

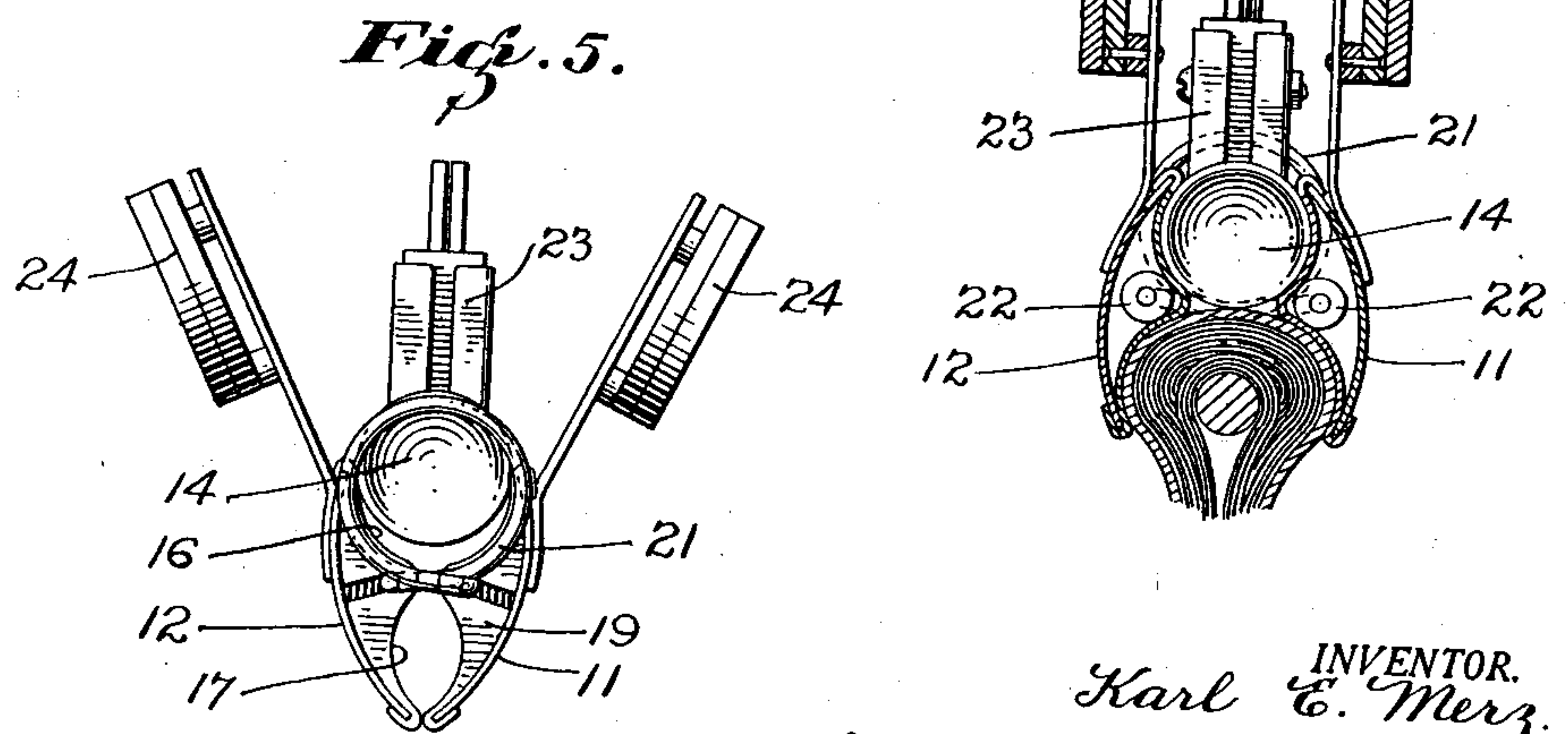
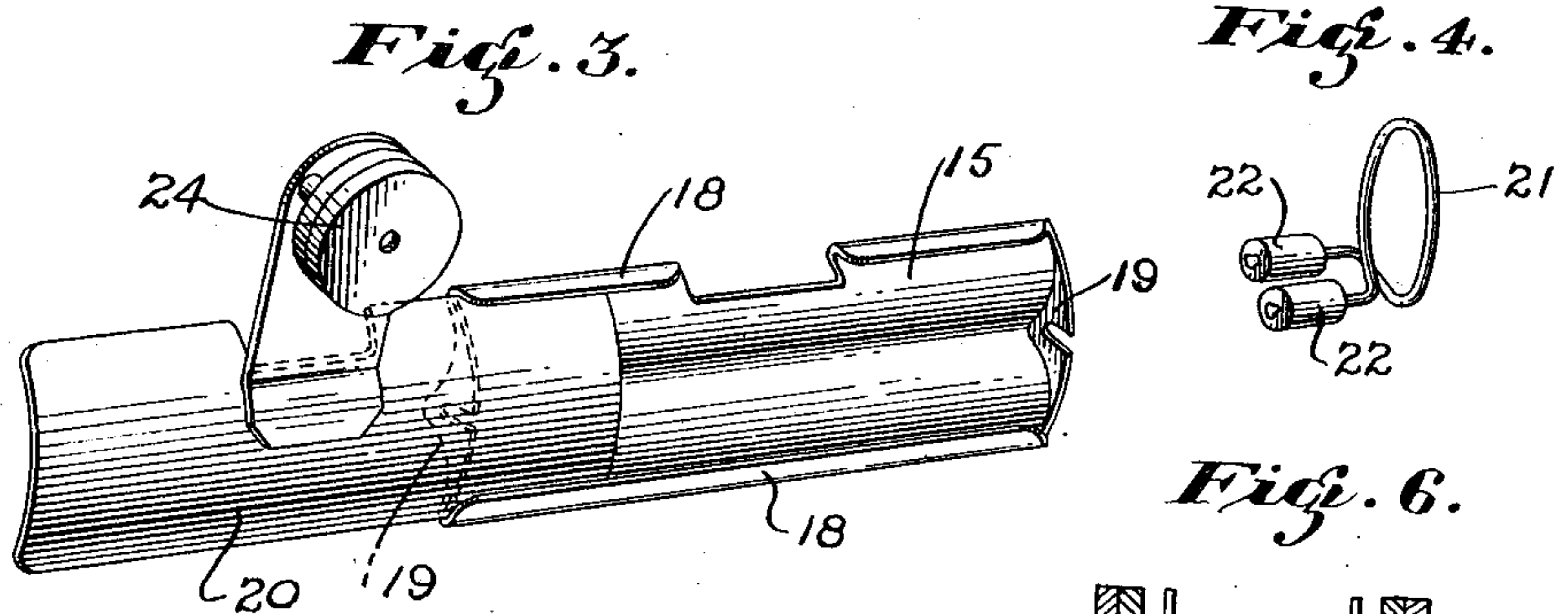
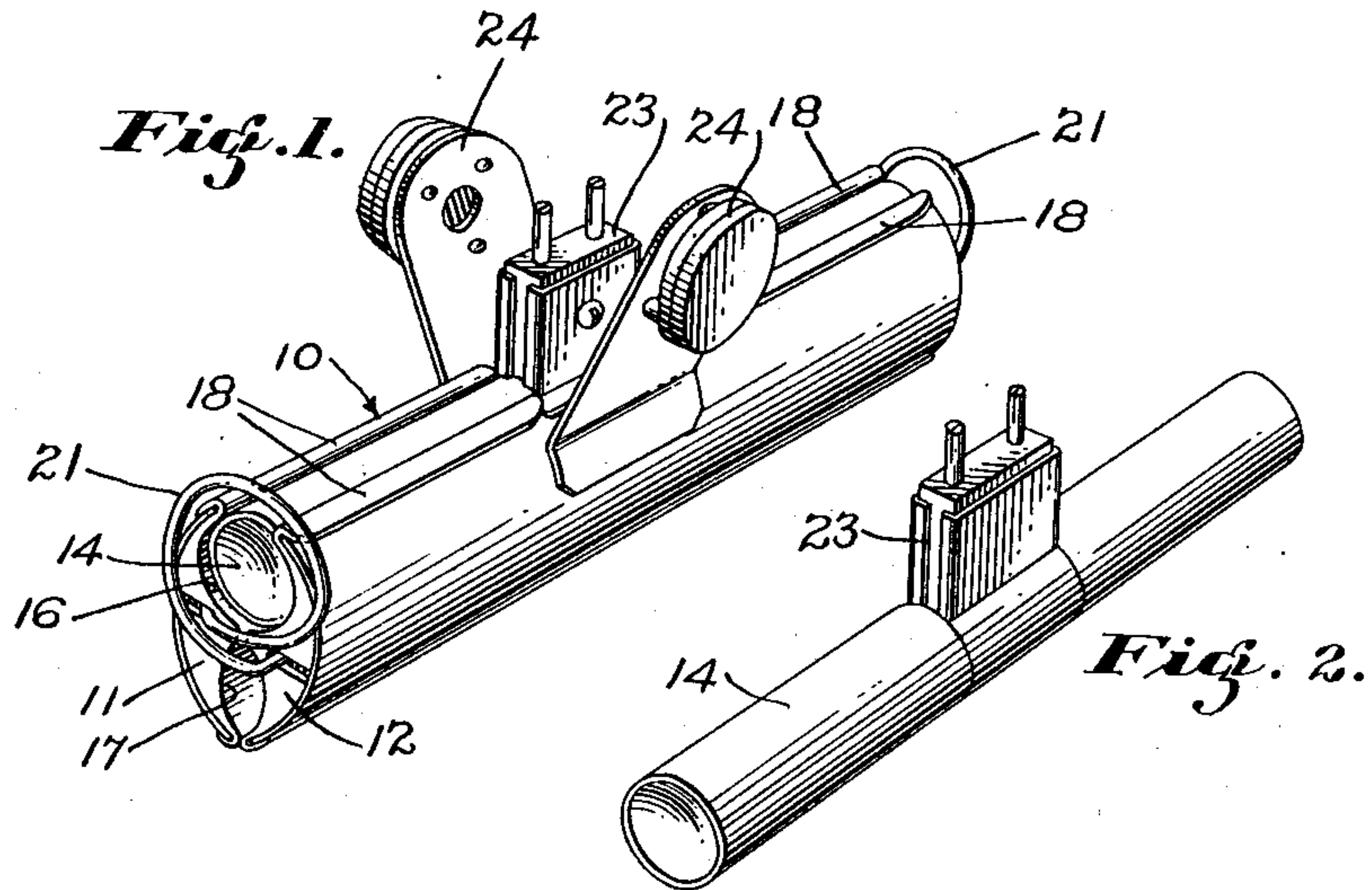
Sept. 4, 1928.

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1,683,088

PERMANENT WAVE HEATER

Filed Oct. 18, 1927



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Patented Sept. 4, 1928.

1,683,088

UNITED STATES PATENT OFFICE.

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PERMANENT-WAVE HEATER.

Application filed October 18, 1927. Serial No. 226,842.

This invention relates to equipment employed by hair-dressers and particularly pertains to what is commonly known as a heater which is utilized when permanently waving hair.

It is the principal object of the present invention to generally improve the construction and operation of devices of the character referred to whereby to provide a hair waving heater capable of distributing heat to a maximum area of a wound strand of hair embraced thereby, such heater being constructed to minimize the heat losses by radiation and to prevent uncomfortable heat transmission to the scalp.

In carrying out the invention into practice I provide a pair of heater members connected by spring clips in such a manner as to permit the heater members to be spread apart against the action of the spring clips so that they may be engaged with a wound strand of hair to embrace the same. The heater members also embrace a heating element from which they derive heat to heat the hair embraced thereby.

One form which the invention may assume is exemplified in the following description and illustrated by way of example in the accompanying drawings, in which:

Fig. 1 is a perspective view of a hair heater embodying the preferred form of my invention.

Fig. 2 is a perspective view of the heating element employed in connection with the present heater.

Fig. 3 is a perspective view of one of the heater members with the parts thereof partially disassembled to disclose the manner of constructing and assembling the heater members.

Fig. 4 is a perspective view of one of the spring clips utilized to yieldably connect the heater members.

Fig. 5 is an end view of the heater showing the manner in which the heating element may be removed therefrom without disassembling the heater.

Fig. 6 is a central transverse section through the heater disclosing its construction.

Referring more particularly to the accompanying drawings, 10 indicates a hair waving heater comprising a pair of heater members 11 and 12, and a heating element 14. The heater members 11 and 12 are adapted to be heated by the heating element 14 and to transfer this heat to a strand of wound hair

gripped by the heater members. The heater members 11 and 12 are exactly the same in construction except that they are right and left and are each formed of an inner plate 15 of metal having high heat conducting qualities. This plate 15 is formed with two longitudinal semi-circular recesses 16 and 17. The recesses of the two heater members are complementary so that when these members are arranged together, an upper socket will be formed to receive the heating element 14 and a lower socket will be formed to receive a wound strand of hair as shown in Fig. 6 of the drawings.

The inner plate 15 of each heater member 12 is formed with guide lips 18 along its longitudinal edges and with end walls 19. An outer plate 20 is provided for each heater member and is capable of being assembled on the inner plate 15 with its edges engaged with the guides 18. The outer plate 20 is of the same length as the inner plate and is arcuate in cross section so as to form an air chamber between it and the inner plate. This air chamber acts as insulation to reduce the heat transmission from the inner plate to the outer plate to a minimum. The end walls 19 of the inner plate are formed with a curved outer edge so as to snugly abut against the inner circumference of the outer plate 20 when the latter is assembled on the inner plate.

The friction between the guides 18 and the edges of the outer plate 20 is sufficient to hold the two plates assembled together. The manner of assembling these two plates is shown in Fig. 3 where it will be seen that one end of the outer plate 20 is engaged with the guides 18. The plate 20 is just moved along the plate 15 until it is properly aligned therewith, and the two plates are frictionally secured together.

The two heater elements 11 and 12 are connected together in such a manner that the lower recess or hair gripping recess may be enlarged to receive a strand of wound hair and so that the heater elements will tightly grip the hair under the influence of spring pressure. To accomplish this, the end walls 19 of the inner plates of each heater member are formed with slots which are engaged by spring clips 21 provided for each end of the heater. These spring clips comprise a single coil of spring wire, the ends of which cross and are bent coaxially of the coil. These ends are fitted with enlarged insulating but-

tons 22 made of porcelain or other suitable material.

In assembling the heater members, the ends of the spring clips are arranged in the slots in the end walls 19 with the outer ends of the buttons engaging the wall 19. The outer plates 20 are then assembled into place on the inner plates 15 and when in place securely latch the spring clips in position. It will be noticed that by this arrangement the coiled portions of the spring clips 21 lie flat against the ends of the heaters coaxially of the upper recess or socket therein. These spring clips tend to maintain the lower socket contracted so that when the lower socket is enlarged to receive a strand of wound hair, the spring clips 21 will cause the heater members to tightly embrace the wound strand of hair.

The heating element 14 is for the purpose of heating the inner walls 15 of the heater members 11 and 12. This heating element 14 is cylindrical and is of a length substantially the same as that of the heater members. The heating element is adapted to be heated by electrical current and for this reason it is fitted with a connector plug 23. The heating element comprises ordinary type of heating coils covered by insulation and encased within a metallic casing. This heating element can be of any preferred design and therefore details of its construction are not illustrated. This heating element 14 is removably mounted in the upper socket between the heater members. That is, it can be removed as shown in Fig. 5 by merely withdrawing it from between the heater members 11 and 12 against the action of the spring clips 21. It will be obvious from Fig. 6 that the cylindrical body portion of the heating element 14 acts as the pivot about which the heater members 11 and 12 swing. To actuate the heater members 11 and 12 to spread them apart, they are provided with gripping handles 24.

In operation of the device a strand of hair is properly wound about a mandrel and the lower portions of the heater members 11 and 12 are spread apart to receive the wound strand of hair. The handles 24 are then released and the spring clips 21 act to force the lower portions of the heater members 11 and 12 tightly into contact with the wound strand of hair. The roll of hair will be snugly nested within the lower socket formed by the lower portions of the heater members 11 and 12. Current distributed to the heating element 14 will heat the latter and this heat will be transmitted to the inner walls 15 of the heater members 11 and 12, and will heat these walls to the proper temperature. As the inner surfaces of these walls are in contact with the hair, the latter will be properly heated. There will be a minimum of loss of heat by radiation due to the fact that the outer walls or plates 20 of the heater mem-

bers 11 and 12 are formed of metal or material having low heat conducting qualities. Likewise, there is an insulating air chamber between the inner plates 15 and the outer plates 20 which will act somewhat to reduce the loss of heat by radiation.

One of the features of the present device is the fact that but a minimum amount of heat will be lost by radiation.

Another is the formation of the lower socket which permits the major portion of the wound strand of hair to be intimately embraced by a heat radiating surface.

Another feature of the device is that, due to the cool exterior of the heater and the formation of the heater members 11 and 12 which does not expose a heating surface closely adjacent to the head being operated upon, a person whose hair is being waved will not be made uncomfortable by the presence of the heaters.

Another feature of the present device is the simplicity of its construction. This simplicity permits it to be readily taken apart for replacements and repairs. For example, the heating element 14 may be quickly removed and replaced should it become out of order without disassembling the entire device.

While I have shown the preferred form of my invention, it is to be understood that various changes may be made in its construction by those skilled in the art without departing from the spirit of the invention, as defined in the appended claims.

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

1. A heater of the character described comprising a pair of heater members yieldably held together by spring means, a heating element embraced by said heater members and about which they may pivot, said heating element being adapted to heat the inner surfaces of said heater members, said inner surfaces being recessed to receive a wound strand of hair.

2. A heater of the character described comprising a pair of heater members, spring means connecting said heater members together, a cylindrical heating elements arranged between the heater members and about which the latter may pivot, the inner surfaces of said heater members being formed with complementary recesses forming a hair receiving socket.

3. A heater of the character described comprising a pair of heater members, each of said heater members comprising inner and outer plates frictionally connected at their edges, said plates being separated between their edges to form an insulating air chamber between the plates, the inner plates of said heater members being recessed to form an upper and a lower socket, a heating element disposed in the upper socket, and means

yieldably connecting said heater members whereby they may pivot about the heating element.

4. A heater of the character described comprising a pair of heater members each formed of registering inner and outer plates, guide means along the edge of one of said plates engaged by the edges of the other plate to frictionally but detachably connect the plates together, means yieldably connecting the heater members together, a heating element embraced by the heater members to heat the inner surfaces thereof, and a hair receiving socket formed between the heater members.

5. A heater of the character described comprising a pair of heater members, each formed of registering inner and outer plates, guide means along the edges of one of said plates engaged by the edges of the other plate to frictionally but detachably connect the plates together, the outer plate being arcuate in cross section to form an insulating air chamber between the plates, the inner plates of said heater members being formed with longitudinal recesses, the recesses of the heater members registering when the heater members are connected together to form an upper socket and a lower hair receiving socket, said recesses being arranged longitudinally of the heater members, a cylindrical heating element arranged in the upper socket, means yieldably connecting the heater members whereby they may be pivoted about the heating element to expand the hair receiving socket, said heating element being capable of removal by spreading the heater members apart against the action of the heating means.

6. A heater of the character described comprising a pair of heater members, spring means connecting the heater members together, the inner surfaces of said heater members being formed with longitudinally arranged complementary recesses forming a hair receiving socket and a heating element receiving socket, a heating element disposed in the latter socket and capable of removal by spreading the heater members apart against the action of the spring means.

7. A heater of the character described comprising a pair of complementary heater members, spring means connecting said heater members together, the inner surfaces of said heater members being formed with longitudinally arranged complementary recesses forming a hair receiving socket and a heating element receiving socket, a cylindrical

heating element arranged in the latter socket and capable of removal by spreading the heater members apart against the action of the spring means, said heater members being adapted to pivot about the heating element to expand and contract the hair receiving socket, said hair receiving socket normally held contracted by said spring means.

8. A heater of the character described comprising a pair of complementary heater members, the inner surface of each heater member being formed with two substantially semi-circular recesses extending longitudinally of the heater member from end to end, the recesses of the heater members registering whereby to form a hair receiving socket and a heating element receiving socket, a cylindrical heating element embraced by the latter socket and about which the heater members may pivot to expand and contract the hair receiving socket, spring means yieldably connecting the heater members together and tending to maintain the hair receiving socket contracted.

9. A heater of the character described comprising a pair of complementary heater members, each heater member being formed of registering inner and outer plates, guide means along the edges of one plate engaged by the edges of the other plate to frictionally but detachably connect the plates together, the outer plate being arcuate in cross section whereby an air chamber will be formed between the plates, gripping members extending from said heater members, the inner plate of each heater member being formed with two semi-circular recesses extending from end to end, said recesses being contiguous to the longitudinal edges of the heater members, the recesses of the heater members registering when the heater members are connected to form a hair receiving socket and a heating element receiving socket, a cylindrical heating element embraced by the latter socket, spring clips connecting the two heater members together intermediate the sockets whereby to normally maintain the hair receiving socket contracted and to maintain the heating element in place in its socket, the heating element being removable by spreading the heater members apart against the action of the spring clips, said heating element serving as a pivot about which the heater members may be swung to expand the hair receiving socket.

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