

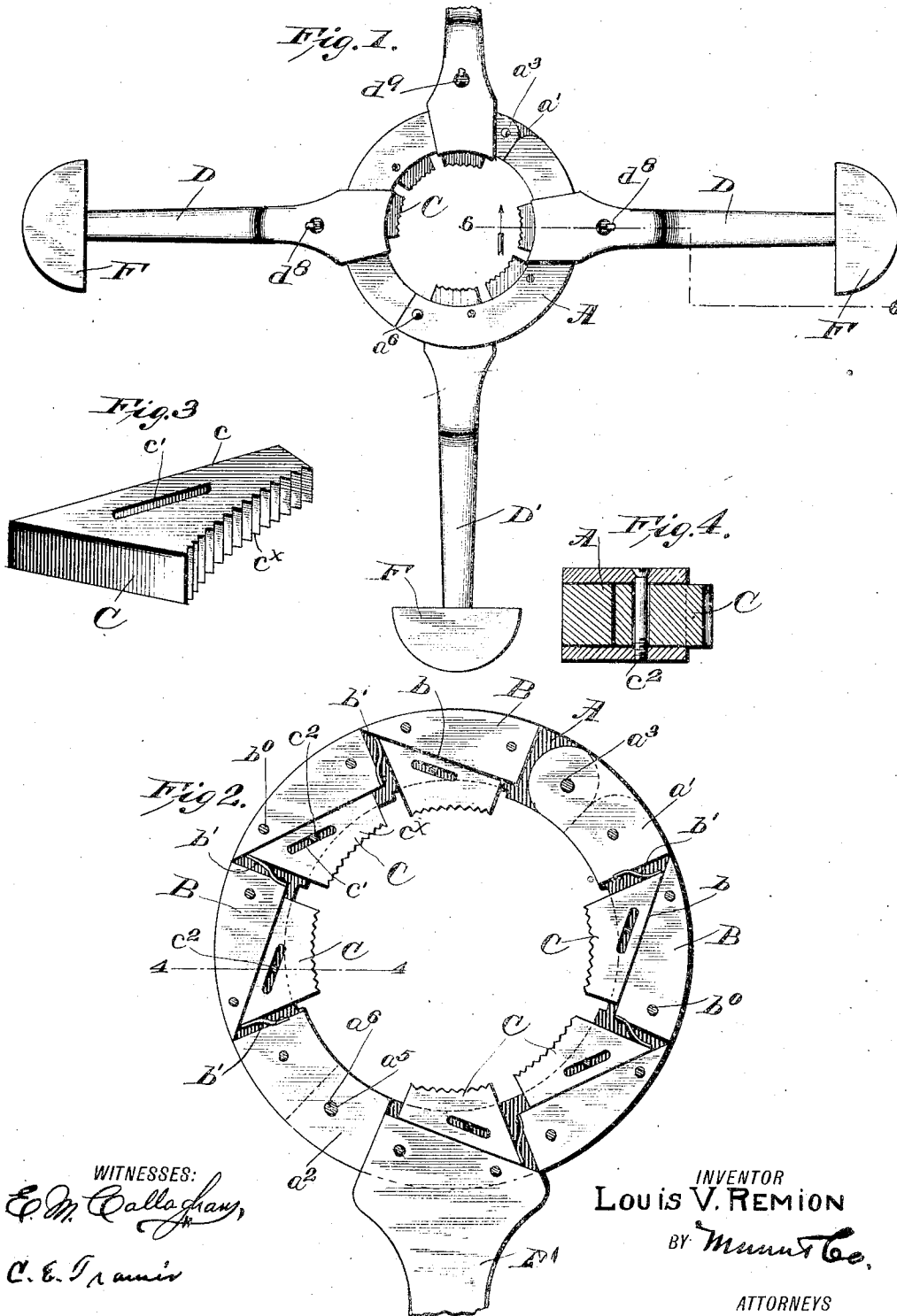
No. 810,304.

PATENTED JAN. 16, 1906.

L. V. REMION.
PIPE WRENCH.

APPLICATION FILED JULY 29, 1905.

2 SHEETS—SHEET 1.



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2 SHEETS—SHEET 2.

Fig. 5.

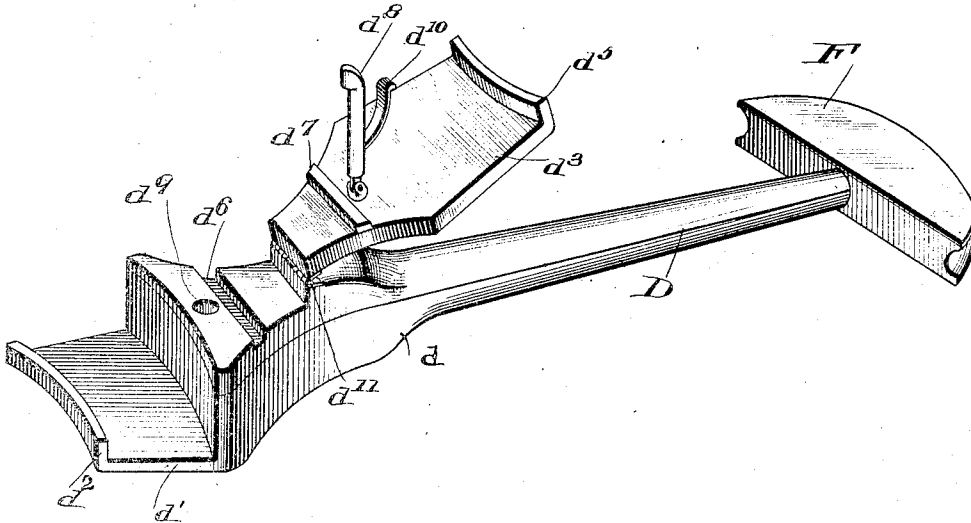


Fig. 6.

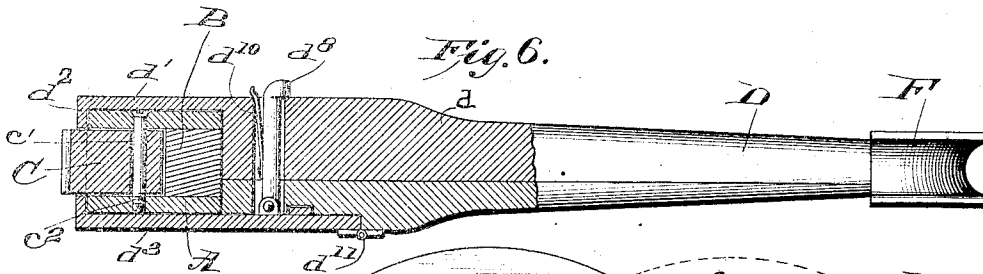
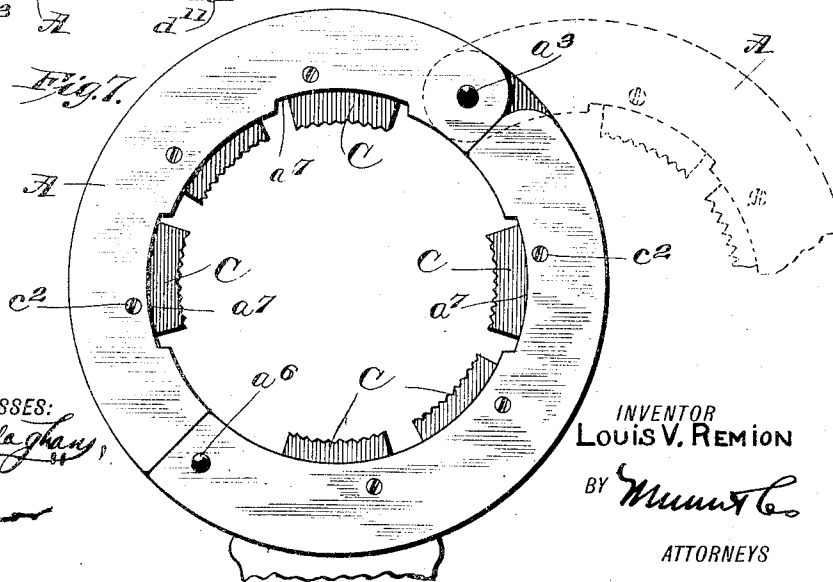


Fig. 7.



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UNITED STATES PATENT OFFICE.

LOUIS VICTOR REMION, OF SAN BERNARDINO, CALIFORNIA.

PIPE-WRENCH.

No. 810,304.

Specification of Letters Patent.

Patented Jan. 16, 1906.

Application filed July 29, 1905. Serial No. 271,758.

To all whom it may concern:

Be it known that I, LOUIS VICTOR REMION, a citizen of the United States, and a resident of San Bernardino, in the county of San Bernardino and State of California, have invented certain new and useful Improvements in Pipe-Wrenches, of which the following is a specification.

My invention is an improvement in pipe-wrenches; and it consists in certain novel constructions and combinations of parts herein-after described and claimed.

Referring to the drawings forming a part hereof, Figure 1 is a plan view of my improved wrench. Fig. 2 is an enlarged plan view with the upper ring removed. Fig. 3 is a perspective view of one of the gripping-jaws. Fig. 4 is a section on the line 4 4 of Fig. 2. Fig. 5 is a detail perspective of one of the handles. Fig. 6 is a vertical longitudinal section through the inner end of the same; and Fig. 7 is a plan view of the frame, showing the manner of opening the same.

In the practical application of my invention I provide a circular frame, having centrally thereof a circular opening and comprising in the present instance upper and lower ring-shaped plates A A, spaced apart and divided diametrically to form symmetrical halves, a curved lug a' being secured between the plates of one half and pivoted between the plates of the opposite half by means of a pin a^3 , thus forming a hinge-joint between the halves. A second curved lug a^2 is secured between the plates at the free end of the first half and projects between the plates of the second half, aligned perforations a^5 being provided in the free end of the lug and in the ends of the plates for the reception of a pin a^6 for securing the free ends of the halves together.

Steel spacing-blocks B are provided between the rings, the inner edge of the blocks being inclined in the same direction, as at b , on a line approximately tangent to the inner circumference of the rings, the line of the incline being a chord of the ring and contained entirely within the area thereof. A spring b' is secured to the end of the spacing-blocks, and bolts b^6 , extending through the rings and the spacing-blocks, secure the parts in their proper position.

Gripping-jaws C, provided with a gripping-face c^x and with an inclined surface b , cooperating with the inclined surface b , are arranged between the rings and slidably se-

cured thereto by means of an inclined slot c' in the gripping-jaws, engaged by a screw c^2 , extending between the plates. The inclined slot c' is parallel with the inclined edge of the gripping-jaws, and the jaw is normally retained in its inward position by the spring b' . By means of the inclined slot and the inclined edge of the spacing-blocks the gripping-jaws are constrained to move upon a chord of the ring, the said chord being approximately tangent to the inner circumference of the ring.

Handles D, quadrantly arranged upon the frame, are provided for manipulating the same, one of the handles D' being integral with one of the spacing-blocks, the remaining handles being removable from the ring. The movable handles D comprise a bar d , having integral therewith a plate d' , projecting beyond the inner end of the bar and provided with an upwardly-projecting flange d^2 on its free end, the opposite face of the bar being recessed to receive a second flanged plate d^3 , having a downwardly-projecting flange d^5 , secured to the bar by means of the hinges d^{11} , the flanges of the plates being adapted to engage the recesses a^7 on the ring. A transverse recess d^6 is provided in the bar for the reception of a transverse lug d^7 on the lower face of the hinged plate. A latch d^8 is hinged to the lower face of the hinged plate and traverses an opening d^9 through the bar, a spring d^{10} being provided on the latch for actuating the same. Grooved wheel-sections F are secured to the free ends of the arms, the said sections being adapted to receive a belt when it is desired to manipulate the wrench from a source of power.

The wrench is designed especially for use in oil-fields, as in the putting down of pipelines, and is arranged for large-sized pipe. It can, however, be changed for use on small pipe by removing the gripping-jaws and inserting larger jaws in the place thereof, thus decreasing the circular opening between the faces of the jaws. In order that this may be easily accomplished, the jaws are retained in place by screws traversing the rings and the slot in the jaws.

It will be evident from the description that my invention while simple in construction is yet efficient in operation and can be cheaply constructed, no complicated mechanism forming part of the wrench. The handles are easily detached. Hence the wrench may be used in a limited space, and when the pipe

are properly seated and started power may be used to turn the wrench by means of a belt engaging the wheel-sections.

The wheel-sections on the handle are made removable, being used only when power is used to turn the wrench. In ordinary use but two of the arms would be used, although it is evident that all might be used.

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

1. A pipe-wrench comprising upper and lower ring-shaped plates, spaced apart and divided diametrically into symmetrical sections, curved lugs secured between the corresponding ends of the sections, and extending between the plates of opposing sections, pins traversing the plates and the lugs for securing the sections together, a series of spacing-blocks secured between the plates of the sections, and provided with an inclined inner edge, springs secured to the ends of the blocks, gripping-jaws provided with inclined edges resting on the inclined edges of the blocks, and provided with transverse slots parallel to their inclined edges, screws traversing the plates of the rings and the slots, handles quadrantly arranged on the ring and comprising each a bar provided with a flanged plate, an oppositely-disposed flanged plate hinged to the bar and coacting with the first flanged plate to form a recess for receiving the rings, a lug on the second plate engaging the groove in the bar, a latch hinged to the second plate and traversing an opening in the bar, a spring on the latch, and grooved wheel-sections on the free ends of the bars.

2. In a pipe-wrench, the combination of a ring-shaped frame divided diametrically and the sections hinged together at one of their ends, means for connecting the free ends of the sections, a plurality of spring-actuated gripping-jaws slidably mounted in the frame, a plurality of handles radiating from the frame, and means whereby the individual handles may be detached from the frame.

3. In a pipe-wrench, the combination of a ring-shaped frame, comprising two symmetrical sections hinged together at one of their ends, means for securing the free ends of the sections together, a plurality of spring-actu-

ated gripping-jaws movably mounted in the frame, and a plurality of detachable handles engaging the frame.

4. In a pipe-wrench the combination of a ring-shaped frame comprising two symmetrical sections hinged together at one of their ends, means for securing the free ends of the halves together, a plurality of spring-actuated gripping-jaws movably mounted in the frame, and means for constraining the movement of the jaws to a chord of the ring.

5. In pipe-wrenches, the combination of a circular frame having a central opening, a plurality of spring-actuated gripping-jaws movably mounted on the frame and projecting into the central opening, and means for restraining the movement of the jaws to a chord of the circular frame.

6. In a pipe-wrench, the combination of a circular frame having a central opening adapted to receive a pipe, a plurality of spring-actuated gripping-jaws movably mounted in the frame and projecting into the central opening, and means for restraining the movement of the operative face of the jaws to a tangent of the pipe.

7. In a pipe-wrench, the combination of a ring-shaped frame comprising two symmetrical sections hinged together at one of their ends, means for securing the free ends of the halves together, and a plurality of spring-actuated gripping-jaws movably mounted in the frame, and projecting beyond the inner circumference of the ring.

8. In a pipe-wrench, the combination of a circular frame having a central opening adapted to receive a pipe, and a plurality of spring-actuated gripping-jaws movably mounted in the frame and projecting into the central opening.

9. In a pipe-wrench, the combination of a circular frame having a central opening, a plurality of gripping-jaws projecting into the central opening, and means on the periphery of the frame for receiving a belt whereby to rotate the same.

LOUIS VICTOR REMION.

Witnesses:

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