

T. W. PLUMB.
SPRING HANGER.

APPLICATION FILED FEB. 21, 1905.

2 SHEETS—SHEET 1.

Fig. 1.

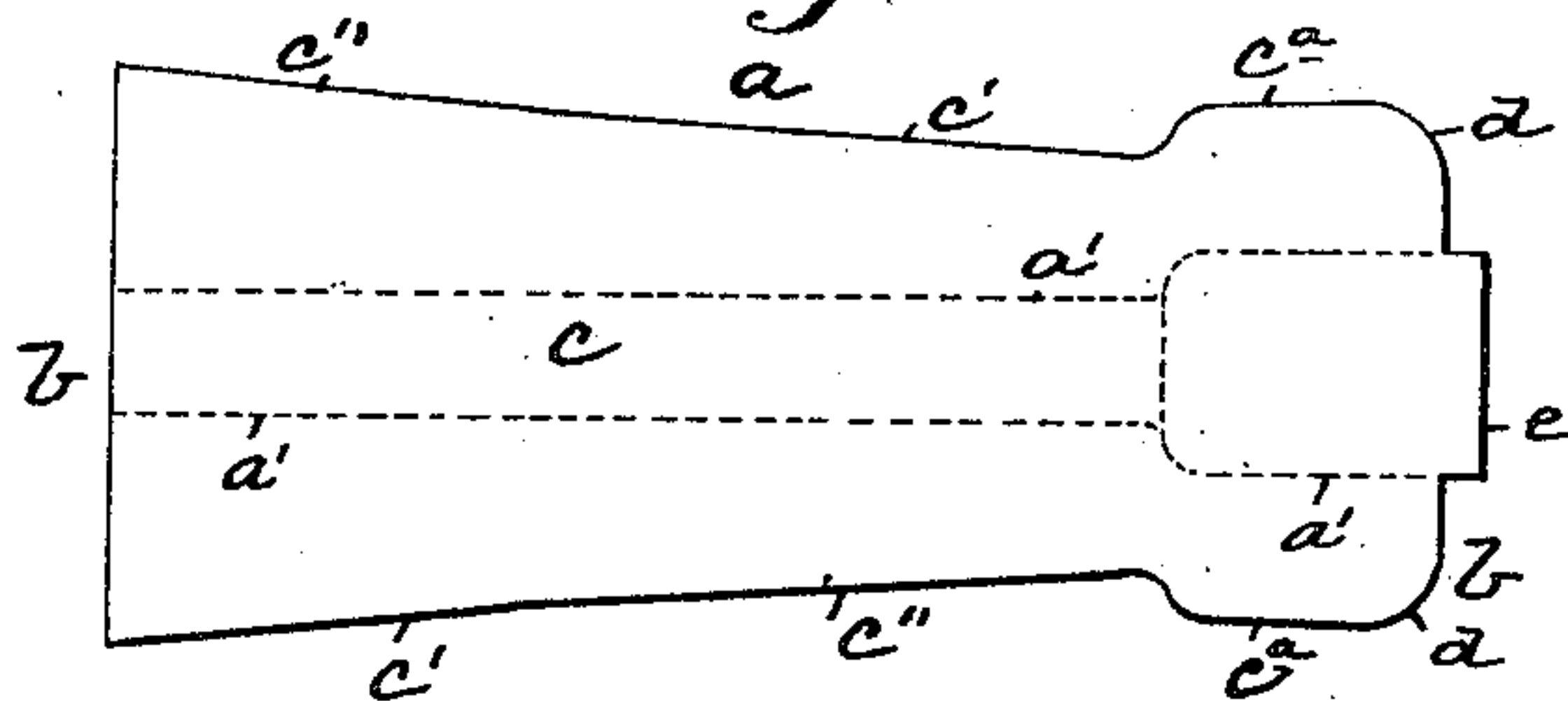


Fig. 2.

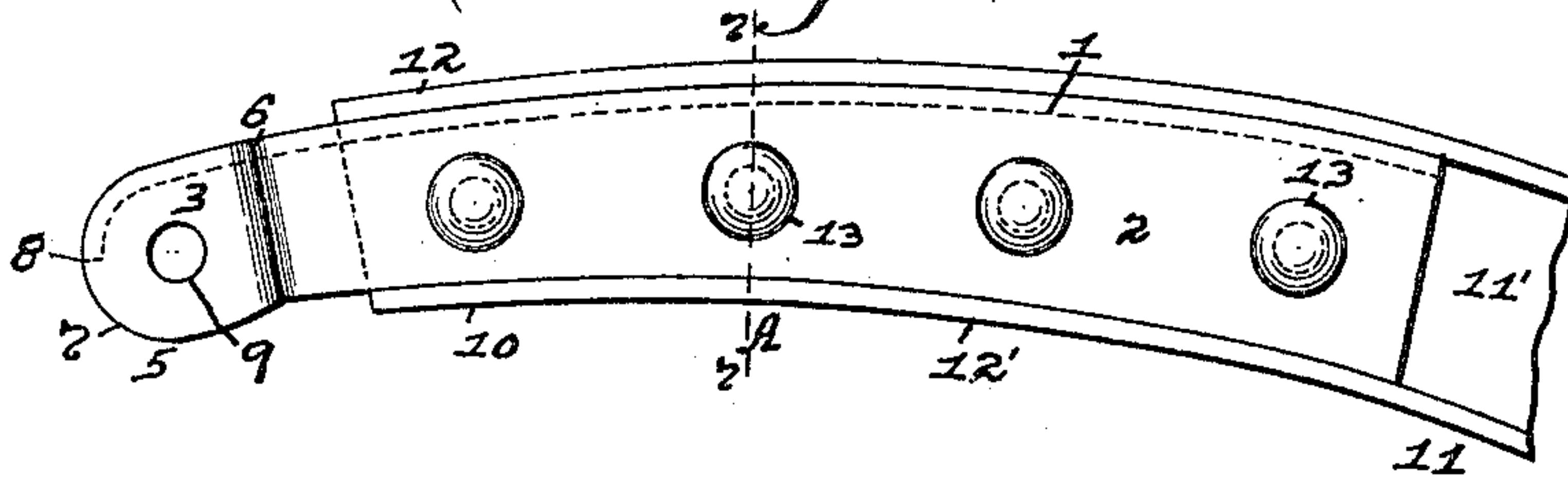


Fig. 3.

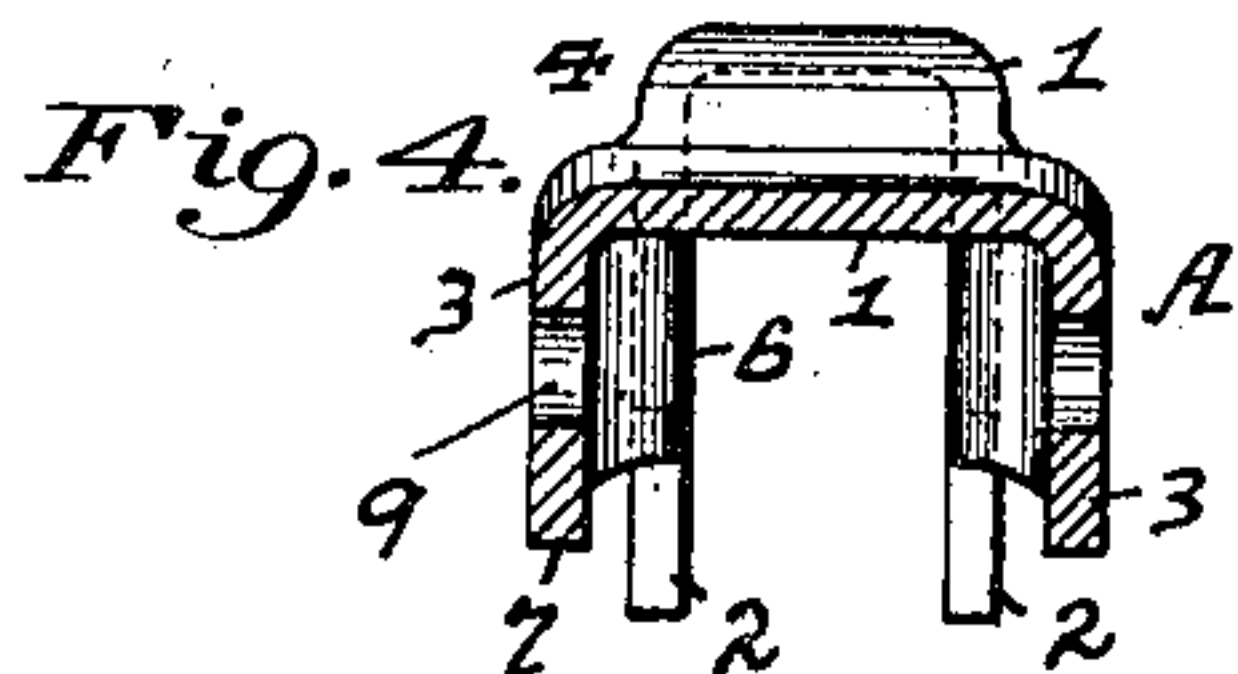
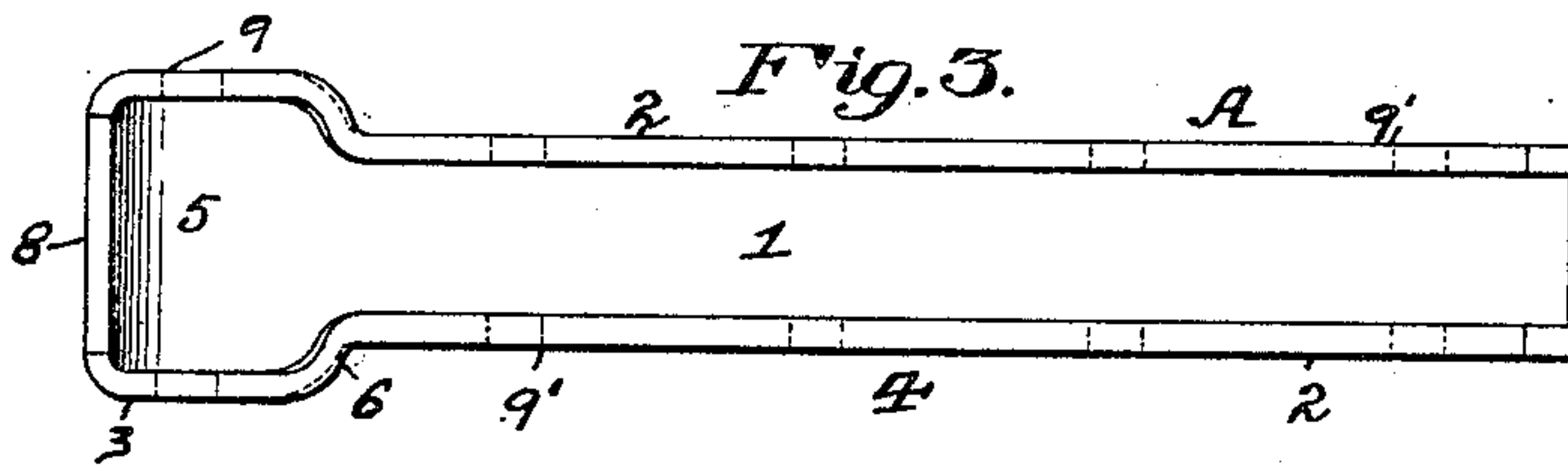


Fig. 5.

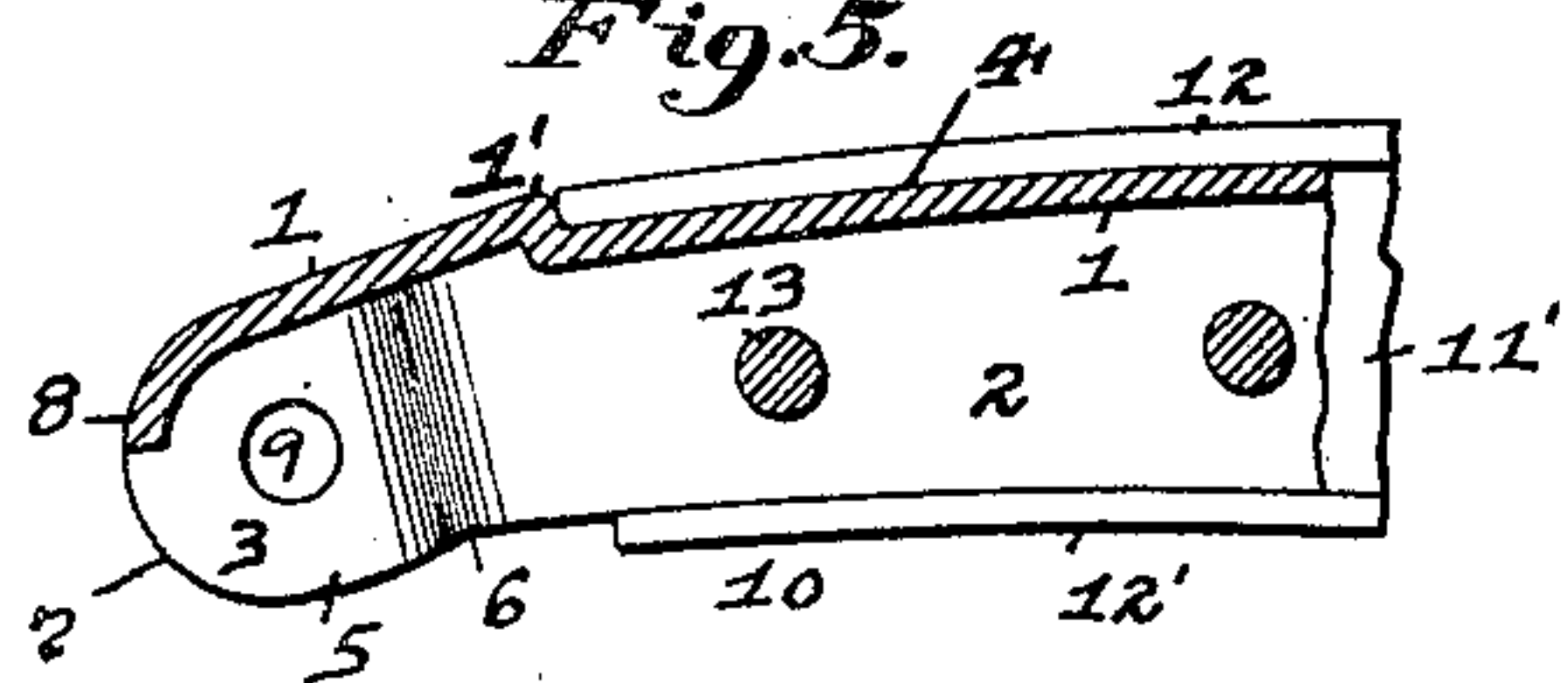


Fig. 6.

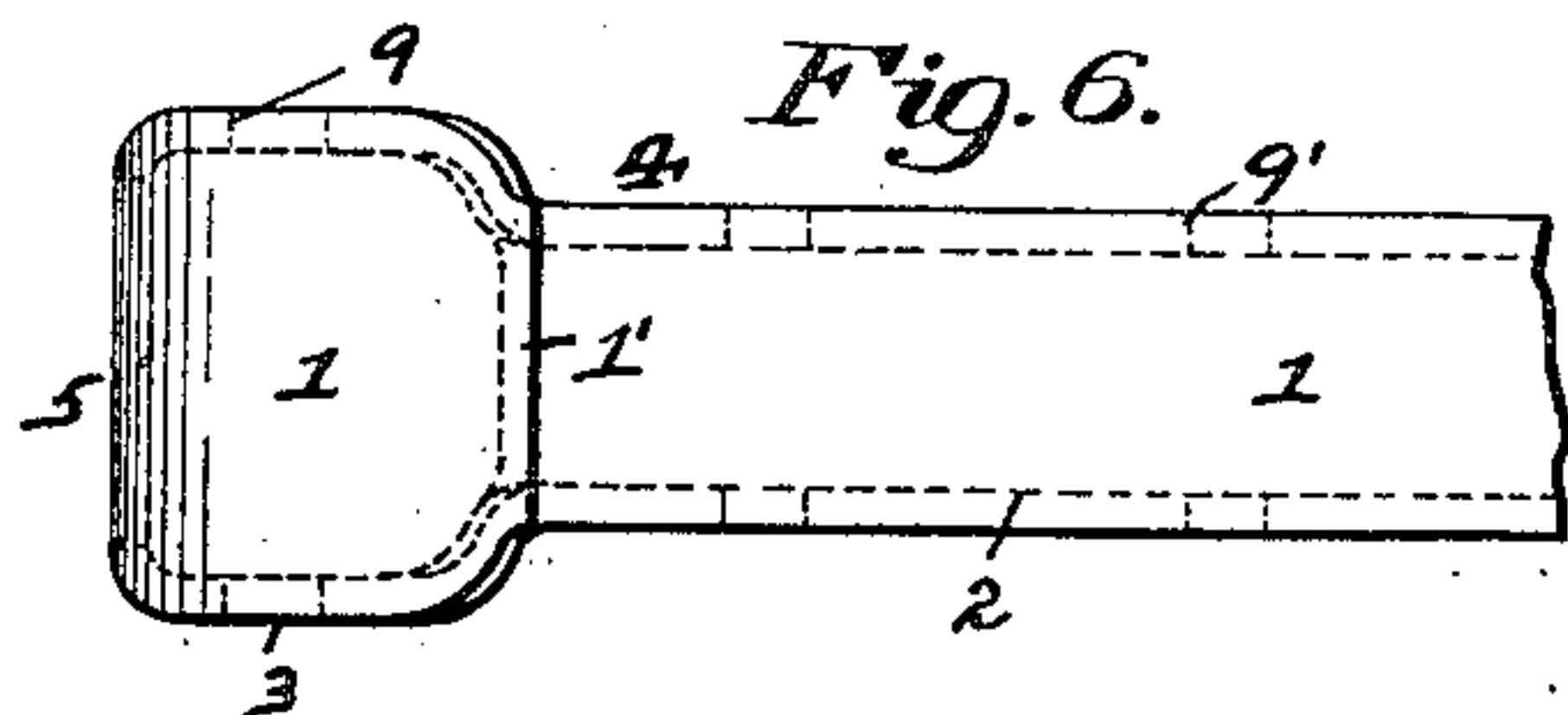
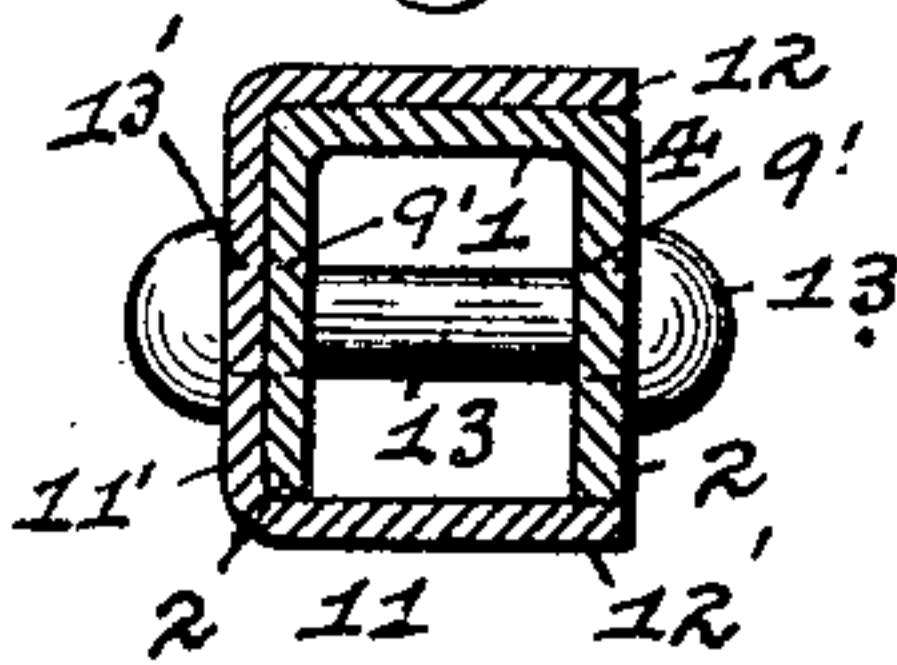


Fig. 7.



WITNESSES:

Matt. J. Lawrence
Robert H. Appleton

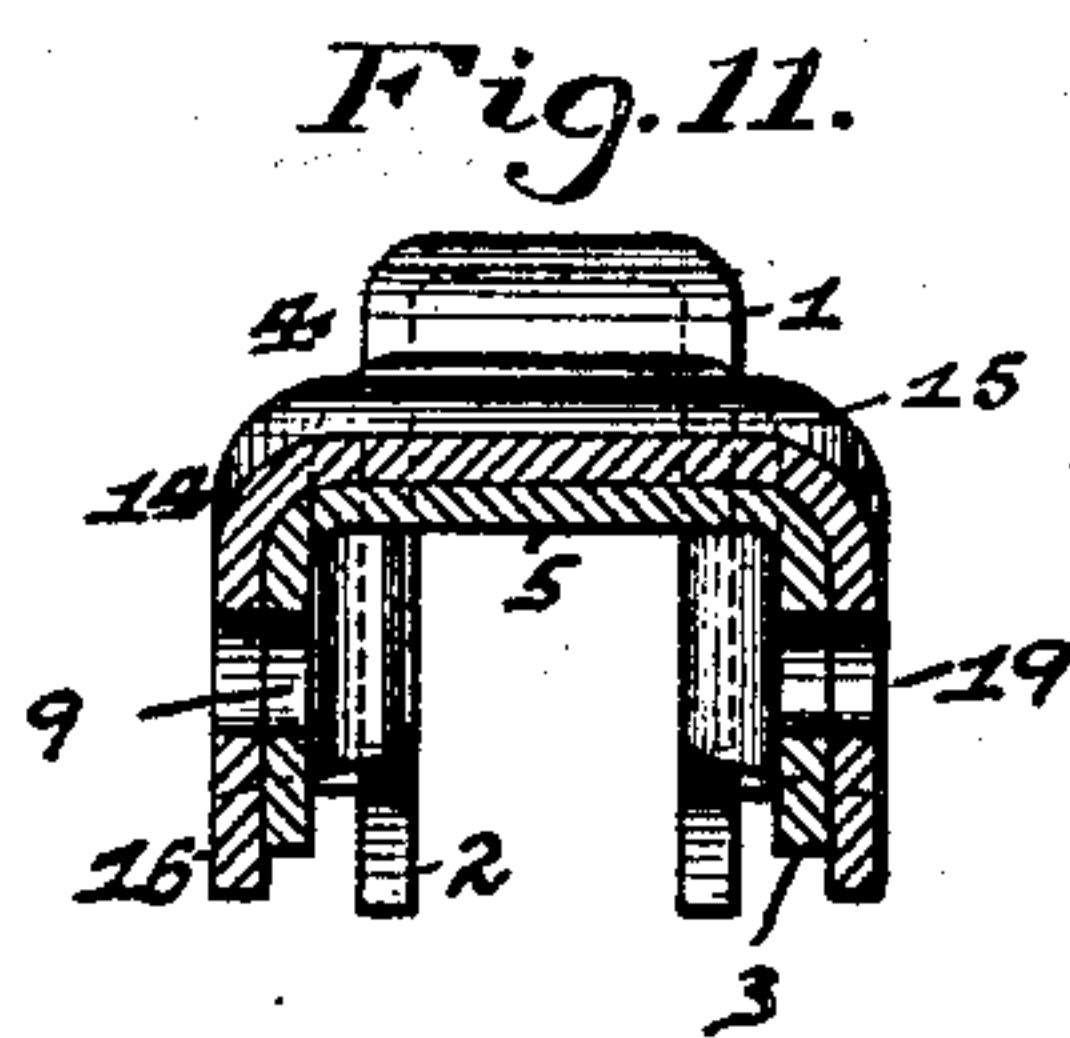
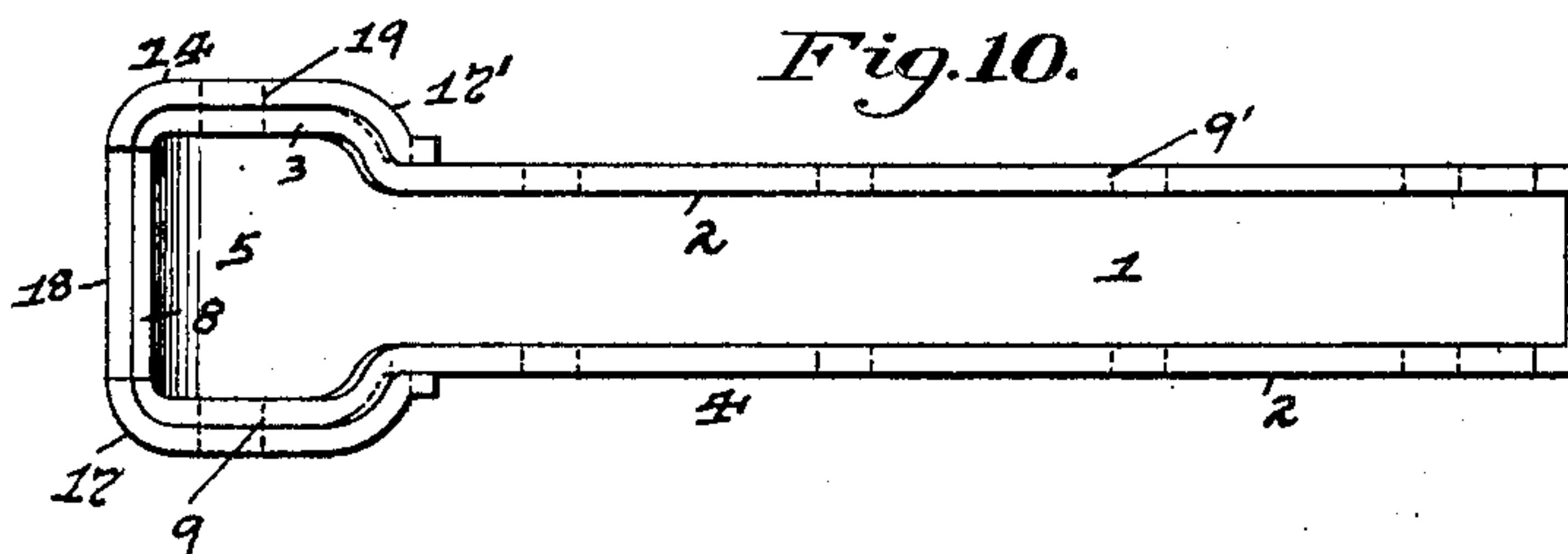
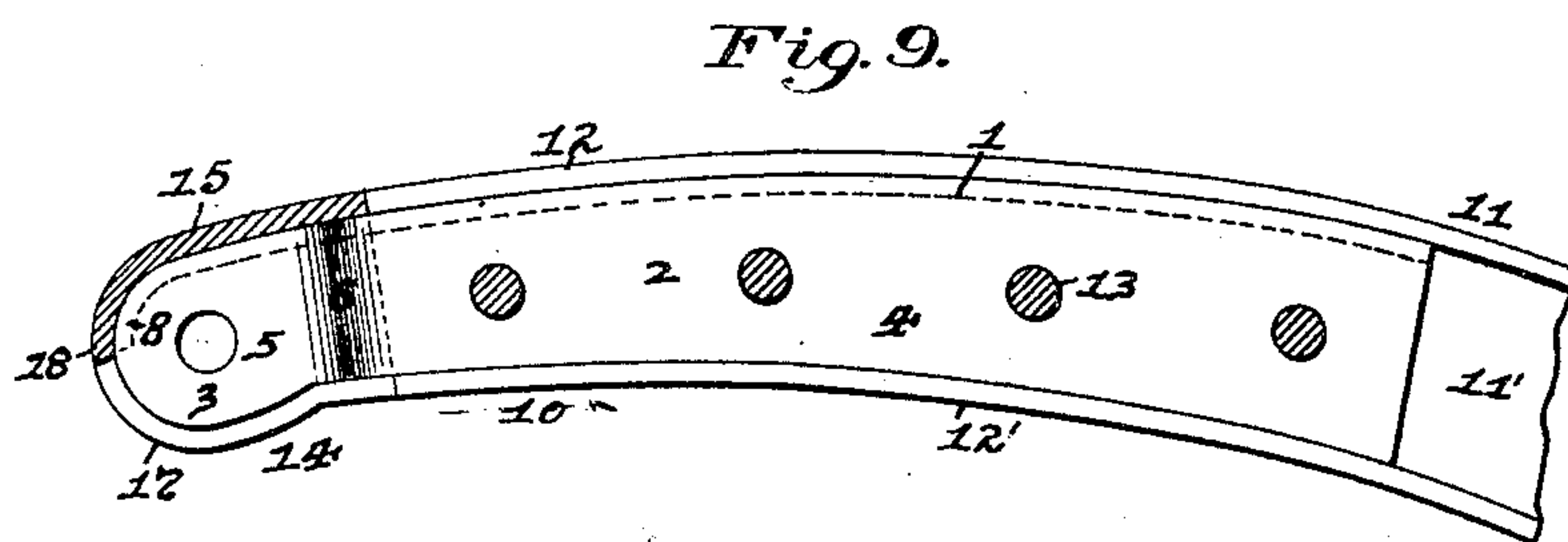
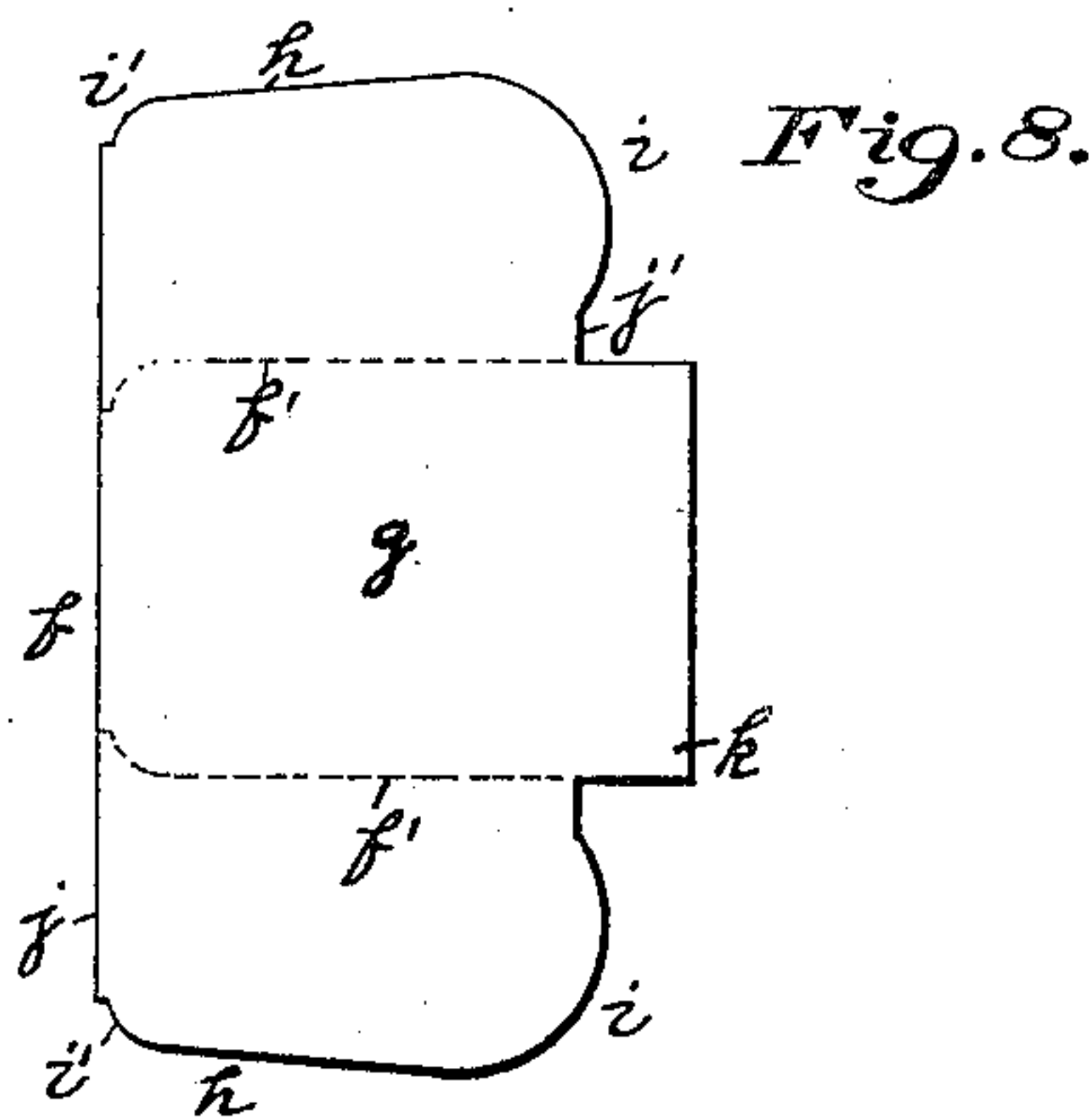
INVENTOR.

Theodore W. Plumb,
By J. M. Cooke,
Attorney.

T. W. PLUMB.
SPRING HANGER.

APPLICATION FILED FEB. 21, 1905.

2 SHEETS—SHEET 2.



WITNESSES:

Matthew Samaras
Robert H. Helms

INVENTOR.

Theodore W. Plumb.
By J. M. Cooke,
attorney.

UNITED STATES PATENT OFFICE.

THEODORE W. PLUMB, OF CLEVELAND, OHIO, ASSIGNOR TO PARISH & BINGHAM COMPANY, OF CLEVELAND, OHIO, A CORPORATION OF WEST VIRGINIA.

SPRING-HANGER.

No. 804,265.

Specification of Letters Patent.

Patented Nov. 14, 1905.

Application filed February 21, 1905. Serial No. 246,707.

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 front hangers generally used on motor-vehicle frames for supporting the front springs. Heretofore these spring-hangers have usually been made by casting or from and by a 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 make 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 the spring-hanger. Fig. 2 is a side view of the finished spring-hanger and showing the same applied to the end of one of the side frames for a motor-vehicle. Fig. 3 is a bottom view of the hanger. Fig. 4 is a cross-section of the same on the line *a a*, Fig. 2, and looking toward the rear of the same. Figs. 5 and 6 are views showing another form of said hanger. Fig. 7 is a cross-sectional view on the line 7 7, Fig. 2. Fig. 8 is a plan view of the form of plate for making a cap for the finished hanger. Fig. 9 is a side view of such cap applied to the end of the hanger and showing a portion of the side frame. Fig. 10 is a bottom view of the same. Fig. 11 is a cross-section of the head and cap shown in Fig. 8.

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

As illustrated in Fig. 1 of said drawings, *a*

represents a sheet-metal plate cut to the size and shape required, and this plate is adapted to be placed within and between suitable dies of a press and in its cold state and pressed or stamped at one operation to form the complete and finished spring-hanger A, (shown in Figs. 3 and 4,) such plate having the side edges *c'* of its body *c* inclined toward the center from one end *b*, as at *c''*, and terminating at the opposite end *b'* in the outwardly-extending side edges *c''* and rounded corners *d* thereon and with an end projection or flange *e*. This plate *a* when placed within the dies is bent up on the dotted line *a'* to form the curved trough-shaped hanger A, as shown in Fig. 2, having the top 1 and sides 2 thereon for forming the body portion 4 from the body *c* of the plate *a* and the enlarged hollow portion 5 from the outwardly-extending portion *d* of said plate, which is bent out from said sides 2, as at 6, and has the rounded ends 7 thereon formed from the curved ends *b* on the plate *a*, while the projecting portion *e* on said portion *d* of said plate is also bent up to form the rounded end piece 8 of said hanger. After the hanger A has been thus formed to shape the holes 9 are punched or drilled through the sides 3 of the enlarged hollow portion 5 for the reception of the bolt for carrying the spring to be supported by said hanger, and rivet-holes 9' are also formed in like manner in the sides 2 of the body portion 4. The hanger is now ready to be attached to the curved end 10 of the side frame 11, and this can be done by inserting the body portion 4 of the hanger within said curved end 10, so that the top 1 of said body portion is against the top flange 12 of said frame 11 and the bottom edges of the sides 2 will rest against the bottom flange 12' of said frame. The hanger A can then be bolted or riveted to said side frame 11 by means of the rivets 13 passing through the holes 13' in the sides 11' of said side frame 11 and through the holes 9' in the sides 2 of the body portion 4, after which one end of the spring to be used can hang from said hanger by means of its bolt being secured within the holes 9 of the enlarged hollow portion 5 of said hanger.

The hanger A just described is complete in itself; but in case it is desired to use the same in connection with a side frame for carrying heavy springs a cap 14 can be placed over the enlarged hollow portion 5 of said hanger, as shown in Figs. 8, 9, and 10, and in such case

the cap is formed from a sheet-metal plate f , such as is shown in Fig. 8. This plate f is cut to the shape and size for forming the cap 14 and consists of a body portion g , having outwardly-inclined side edges h and terminating in round corners i i' at each end j j' of said plate, while from the end j' a projecting end portion or flange k is formed. The plate f is placed within and between suitable dies of a press and is pressed or stamped in its cold state to form the complete and finished curved trough-shaped cap 14, having the top 15 and sides 16 bent up on the lines f' to form the hollow portion 16 and such sides being provided with the rounded ends 17 17', formed by the rounded corners i'' i''' at each end of the plate f , while the projecting portion k on the end j of said plate is also bent up to form the rounded end piece 18 on said cap. After the cap 14 has been thus formed to shape the holes 19 are punched or drilled within the sides 16, and then the cap can be placed over the enlarged hollow portion 5 of the hanger A, and when in position the holes 16 will come opposite the holes 9 in the sides 3' of said enlarged portion 5. The cap 14 can then be brazed to the enlarged hollow portion 5 of the hanger A in the usual manner, so that the top 15, sides 16, and end pieces 18 of said cap will be firmly secured to the cap 1, sides 3, and end piece 8 on the enlarged hollow portion 5 of the hanger, and then the spring can be hung by its bolt, being secured within the holes 9 and 16 of the enlarged hollow portion 5 of the hanger A and cap 14, respectively, after such hanger has been secured or attached to the side frame 11, as before described.

In the use of the cap 14 in connection with the hanger A it will be seen that the end of the side frame 11 will come against and be flush with the end of the said cap, and in order to make the end of the frame flush with the enlarged hollow portion 5 of the hanger the top 1 of said portion 5 can be raised, as shown at 1' in Figs. 5 and 6.

It will be evident that my improved hanger and cap therefor can be used in connection with other frames and for other purposes and uses, as well as for supporting springs other than those used on motor-vehicles, while various other modifications and changes in the design and construction of the hanger and cap may be resorted to without departing from the spirit of my invention or sacrificing any of its advantages.

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 and having a trough-shaped form.

2. A spring hanger or support pressed or stamped from a plate of sheet metal into a trough-shaped form and provided with an enlarged end portion thereon.

3. A spring hanger or support pressed or stamped from a plate of sheet metal into a trough-shaped form and having an enlarged hollow end portion thereon.

4. A spring hanger or support pressed or stamped from a plate of sheet metal into a trough-shaped form and having an enlarged hollow end portion thereon provided with a depending end piece on said end portion.

5. A spring hanger or support pressed or stamped from a plate of sheet metal into a trough-shaped form and having an enlarged hollow end portion thereon provided with a rounded depending end piece on said end portion.

6. A spring hanger or support pressed or stamped from a plate of sheet metal into a trough-shaped form and having an enlarged hollow end portion thereon provided with rounded side ends and a rounded depending end piece between and conforming in part to said rounded side ends.

7. A spring hanger or support pressed or stamped from a plate of sheet metal and having a curved trough-shaped form and provided with an enlarged end portion thereon.

8. A spring hanger or support pressed or stamped from a plate of sheet metal into a curved trough-shaped form and provided with an enlarged end portion thereon.

9. A spring hanger or support pressed or stamped from a plate of sheet metal into a curved trough-shaped form and having an enlarged hollow end portion thereon.

10. A spring hanger or support pressed or stamped from a plate of sheet metal into a curved trough-shaped form and having an enlarged hollow end portion thereon provided with a depending end piece on said end portion.

11. A spring hanger or support pressed or stamped from a plate of sheet metal into a curved trough-shaped form and having an enlarged hollow end portion thereon provided with a rounded depending end piece on said end portion.

12. A spring hanger or support pressed or stamped from a plate of sheet metal into a curved trough-shaped form and having an enlarged hollow end portion thereon provided with rounded side ends and a rounded depending end piece between and conforming in part to said rounded side ends.

13. A spring hanger or support pressed or stamped from a plate of sheet metal into a trough-shaped form and having its upper face provided with a raised portion at one end.

14. A spring hanger or support pressed or stamped from a plate of sheet metal into a trough-shaped form and having an enlarged end portion thereon provided with a raised upper face.

15. A spring hanger or support pressed or

stamped from a plate of sheet metal into a trough-shaped form and having an enlarged hollow end portion provided with a raised upper face.

16. A spring hanger or support pressed or stamped from a plate of sheet metal into a curved trough-shaped form and having its upper face provided with a raised upper portion at one end.

17. A spring hanger or support pressed or stamped from a plate of sheet metal into a curved trough-shaped form and having an enlarged end portion thereon provided with a raised upper face.

18. A spring hanger or support pressed or stamped from a plate of sheet metal into a curved trough-shaped form and having an enlarged hollow end portion provided with a raised upper face.

19. A spring hanger or support pressed or stamped from a plate of sheet metal into a trough-shaped form, and a cap pressed or stamped from a plate of sheet metal into a trough-shaped form for fitting over, conforming to and being secured to the end of said hanger.

20. A spring hanger or support pressed or stamped from a plate of sheet metal into a trough-shaped form and provided with an enlarged end portion thereon, and a cap pressed or stamped from a plate of sheet metal into a trough-shaped form for fitting over, conforming to and being secured to said end portion.

21. A spring hanger or support pressed or stamped from a plate of sheet metal into a trough-shaped form and provided with an enlarged hollow end portion thereon, and a cap pressed or stamped from a plate of sheet metal into a trough-shaped form for fitting over, conforming to and being secured to said hollow end portion.

22. A spring hanger or support pressed or stamped from a plate of sheet metal into a trough-shaped form having an enlarged hollow end portion thereon and provided with a depending end piece, and a cap pressed or stamped from a plate of sheet metal into a trough-shaped form for fitting over, conforming to and being secured to said hollow end portion and end piece.

23. A spring hanger or support pressed or stamped from a plate of sheet metal into a trough-shaped form having an enlarged hollow end portion thereon and provided with a rounded depending end piece, and a cap pressed or stamped from a plate of sheet metal into a trough-shaped form for fitting over, con-

forming to and being secured to said end portion and rounded end piece.

24. A spring hanger or support pressed or stamped from a plate of sheet metal into a trough-shaped form having an enlarged hollow end portion with rounded side ends and a rounded depending end piece between and conforming in part to said rounded side ends, and a cap pressed or stamped from a plate of sheet metal into a trough-shaped form for fitting over, conforming to and being secured to said end portion, rounded side ends and rounded end piece.

25. A spring hanger or support pressed or stamped from a plate of sheet metal into a curved trough-shaped form and provided with an enlarged hollow end portion thereon, and a cap pressed or stamped from a plate of sheet metal into a curved trough-shaped form for fitting over, conforming to and being secured to said hollow end portion.

26. A spring hanger or support pressed or stamped from a plate of sheet metal into a curved trough-shaped form having an enlarged hollow end portion thereon and provided with a depending end piece, and a cap pressed or stamped from a plate of sheet metal into a curved trough-shaped form for fitting over, conforming to and being secured to said hollow end portion and end piece.

27. A spring hanger or support pressed or stamped from a plate of sheet metal into a curved trough-shaped form having an enlarged hollow end portion thereon and provided with a rounded depending end piece, and a cap pressed or stamped from a plate of sheet metal into a curved trough-shaped form for fitting over, conforming to and being secured to said end portion and rounded end piece.

28. A spring hanger or support pressed or stamped from a plate of sheet metal into a curved trough-shaped form having an enlarged hollow end portion with rounded side ends and a rounded depending piece between and conforming in part to said rounded ends, and a cap pressed or stamped from a plate of sheet metal into a curved trough-shaped form for fitting over, conforming to and being secured to said end portion, rounded ends and rounded end pieces.

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

THEODORE W. PLUMB.

Witnesses:

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