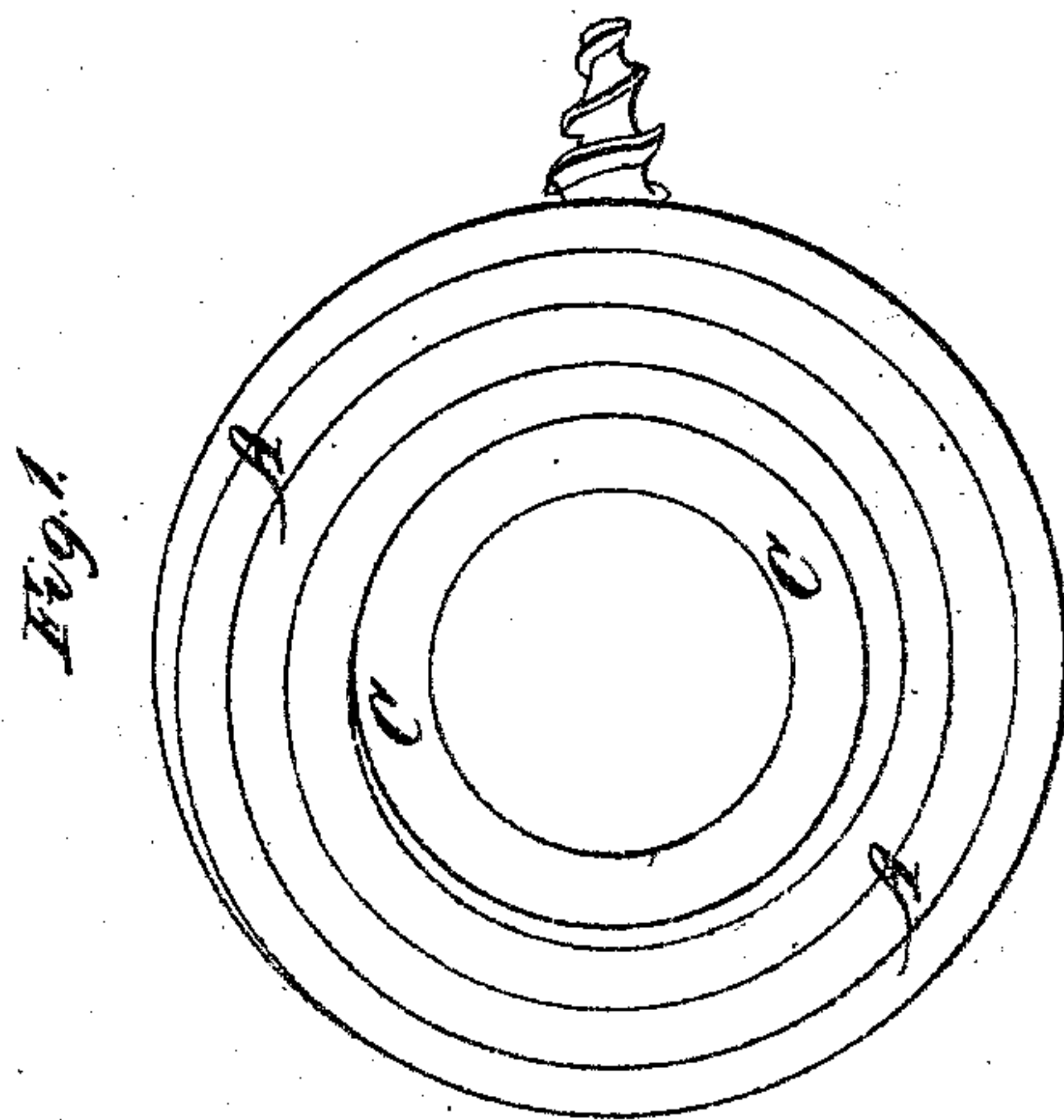
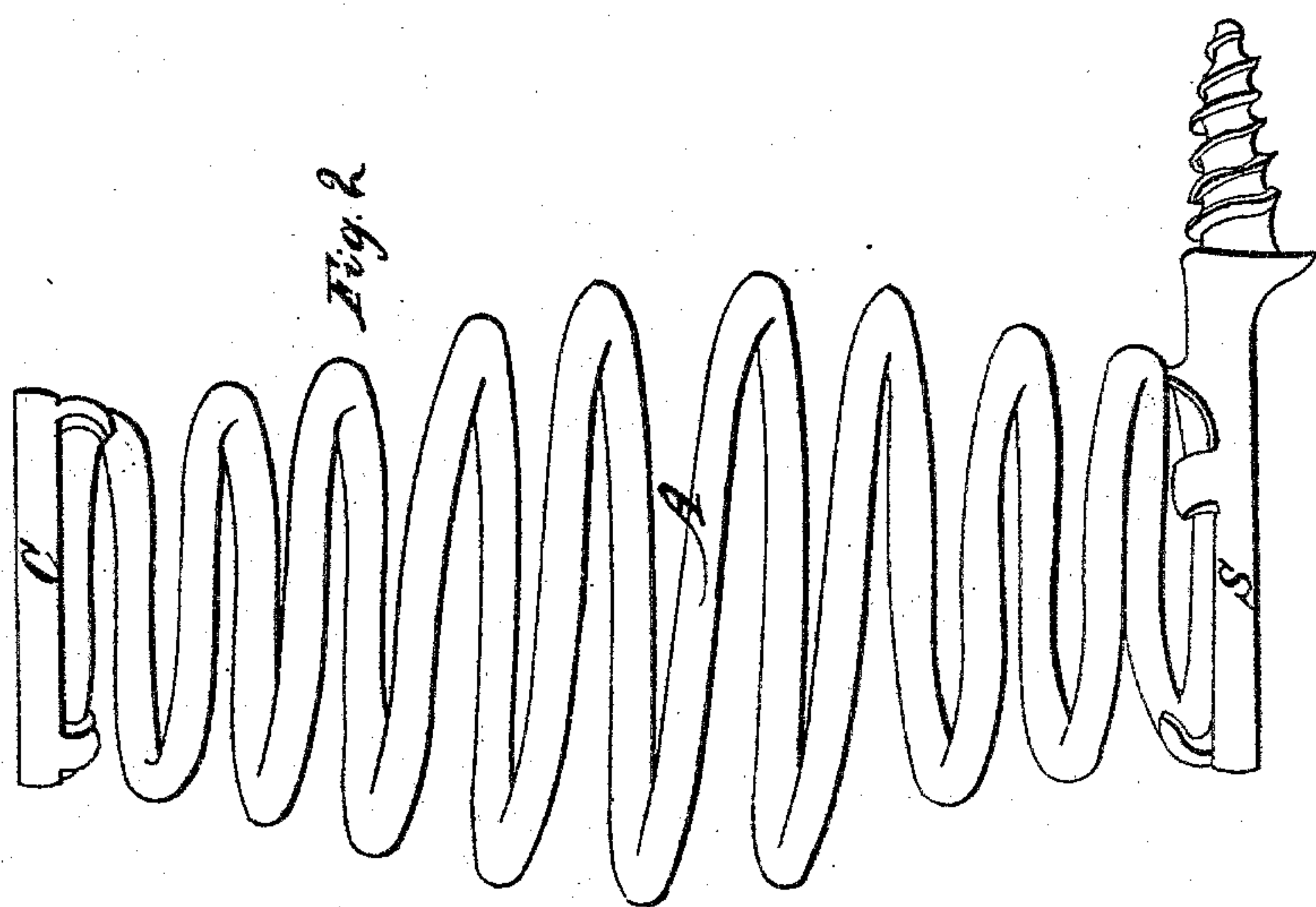
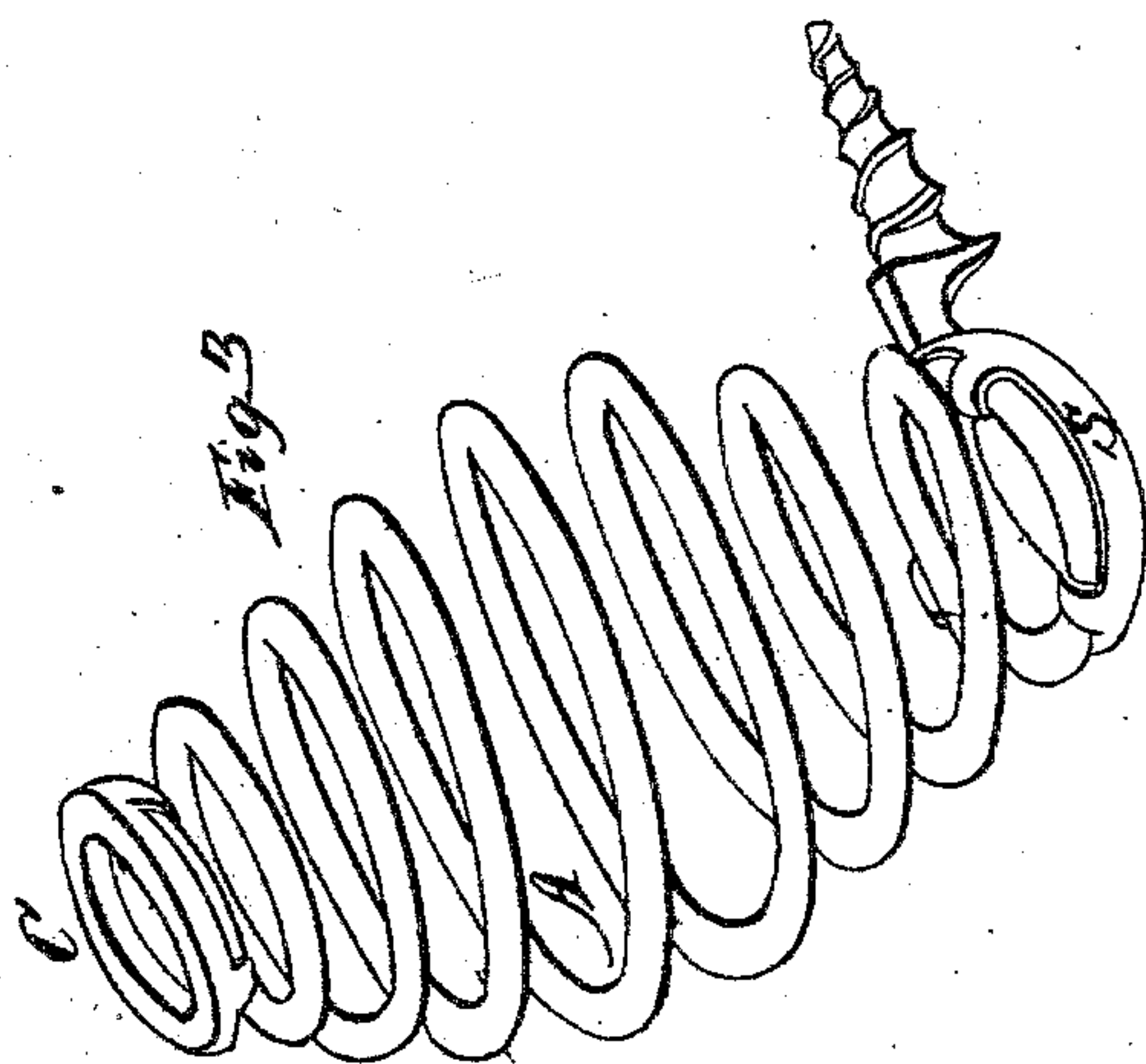


*E. S. Hayward,*

*Bed Spring,*

*No 71,169,*

*Patented Nov. 19, 186*



*Witnesses*  
*Geo. Clark*  
*A. A. Robinson*

*Inventor.*  
*E. S. Hayward*

# United States Patent Office.

E. S. HAYWARD, OF ROXBURY, MASSACHUSETTS.

Letters Patent No. 71,169, dated November 19, 1867.

## IMPROVED SPRING FOR BEDS.

The Schedule referred to in these Letters Patent and making part of the same.

### TO ALL WHOM IT MAY CONCERN:

Be it known that I, E. S. HAYWARD, of Roxbury, in the county of Norfolk, in the State of Massachusetts, have invented a new and improved Spiral Spring for Beds and other purposes; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and the letters of reference marked thereon, all of which taken together form my specification.

The nature of my invention consists of a spiral spring which shall combine strength and elasticity. I call it a barrel spring, it being shaped something like a barrel. It has these advantages over the spiral springs now in use, to wit: The straight spiral spring (one in which the diameter is equal throughout) can only be depressed to a space equal to the diameter of wire, (of which it is constructed,) multiplied by the number of coils. My spring can be depressed to twice the diameter of the wire used, regardless of the number of coils in it. Over the hour-glass spring (so called for its shape) it has at least two advantages. In that spring the smallest diameter is in the centre or at equal distance from the ends, making it weak at that point and liable to tip over, and become thereby useless. My spring is largest in the centre, or at about equal distance from the ends, and therefore cannot be tipped over, and can be attached to smaller surfaces. It combines therefore all the advantages of the straight and hour-glass springs, and overcomes the principal objections to either of them.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation. In the accompanying drawings—

Figure 1 represents an end view of the spring supposed to be depressed. C is the cap, A the spiral coils closed into each other.

Figure 2 represents the open spring. S the seat to which it is attached; A the coils of wire; and C the cap for the purpose of connecting the spring with the slats of a bedstead, or other contrivances for which the spring may be used. Beginning at the point connected with the seat S, the spring is wound gradually, increasing in the circumference of the coils according to the diameter of the wire used, so that any given point in the wire will when depressed clear the outside of the point next below it in the open spring. It is wound in this way until the greatest desired circumference is reached, which is usually midway between S and C, when the winding is reversed to the point where the spring is connected with the cap C.

Figure 3 represents a perspective view of the spring.

I do not confine myself, however, to springs precisely the same size at the top and bottom; I sometimes lessen the number of coils either at the top or bottom, in order to fit to a seat and cap where one is larger than the other.

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

A spiral spring with the largest circumference at some point between the ends, substantially as and for the purpose described.

E. S. HAYWARD.

Witnesses:

GEO. CLARK, Jr.,

A. A. ROBINSON.