No. 854,956. PATENTED MAY 28, 1907.

C. F. MARTIN.

VETERINARY SURGICAL INSTRUMENT.

APPLICATION FILED NOV. 16, 1906.

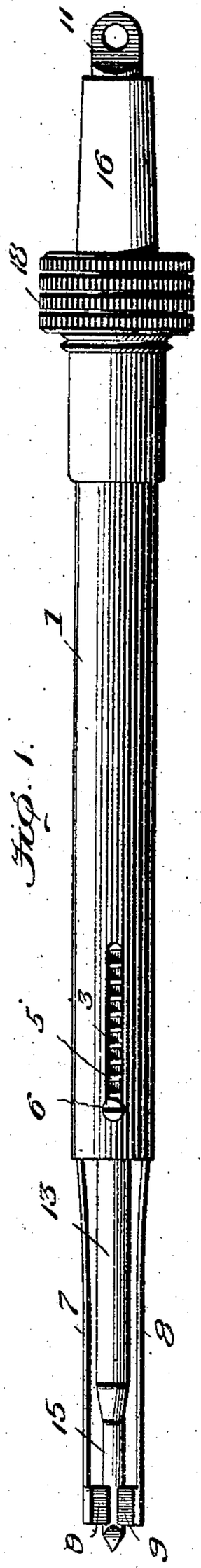

Fig. 1.

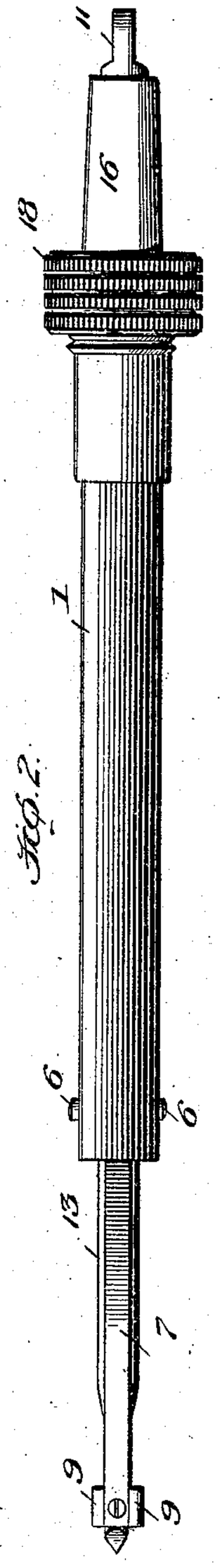

Fig. 2.

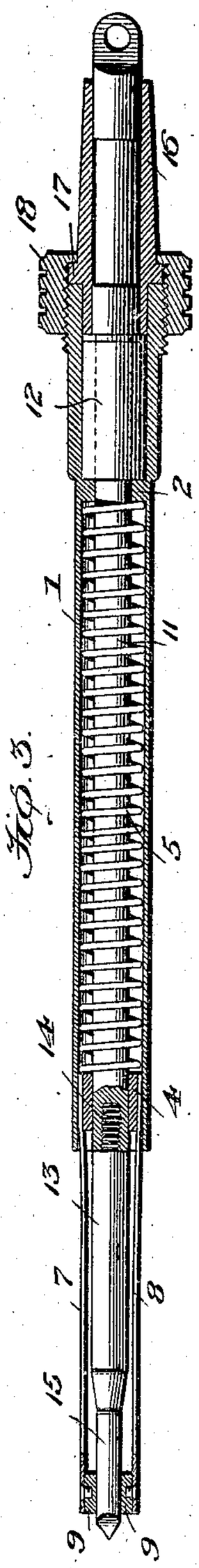

Fig. 3.

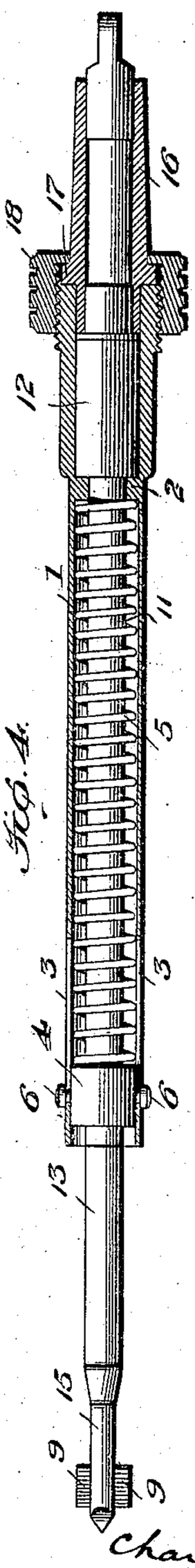

Fig. 4.

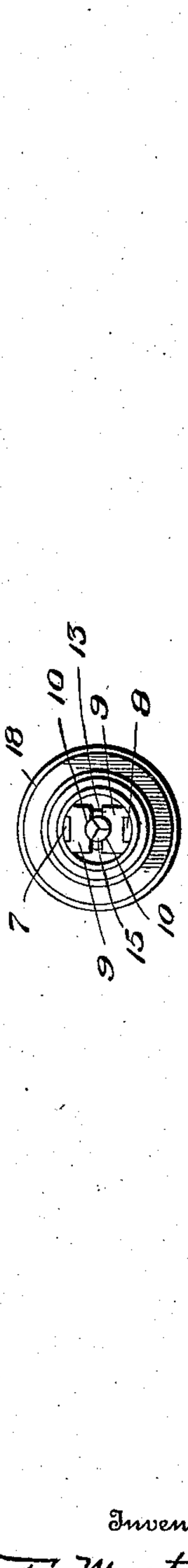

Fig. 5.

Witnesses

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By

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UNITED STATES PATENT OFFICE.

CHARLES F. MARTIN, OF EVANSVILLE, INDIANA.

VETERINARY SURGICAL INSTRUMENT.

No. 854,956. Specification of Letters Patent. Patented May 28, 1907.

Application filed November 16, 1906. Serial No. 343,779.

To all whom it may concern:

Be it known that I, CHARLES F. MARTIN, a citizen of the United States, residing at Evansville, county of Vanderburg, and State of Indiana, have invented certain new and useful Improvements in Veterinary Surgical Instruments, of which the following is a specification.

My invention relates to veterinary surgical instruments, and more particularly, to means for cauterizing and counterirritating diseased parts of animals.

As at present practiced, the best remedy for splints spavins, ring-bones, curbs, bowed tendons, etc. in horses and mules is to cauterize, but this treatment as now practiced, is very clumsy and causes the animal great pain.

The present invention is designed to supplant the present clumsy and painful method of treatment of the above-indicated, and other similar, diseases and to this end it aims to provide means whereby the diseased part may be counter-irritated and cauterized at the same time.

In carrying out the invention, I provide a rotary puncturing or drilling device for boring into the diseased part and counter-irritating it, together with means for cauterizing while such counter-irritating operation is being carried on.

While I am aware that modifications of my present invention may be restored to without departing from the general spirit and scope thereof, the most perfect embodiment of the invention which I have at this time devised, embraces a rotary puncturing or drilling implement which may be coupled to any rotary shaft and is preferably driven at from fifteen hundred to two thousand revolutions per minute, together with friction means pressing on the drilling part of said implement so that the friction in engendering heat, will thus convert the drilling or puncturing device into a cauterizing device; means are also provided for affording a yielding abutment as the puncturing or drilling point enters the diseased bone or tissue and, as at present arranged, this idea is carried out by making the friction means aforesaid yieldable and so forming them that they constitute an abutment.

The invention is fully set forth hereinafter and recited in the appended claims.

In the accompanying drawings: Figures 1 and 2 are side elevations, taken at right angles to each other, of the device; Figs. 3 and 4, longitudinal sectional views, taken at right angles to each other; and Fig. 5, an end view.

There is a tubular shell or casing 1, which has an abutment 2 therein and is provided with longitudinally extending slots 3 on opposite sides thereof. Slidable in the shell is an abutment and carrier 4, and between this abutment and the abutment 3, is a coil spring 5. Limiting screws 6, which play in the slots 3, are carried by the abutment and carrier 4 and limit the outward movement thereof as caused by the spring 5. The abutment and carrier 4 has notches on opposite sides thereof in which are secured the ends of leaf springs 7 and 8, which carry on their outer free ends, abutment and friction blocks 9 having concavities 10. The tendency of the springs 7 and 8 is to move toward each other, and as they are relatively strong, they are self-actuated toward each other with considerable pressure.

The combined drilling and puncturing cauterizing device consists of two parts, the shaft or spindle 11 having the enlarged part or collar 12 to bear against the abutment 2, and the detachable puncturing or drilling point 13, which is connected to the spindle by a screw-joint 14, permitting the employment of different forms of drilling or puncturing implements, according to circumstances. I find, however, that the form of implement with diamond point is quite satisfactory for practically all purposes. The drill point has a reduced part 15, which is embraced by the friction and abutment blocks 9, the tension of the springs 7 and 8 causing these blocks to bear on the said reduced part of the drill point with considerable frictional pressure. The collar 12 turns with the drill spindle in the casing 1 and forms one bearing for said drill spindle, and the other bearing for the drill spindle is the combined abutment and carrier 4. A sleeve 16 with shoulder 17 embraces the drill spindle, and a knurled ring 18, which is screw-threaded onto the end of the casing 1, engages said collar and holds the collar 12 against the part 2 so that the drill spindle and drill point cannot move longitudinally.

In using the instrument, the drill spindle is coupled to a flexible shaft and the device held in the hand of the veterinary surgeon or operator who is treating the animal. The shaft and spindle having been brought to a revolution of practically fifteen hundred to two thousand revolutions per minute, the

drill point 13 is entered in the diseased part and the instrument pressed to its work, which causes a hole to be drilled and counter-irritation set up in the diseased bone or tissue, the friction blocks 9 meanwhile bearing on the drill point, and the consequent friction engendered causes the drill point to become so heated that it cauterizes the parts while boring them. As the drill point enters deeper into the diseased part, the combined abutment and friction blocks 9 are pressed back, the abutment 4 and spring 5 yielding for that purpose, this action being automatic and insuring the drilling point being more and more exposed as the operation progresses.

The treatment of diseased parts, as heretofore indicated, can be very rapidly, easily and humanely carried on with the present instrument.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent, is:—

1. In a veterinary surgical instrument, the combination with a movable puncturing device, of self-contained friction means for heating said puncturing device.

2. In a veterinary surgical instrument, the combination with a rotary drilling or puncturing device, of means for heating said drilling or puncturing device during its rotation.

3. In a veterinary surgical instrument, the combination with a rotary drilling or puncturing device, of self contained means for heating said drilling or puncturing device during its rotation.

4. In a veterinary surgical instrument, the combination with a rotary drilling or puncturing device, of friction means for heating said drilling or puncturing device during its rotation.

5. In a veterinary surgical instrument, the combination with a rotary drilling or puncturing device, of a spring-actuated friction member bearing on said drilling or puncturing device while in rotation to cause heating thereof.

6. In a veterinary surgical instrument, the combination with a rotary drilling or puncturing device, of a friction member bearing on said drilling or puncturing device, and a leaf spring pressing the said friction member against the drilling or puncturing device.

7. In a veterinary surgical instrument, the combination with a rotary drilling or puncturing device, of a yieldable abutment located adjacent to said drilling or puncturing device and adapted to yield or move as the drilling or puncturing device is pressed into the diseased part being treated.

8. In a veterinary surgical instrument, the combination with a rotary drilling or puncturing device, of a spring-actuated carrier, and means carried thereby having an abutment located adjacent the drilling or puncturing device and adapted to yield as the drilling or puncturing device is pressed into the diseased part.

9. In a veterinary surgical instrument, the combination with a rotary drilling or puncturing device, of a spring-actuated carrier, a leaf-spring secured thereto and movable therewith, and a friction member carried by the leaf-spring and bearing on the drilling or puncturing device and constituting a combined friction means and abutment to yield as the drilling point is pressed into the diseased part being treated.

10. In a veterinary surgical instrument, the combination with a rotary drilling or puncturing member, of a slidable abutment and carrier through which the drilling or puncturing device loosely passes, a spring urging said combined abutment and carrier, means for limiting the movement of the abutment and carrier, leaf-springs secured to the abutment and carrier, and friction blocks bearing against the drilling or puncturing member near the tip thereof and constituting a combined friction device and abutment.

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

CHARLES F. MARTIN.

Witnesses:

F. C. Gore,

William B. Le Masters.