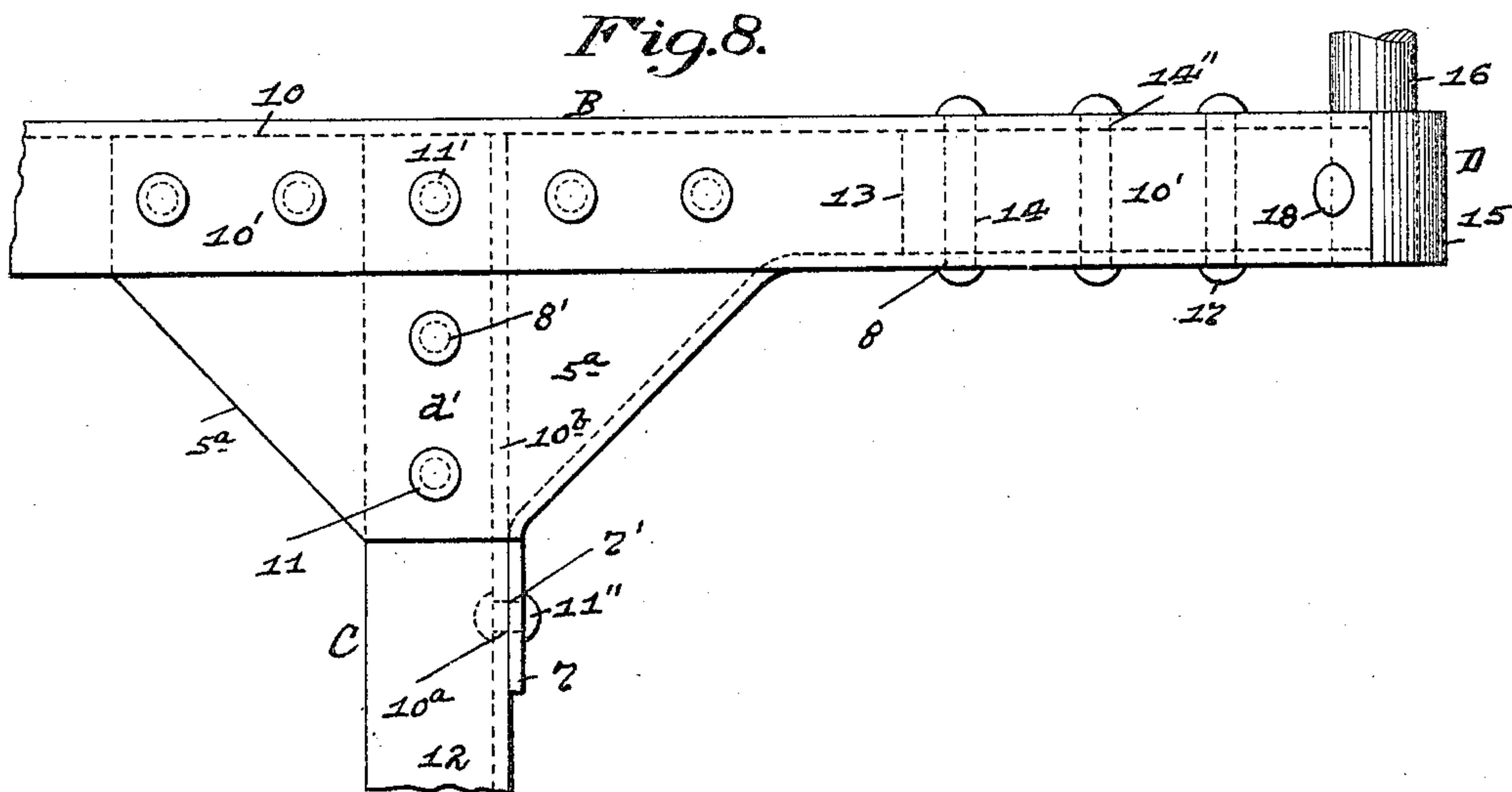
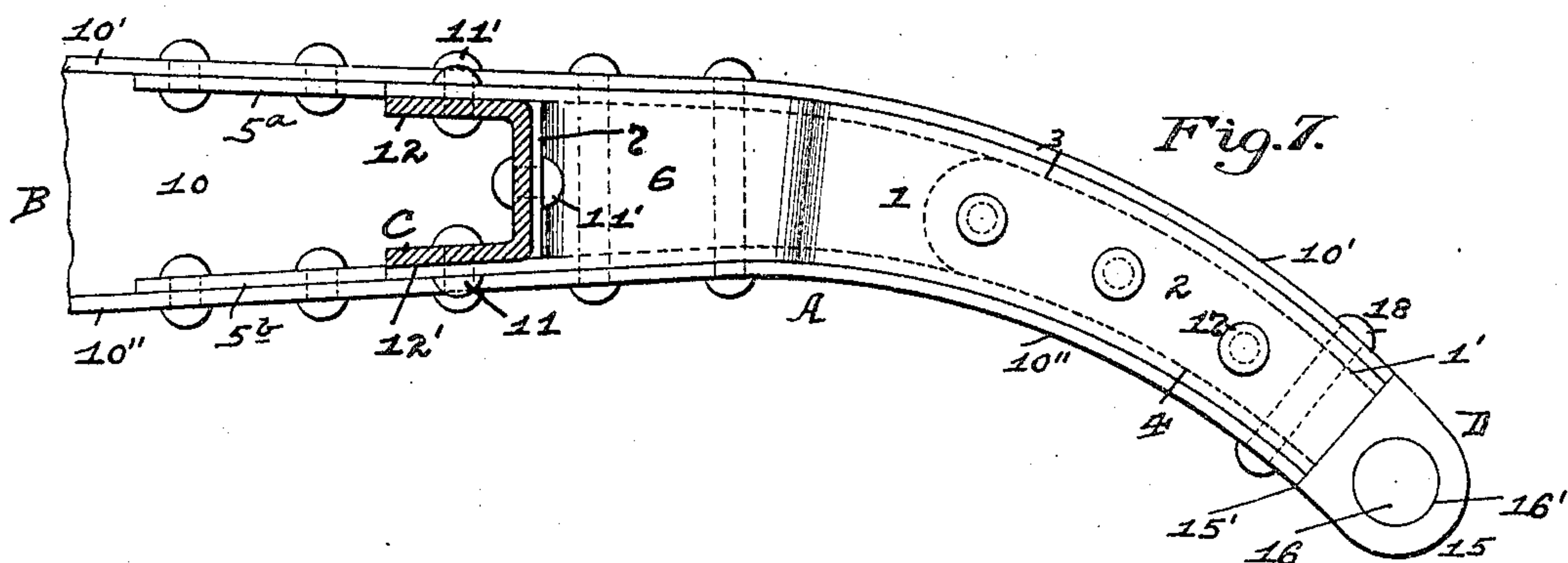
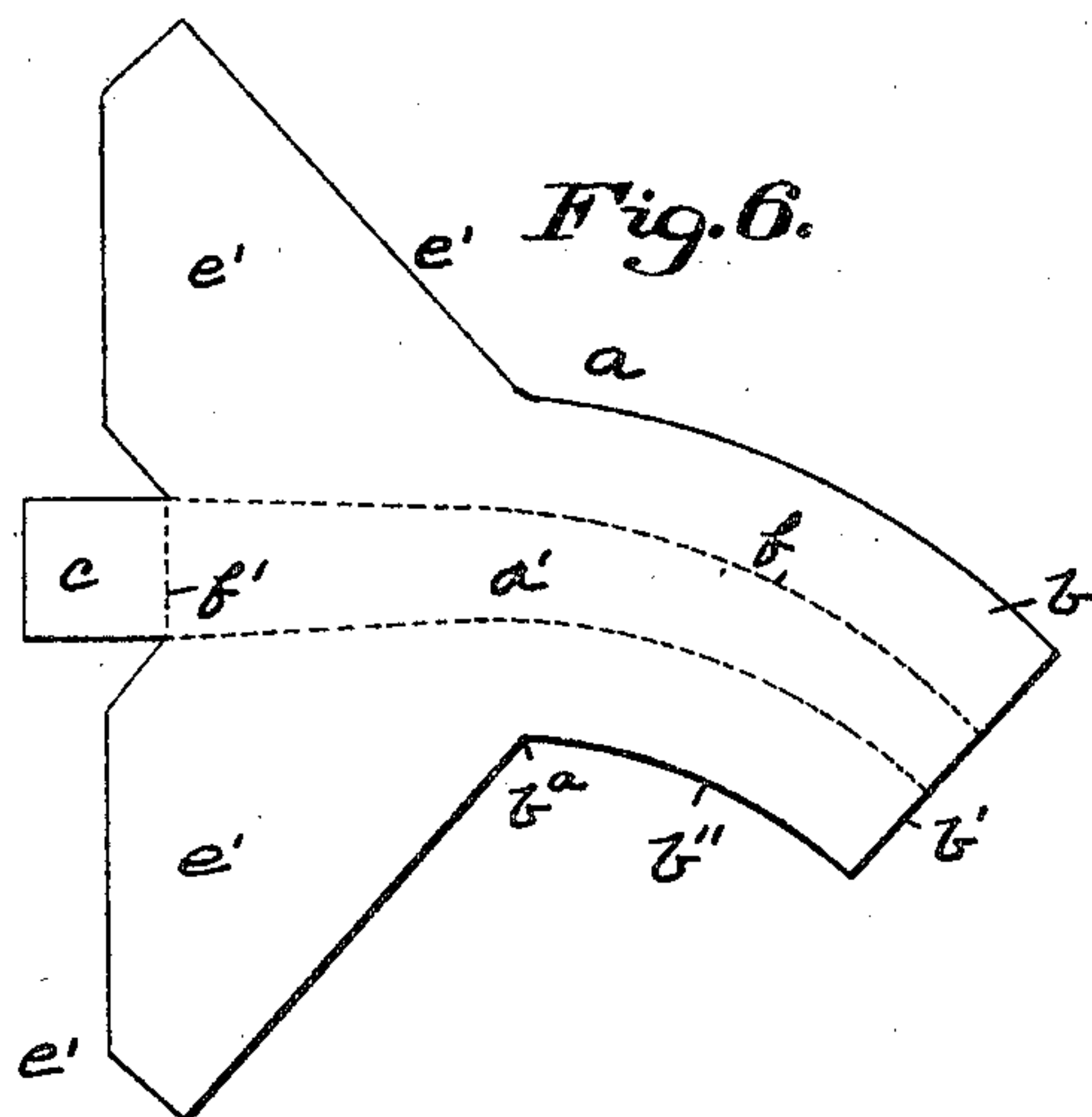


T. W. PLUMB.
SPRING HANGER.

APPLICATION FILED FEB. 21, 1905.

2 SHEETS—SHEET 2.



WITNESSES

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SPRING-HANGER.

No. 804,340.

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To all whom it may concern:

Be it known that I, THEODORE W. PLUMB, a resident of Cleveland, in the county of Cuyahoga and State of Ohio, have invented a new and useful Improvement in Spring Hangers or Supports; and I do hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to spring hangers or supports, and has special reference to the rear hangers generally used on motor-vehicle frames for supporting the rear springs. Heretofore these spring-hangers have been generally formed by casting or by drop-forging, which rendered the same exceedingly heavy and cumbersome or were laborious and expensive to manufacture, so that the object of my invention is to form these hangers or supports in such a manner that they will be light in weight, easily, cheaply, and quickly manufactured, and will be strong and durable when in use.

My invention consists, generally stated, in the novel arrangement, construction, and combination of parts, as hereinafter more specifically set forth and described, and particularly pointed out in the claims.

To enable others skilled in the art to which my invention appertains to construct and use my improved spring hanger or support, I will describe the same more fully, referring to the accompanying drawings, in which—

Figure 1 is a plan view of the plate for forming my improved spring hanger or support. Fig. 2 is an enlarged side elevation of the finished hanger applied to a motor-vehicle side frame and ready for use. Fig. 3 is a top view of the same. Fig. 4 is an end view thereof. Fig. 5 is a cross-section on the line 5 5, Fig. 2. Fig. 6 is a plan view of a plate for making another form of my improved hanger. Figs. 7 and 8 are enlarged side and top views, respectively, of such hanger applied to a motor-vehicle side frame and ready for use.

Like symbols of reference herein indicate like parts in each of the figures of the drawings.

As illustrated in Fig. 1 of the drawings, a represents a sheet-metal plate cut to the shape and size required and having a body portion a' , provided with the curved portion b at one end b' and a tongue portion c at the opposite end c' , while on each side of tongue portion

are the end portions d , which have the outside and inside angular cut edges d' d'' , respectively, thereon, and such edges d' and are joined in and connect with the angular cut sides e , connecting with the curved sides b'' on the curved portion b by the rounded corners b^a , while the edges d'' connect with the edges d' and with the tongue portion c . The plate a in such form and size is adapted to be placed within and between suitable dies of a press and in its cold state is pressed or stamped at one operation on the dotted lines f f' to form the finished and complete main portion 1 of the spring-hanger A, (shown in Figs. 2, 3, and 4,) such plate being bent up on the lines f to form the tapered trough-shaped main or body portion 1, as is shown in said figures, and provided with the side 2 and top and bottom flanges 3 and 4, respectively, having the curved end 1' thereon. The angular cut sides e and end portions d on said plate a are also bent up with the top and bottom flanges 3 and 4 of the body 1 at the same operation in order to form the top and bottom gusset-plates 5 5' on said body 1, having the angular side portion 6 between them and connecting the side 2 for bracing the body 1, while at the same operation the tongue portion c on the plate a is also bent outwardly on the line f' to form the stiffening-piece 7 on said side 6. After the main or body portion 1 of the hanger A has been thus formed to shape the holes 8 and 8' are punched or drilled in the side 2 of the curved end 1' and in the gusset-plates 5 5' on said body 1, respectively, while holes 8'' are also punched or drilled in the top and bottom flanges 3 and 4 on said curved end and a like hole 7' in the stiffening-piece 7 in order to complete the main body 1. After this is done the body is ready to be attached to the side frame, and before doing so the body portion 13 of a hanger-block D is placed within the curved end 1' of said body 1, which block can be formed of a casting or forging in the usual manner, and such body 13 thereof is curved and tapered in shape to conform to said curved end 1'. The said body portion 13 of said block D is provided with the holes 14 and 14' through the same and with a rounded head 15 at the end thereof, through which a hole 16' is formed for the reception of a pin 16, which extends out from the same to support one end of the rear spring (not shown) and such head being provided with the enlarged abutting

faces 15' thereon. The body 1 with the hanger-block D therein can now be inserted within the side frame B and within the curved end 9 of said frame, so that the ends of the top and bottom flanges 3 and 4 will come against the side 10 of said frame and the top and bottom flanges 3 and 4 will come against the top and bottom of flanges 10' and 10'' of said frame B. After the body 1 and the hanger-block have been thus placed within the side frame B these parts can be secured together by means of the rivets 17, which pass through the holes 8 in the side 1 of the curved end 1' on said body, through holes 14'' in the sides 10 of the frame B, and through the holes 14 in the body portion 13 of said block. A rivet 18 is also secured within the holes 8'' in the top and bottom flanges 3 and 4 on said curved end and within the hole 14', formed within the body portion 13 of said block, and when in place the end of said curved portion 1 will abut against the faces 15' on the hanger-block head 15 and be flush with the same. The end of the cross-frame C can now be inserted between the gusset-plates 5 5' on said body 1, and then such body 1 can be secured to said side frame B and cross-frame C by bolting or riveting the same to said frames, as by the rivets 11 passing through the holes 8' in the gusset-plates 5 5' and through holes 12' in the flanges 12 on said cross-frame and by the rivet 11' passing through the said holes 12'' in the flanges 10' and 10'' of said frame B. The stiffening-piece 7 can also be secured to said cross-frame C by the rivet 11'' passing through the hole 7' in said piece and through a hole 10^a in the side 10^b of said frame C, so that with the body 1 and its hanger-block D thus secured in place and connected to the side frame B and cross-frame C the hanger A is ready for having the spring connected to the pin 16 in the usual manner.

It will be obvious that the angular cut sides *e* on the plate *a* (shown in Fig. 1) will only form what might be termed the "single" or "angular" gusset-plates 5 5' on the body 1 of the hanger, so that if it is desired to form double gusset-plates the triangular-shaped sides *e'* are formed on the plate *a*, as shown in Fig. 6, instead of the sides *e*, so that when such plate is bent to form said body the double or triangular gusset-plates 5^a 5^b will be formed thereon, as shown in Figs. 7 and 8, and in this case the end portions *d'* will form the central body portion *d'* of said plates for being riveted to the side frame and cross-frame, as before described.

Various other modifications in the construction and design of the various parts of my improved hanger may be resorted to without departing from the spirit of the invention or sacrificing any of its advantages.

It will thus be seen that my improved hanger can be used in connection with other frames, as well as for supporting springs other than

those used on motor-vehicles and for other purposes and uses, and when so made and used it will be found to be inexpensive and highly efficient.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. A spring hanger or support pressed or stamped from a plate of sheet metal into a trough-shaped form having gusset-plates formed thereon.

2. A spring hanger or support pressed or stamped from a plate of sheet metal into a trough-shaped form having gusset-plates formed thereon, and a stiffening-piece extending out from said gusset-plates.

3. A spring hanger or support pressed or stamped from a plate of sheet metal into a tapered trough-shaped form having gusset-plates formed thereon.

4. A spring hanger or support pressed or stamped from a plate of sheet metal into a tapered trough-shaped form having gusset-plates formed thereon, and a stiffening-piece extending out from said gusset-plates.

5. A spring hanger or support pressed or stamped from a plate of sheet metal into a trough-shaped form having a body portion thereon provided with a curved end, and gusset-plates formed on said body portion.

6. A spring hanger or support pressed or stamped from a plate of sheet metal into a trough-shaped form having a body portion thereon provided with a curved end, gusset-plates formed on said body portion, and a stiffening-piece extending out from said gusset-plates.

7. A spring hanger or support pressed or stamped from a plate of sheet metal into a tapered trough-shaped form having a body portion provided with a curved end, and gusset-plates formed on said portion.

8. A spring hanger or support pressed or stamped from a plate of sheet metal into a tapered trough-shaped form having a body portion provided with a curved end, gusset-plates formed on said body portion, and a stiffening-piece extending out from said gusset-plates.

9. A spring hanger or support pressed or stamped from a plate of sheet metal into a trough-shaped body having gusset-plates thereon, and an angular bracing side between said gusset-plates and forming part of the side of said body.

10. A spring hanger or support pressed or stamped from a plate of sheet metal into a tapered trough-shaped body having gusset-plates thereon, and an angular bracing side between said gusset-plates and forming part of the side of said body.

11. A spring hanger or support pressed or stamped from a plate of sheet metal into a trough-shaped form having a body portion provided with a curved end, gusset-plates formed on said body portion, and an angular

bracing side between said gusset-plates and forming part of the side of said body portion.

12. A spring hanger or support pressed or stamped from a plate of sheet metal into a tapered trough-shaped form having a body portion provided with a curved end, gusset-plates formed on said body portion, and an angular bracing side between said gusset-plates and forming part of the sides of said body portion.

13. A spring hanger or support formed from a plate of sheet metal into a trough-shaped body having gusset-plates thereon connected together by an angular bracing side forming part of the side of said body, and a stiffening-piece extending out from the end of said bracing side.

14. A spring hanger or support pressed or stamped from a plate of sheet metal into a tapered trough-shaped body having gusset-plates thereon connected together by an angular bracing side forming part of the side of said body, and a stiffening-piece extending out from the end of said bracing side.

15. A spring hanger or support pressed or stamped from a plate of sheet metal into a tapered trough-shaped form having a body portion provided with a curved end, gusset-plates formed on said body portion, an angular bracing side between said gusset-plates and forming part of the side of said body portion, and a stiffening-piece extending out from the end of said bracing side.

16. A spring hanger or support pressed or stamped from a plate of sheet metal into a tapered trough-shaped form having a body portion provided with a curved end, gusset-plates formed on said body portion, an angular bracing side between said gusset-plates and forming part of the side of said body portion, and a stiffening-piece extending out from the end of said bracing side.

ing side between said gusset-plates and forming part of the side of said body portion, and a stiffening-piece extending out from the end of said bracing side.

17. A spring hanger or support pressed or stamped from a plate of sheet metal into a trough-shaped body, and a hanger-block having its body portion fitting within and conforming to the said body for supporting the spring.

18. A spring hanger or support pressed or stamped from a plate of sheet metal into a tapered trough-shaped body, and a hanger-block having its body portion fitting within and conforming to the said body for supporting the spring.

19. A spring hanger or support pressed or stamped from a plate of sheet metal into a tapered trough-shaped form having a body portion provided with a curved end, and a hanger-block having its body portion fitting within and conforming to said curved end for supporting the spring.

20. A spring hanger or support pressed or stamped from a plate of sheet metal into a tapered trough-shaped form having a body portion provided with a curved end, and a hanger-block having its body portion fitting within and conforming to said curved end for supporting the spring.

In testimony whereof I, the said THEODORE W. PLUMB, have hereunto set my hand.

THEODORE W. PLUMB.

Witnesses:

R. R. HOLDEN,
J. C. STOUT.