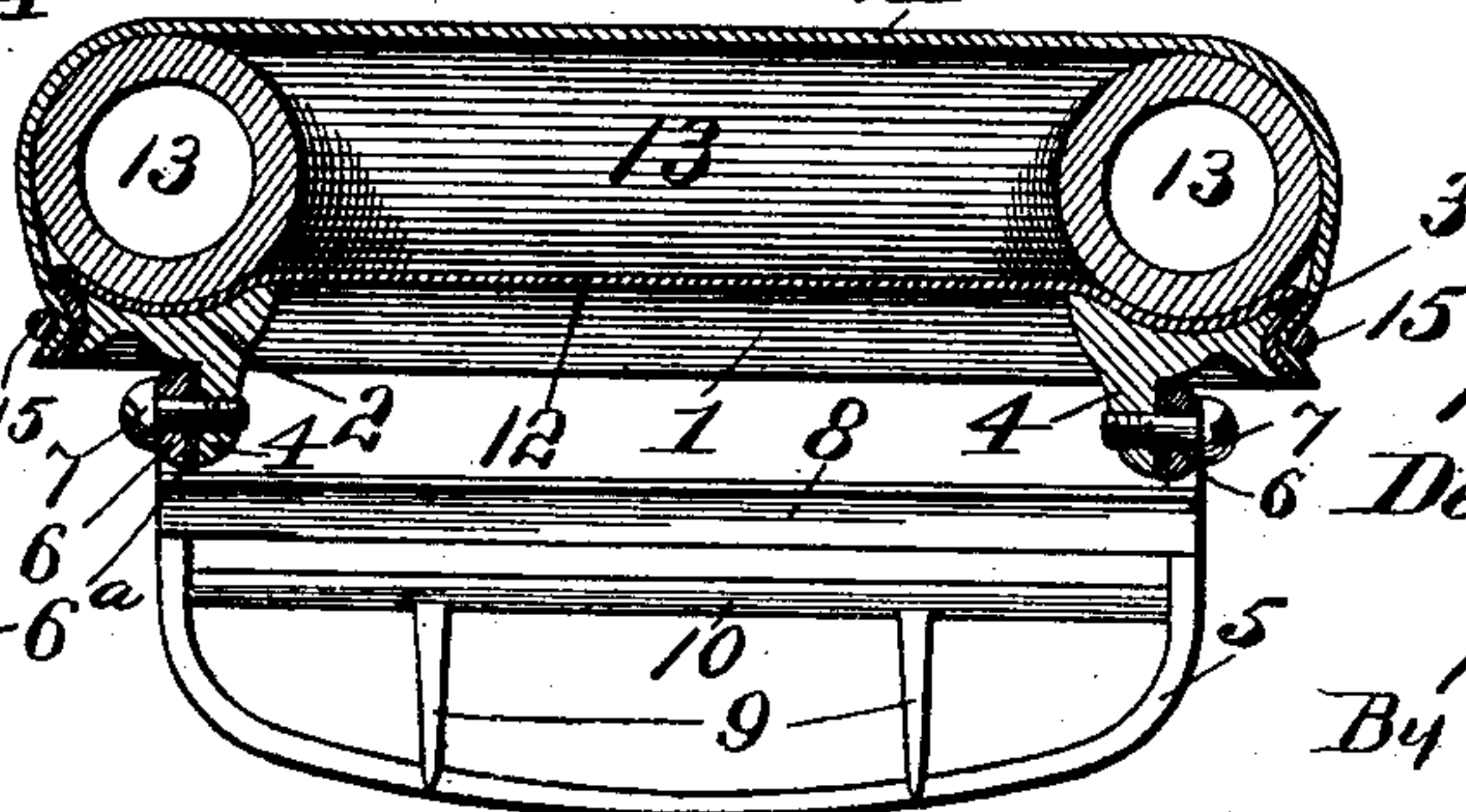
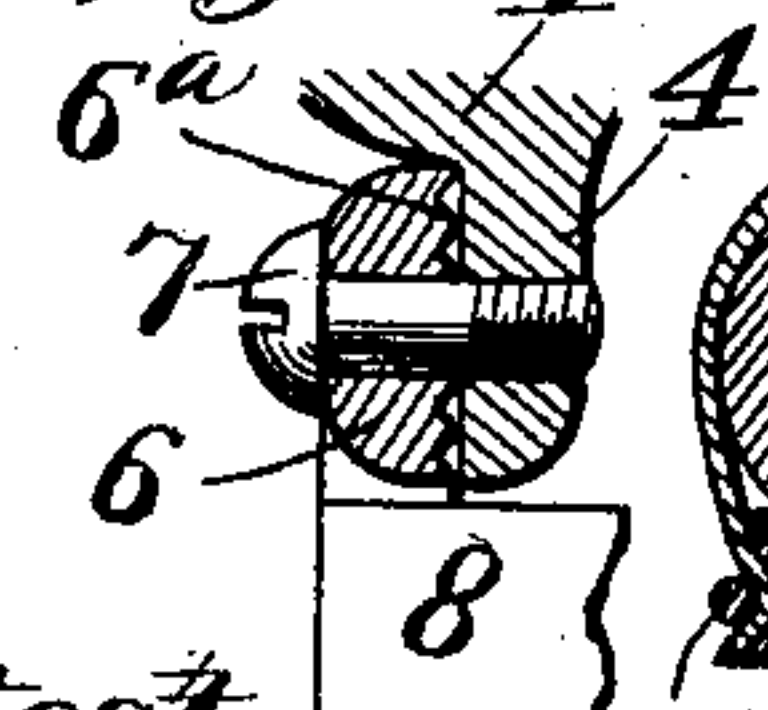


Fig. V.



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# UNITED STATES PATENT OFFICE.

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## TRUSS.

SPECIFICATION forming part of Letters Patent No. 608,444, dated August 2, 1898.

Application filed January 10, 1898. Serial No. 666,126. (No model.)

*To all whom it may concern:*

Be it known that I, DECATUR D. DENNIS, a citizen of the United States, residing at the city of St. Louis, in the State of Missouri, have invented certain new and useful Improvements in Trusses, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to that class of trusses used in the support of hernia, and has for its object the production of a truss of such nature as to combine lightness and ease and comfort to the wearer. It is so constructed as to enable the attainment of a secure and firm pressure against the rupture by the employment of an elastic diaphragm, while said diaphragm presents a yielding and soft surface for the rupture to press against.

My invention consists in features of novelty hereinafter fully described, and pointed out in the claims.

Figure I is an inner face view of the truss and the end portions of the supporting-belt. Fig. II is an outer face view of the truss. Fig. III is an edge view. Fig. IV is an enlarged cross-sectional view taken on the line IV IV, Fig. III. Fig. V is an enlarged sectional view of one of the hinge-ears and one of the serrated contacting ends of the hinge-arms and showing the adjacent portion of the belt-receiving buckle.

1 designates a ring having at one side a concave face 2 and at its edge a peripheral groove 3. On the reverse side of the ring 1 are ears 4.

5 designates buckles having arms 6 attached to the ears 4 by means of set-screws 7 passing through said arms and said ears to connect them and form hinge-joints between the ring 1 and the buckles 5. The arms 6 of the buckles are provided on their inner faces with teeth 6<sup>a</sup>, that are adapted to bite into the surfaces of the ears 4 when the set-screws 7 are tightened, thus causing a binding effect between the buckle-arms and the ears 4 whereby the buckles may be adjusted with relation to the ring 1 and securely set in position, as indicated by full lines and dotted lines in Fig. III.

8 are straps joining the arms of the buckles. 9 designates tongues on shafts 10, which

are pivotally seated in the arms of the buckles, and 11 is a belt adapted to be engaged by the tongues 9 and to pass across the back of the wearer of the truss and through means of which the truss is secured in position to the body.

12 designates a secondary diaphragm that extends across the opening of the ring 1, lies in the concave face 2, and extends over the edge of the ring and lies in the peripheral groove 3. This secondary diaphragm is preferably of rubber, but may be of any other suitable pliable material. I preferably use rubber in order that such diaphragm may be of an elastic nature.

13 designates an elastic ring seated on the secondary diaphragm in the concave of the ring 1. This elastic ring is hollow and is preferably of rubber and capable of inflation, so as to provide a pneumatic cushion.

14 designates a primary elastic diaphragm that extends across said elastic ring 13 and incloses its outer surface and extends into the peripheral groove 3 of the ring 1, and is secured therein by a binding-ring 15. The primary diaphragm is of rubber or other suitable elastic material.

A truss constructed as described affords great ease to wearer, while it enables the support of the hernia to be maintained in a firm yet gentle manner with comfort, as the parts of the truss that contact with the body are cushioned. The primary diaphragm rests against the body and the hernia, and the elastic ring 13 forms a cushion for the outer portion of the primary diaphragm, while the elastic nature of said diaphragm permits of its central portion yielding to the pressure of the hernia on a jar or jolt to the body of the wearer. The contraction of the diaphragm causes the hernia to return to normal position immediately. The intervening space between the diaphragms 12 and 14 forms an air-chamber, so that the inward projection of the central portion of the diaphragm 14 acts against the confined air in such chamber, forming an air-cushion against the primary diaphragm.

In use the truss is fitted to the body of the wearer, with the diaphragm 14 lying over the rupture. The buckles are set in a manner to best adapt the diaphragm 14 to the wearer according to physical condition, the setting



of the hinges being accomplished by loosening the screws 7 and tightening them when the desired adjustment has been secured, when the teeth 6<sup>a</sup> engage the ears 4 and the  
 5 buckles will be held from additional displacement.

If the wearer is a very fleshy person, the buckles are set at an obtuse angle to the ring 1 in order to gain the desired pressure of the  
 10 diaphragm 14. For a less fleshy person the buckles are set at a more obtuse angle, and for a lean person the hinges would be set approximately parallel with the face of the ring and diaphragm.

15 I claim as my invention—

1. A truss comprising a belt, a ring connected to said belt, a hollow inflated elastic ring, located on the inner side of said belt-receiving ring, and providing a pneumatic  
 20 cushion, an elastic diaphragm arranged over said elastic belt, buckles carried by said belt-receiving ring, and means for securing said buckles in different positions with relation to the said belt-receiving ring, substantially as  
 25 described.

2. A truss comprising a belt, a ring connected to said belt, a secondary diaphragm applied to one side of said belt-receiving ring and secured to the periphery of the latter, a  
 30 hollow inflated elastic ring seated on said secondary diaphragm against said belt-receiving ring, and providing a pneumatic cushion, and

a primary diaphragm arranged over said elastic ring and also secured to the periphery of said belt-receiving ring, substantially as  
 35 described.

3. In a truss, the combination with a belt, of a ring adapted to be connected to said belt, a secondary diaphragm applied to one side of said belt-receiving ring, an elastic ring  
 40 seated on said secondary diaphragm, an elastic diaphragm arranged over said elastic ring and a retaining-ring applied over said diaphragms at the periphery of said belt-receiving ring, substantially as described. 45

4. In a truss, the combination of a belt, a ring, ears upon said ring, buckles having arms provided with teeth adapted to engage the said ears, and a diaphragm carried by  
 50 said ring, substantially as described. 50

5. In a truss, the combination with a belt, of a ring adapted to be connected to said belt, ears upon said ring, buckles through means of which said belt is connected to said ring; said buckles having arms provided with teeth  
 55 on their inner faces adapted to engage the ears of said belt-receiving ring, set-screws for connecting said buckle-arms and ring-carried ears, and a diaphragm carried by said belt-receiving ring, substantially as described.

D. D. DENNIS.

In presence of--

E. S. KNIGHT,  
 STANLEY STONER.