

No. 793,729.

PATENTED JULY 4, 1905.

M. MAHLEN.  
WRENCH FOR THRESHING CYLINDERS.

APPLICATION FILED JULY 29, 1904.

FIG. 1.

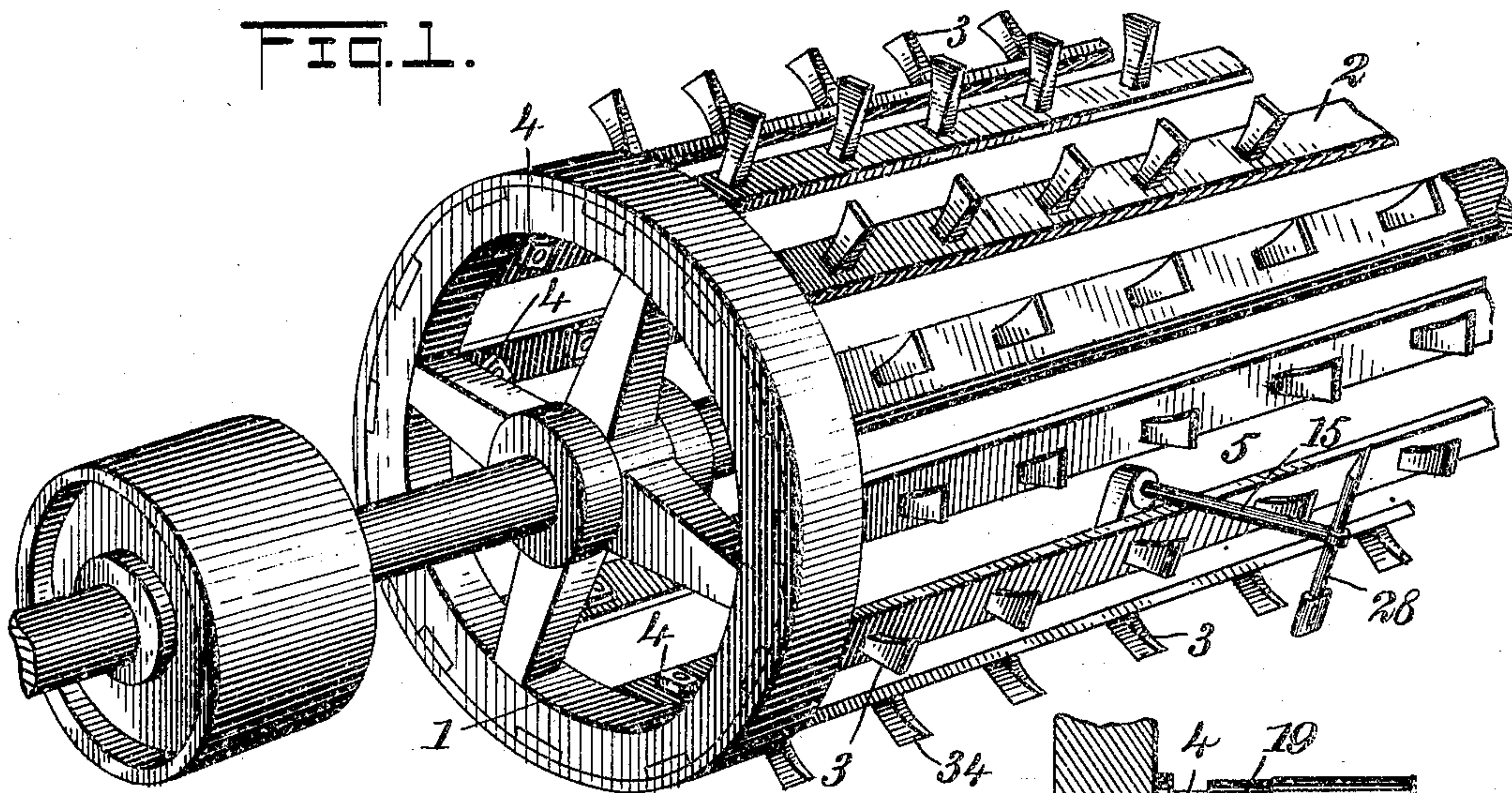


FIG. 2.

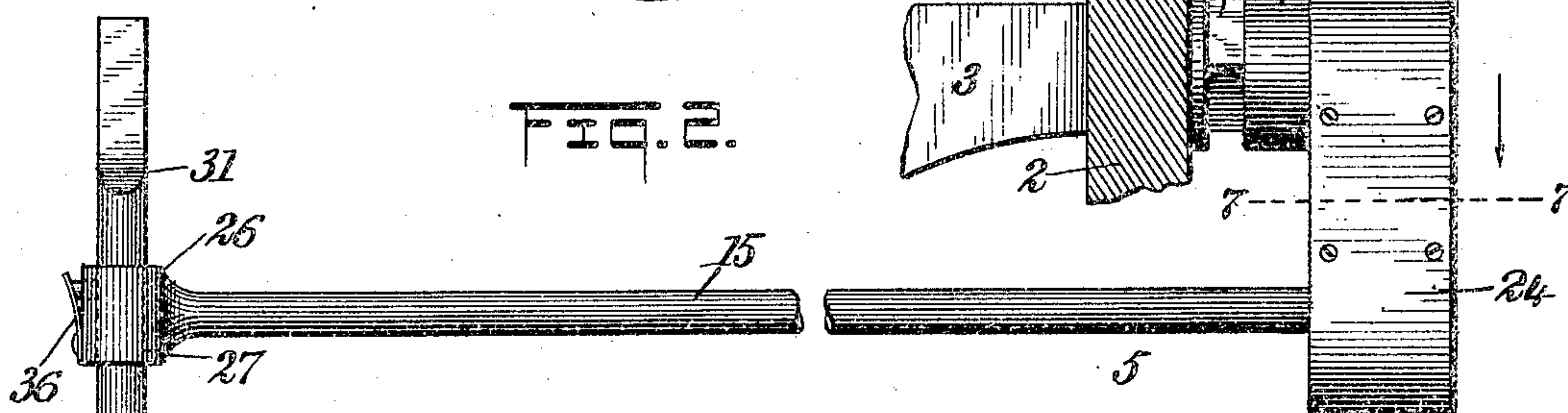


FIG. 3.

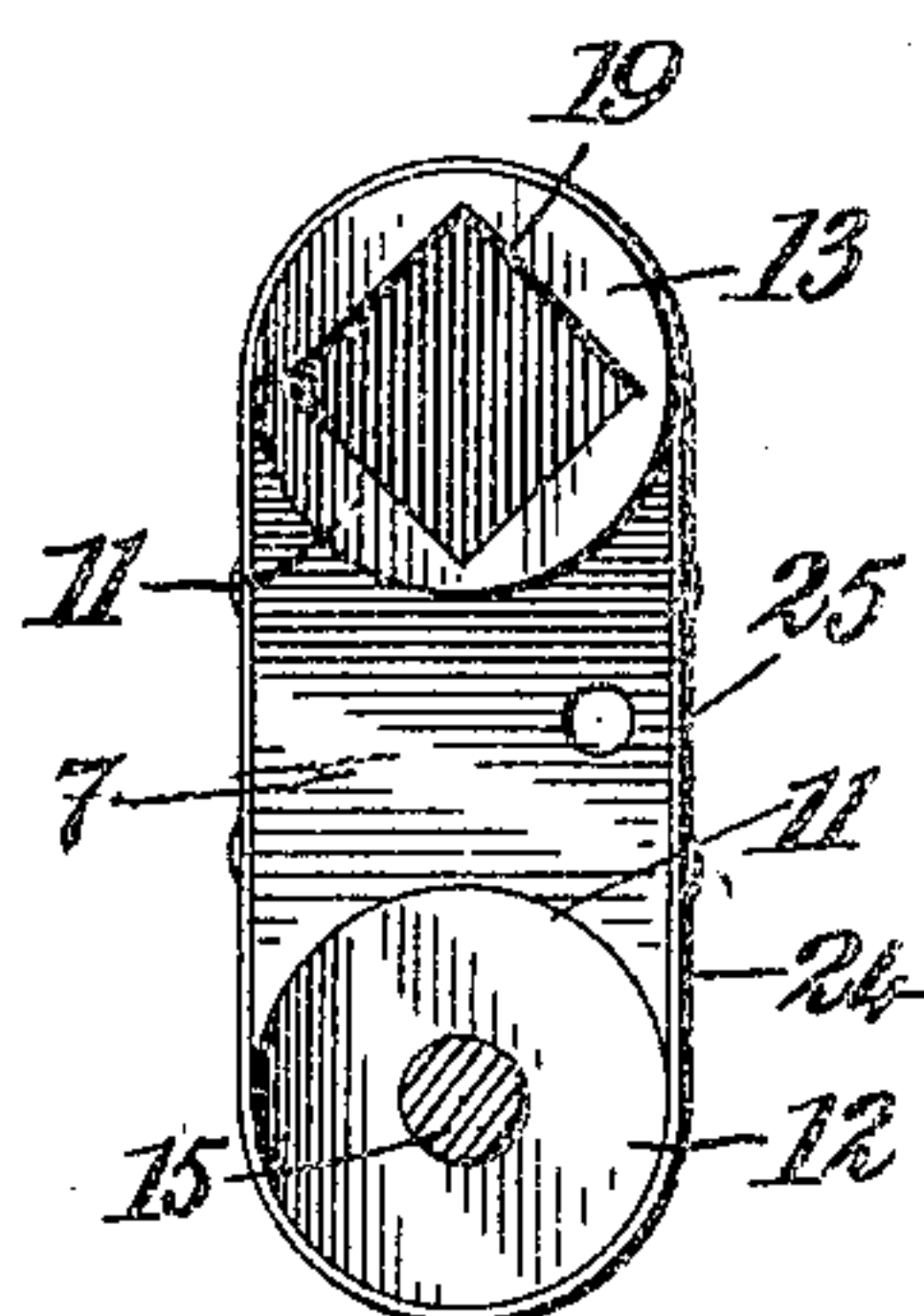


FIG. 4.

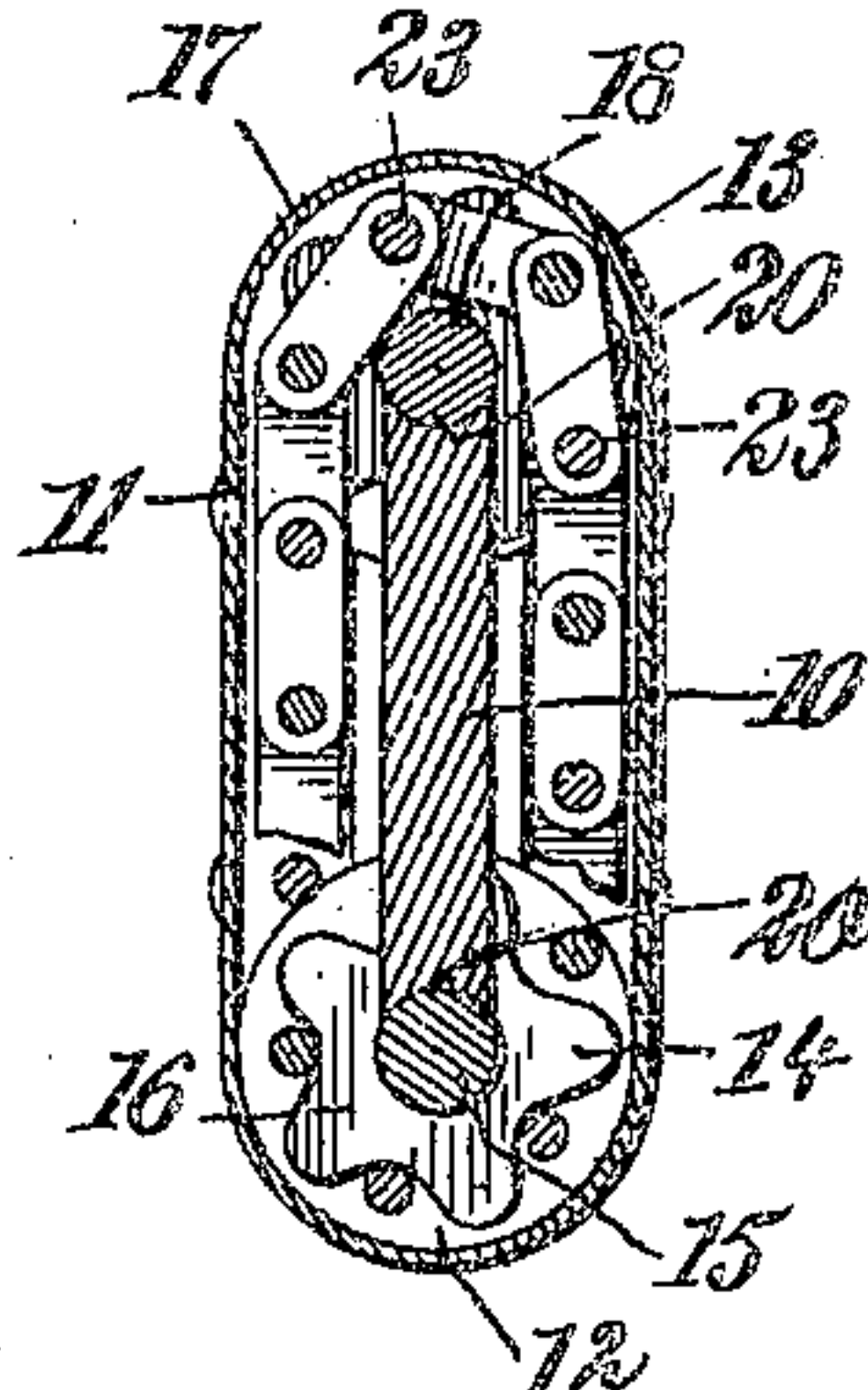


FIG. 5.

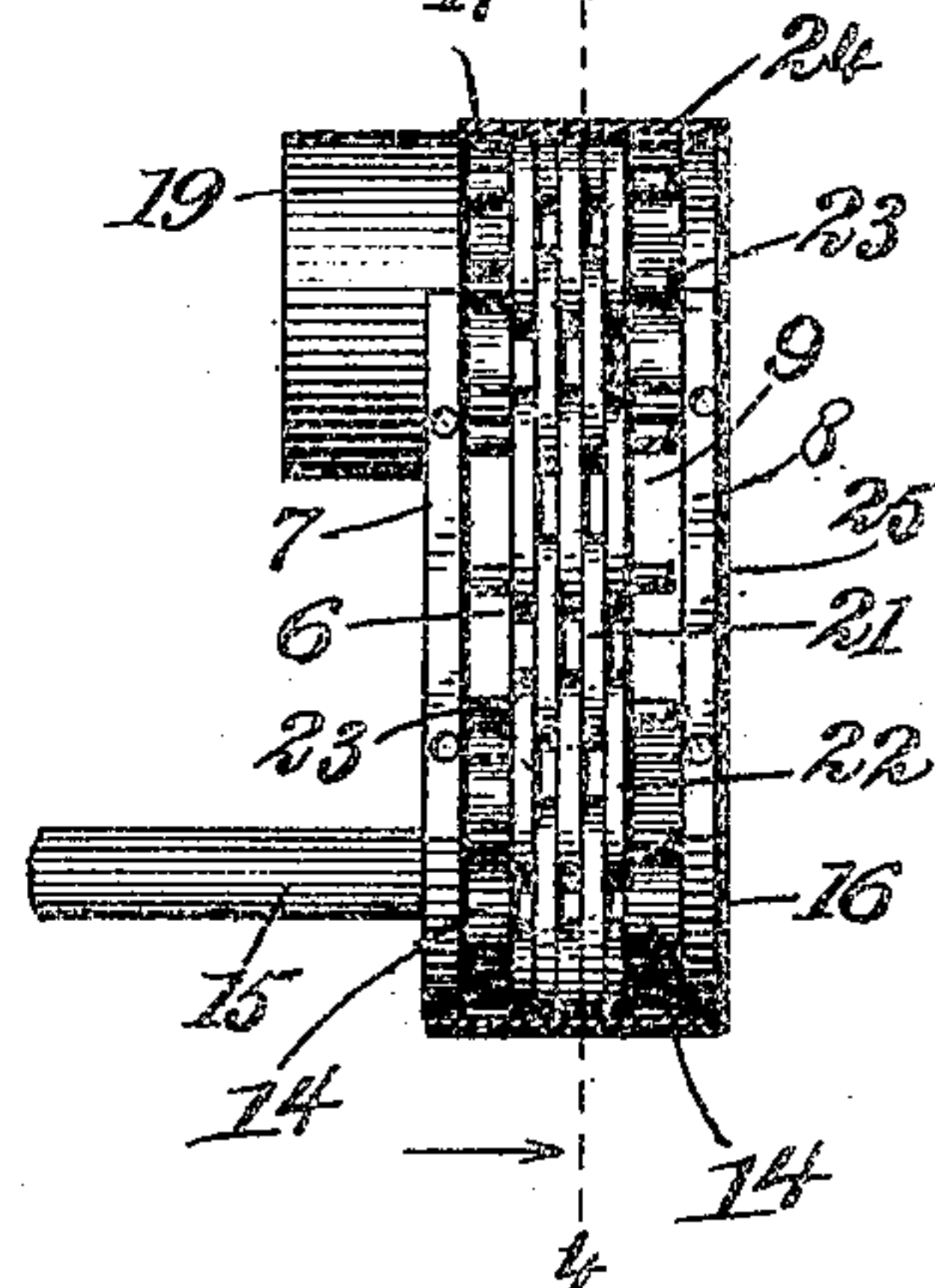


FIG. 6.

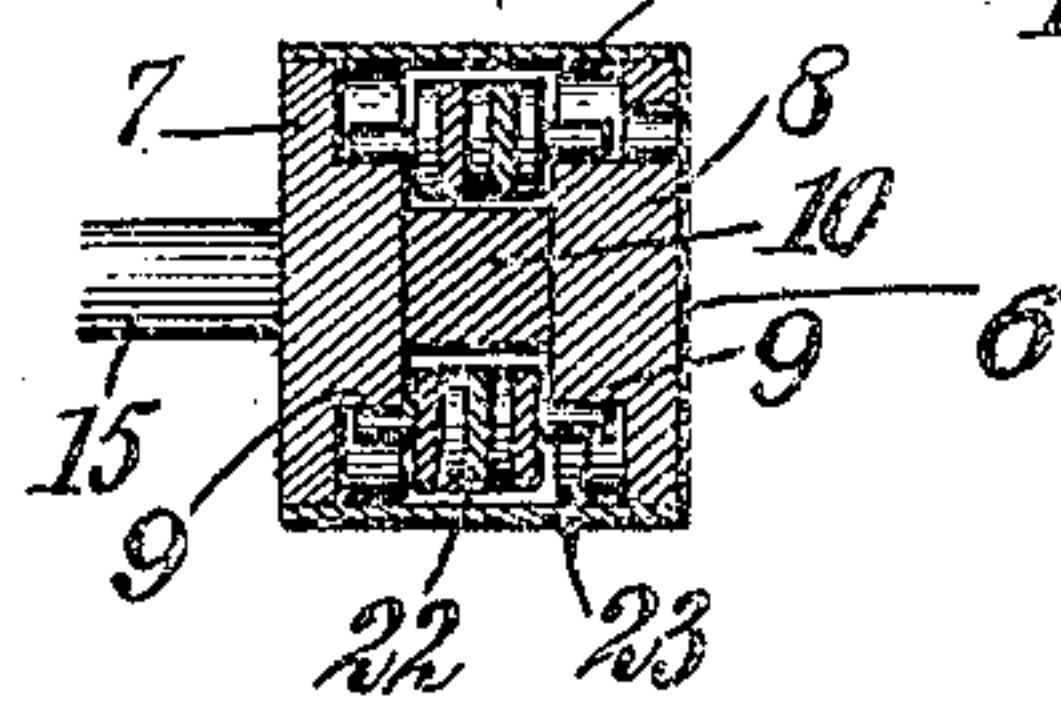
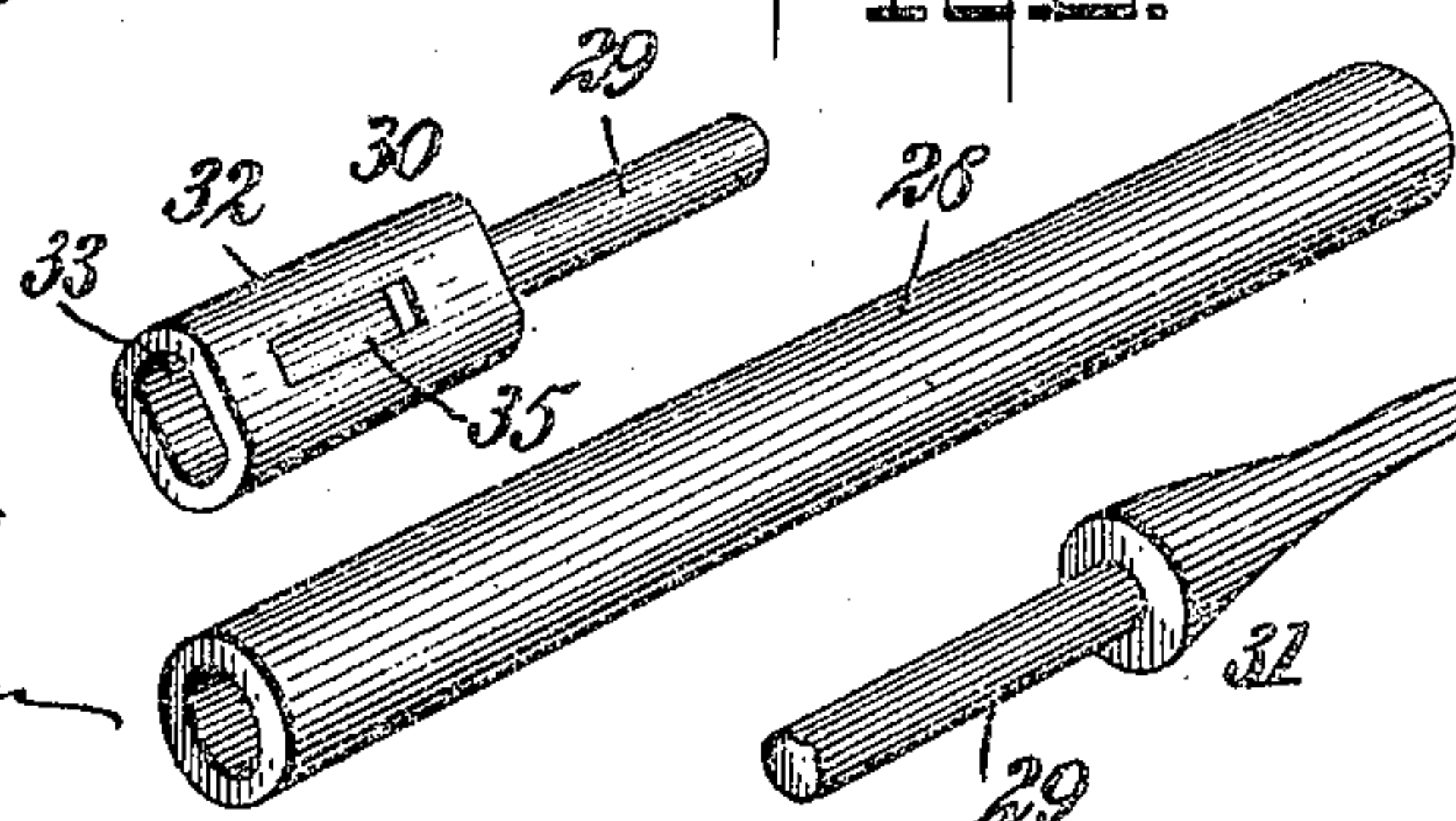


FIG. 7.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

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## WRENCH FOR THRESHING-CYLINDERS.

SPECIFICATION forming part of Letters Patent No. 793,729, dated July 4, 1905.

Application filed July 29, 1904. Serial No. 218,769.

*To all whom it may concern:*

Be it known that I, MARTIN MAHLEN, a citizen of the United States, and a resident of Osakis, in the county of Douglas and State of Minnesota, have invented a new and Improved Wrench for Threshing-Cylinders, of which the following is a full, clear, and exact description.

This invention relates to wrenches used in applying the nuts which retain the teeth of threshing-cylinders upon the bars thereof.

The object of the invention is to produce a wrench of simple construction which is so formed as to enable the same to be applied readily in practice, certain parts of the said wrench having useful functions in connection with the straightening of the teeth of a threshing-cylinder where they have become bent or twisted.

The invention consists in the construction and combination of parts, to be more fully described hereinafter and definitely set forth in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a perspective representing a portion of a threshing-cylinder illustrating how the wrench would be applied. Fig. 2 is a side elevation of the wrench, the spindle whereof is broken away, as will appear. This view shows a portion of a bar and a tooth mounted therein, together with the nut to which the wrench is applied. Fig. 3 is a view representing the inner face of the wrench, the spindle being shown in section. Fig. 4 is a cross-section through the mechanism and casing of the wrench, taken substantially upon a line 4 4 of Fig. 5. Fig. 5 is a section through the casing of the wrench, showing the spindle broken away. Fig. 6 is a perspective of certain parts which constitute a handle or lever for operating the wrench, the same having other functions which will be described more fully. Fig. 7 is a cross-section through the casing and mechanism of the wrench, taken substantially on the line 7 7 of Fig. 2.

Referring more particularly to the parts, 1 represents a threshing-cylinder of common construction, comprising longitudinally-dis-

posed bars 2, to which teeth 3 attach. As indicated more clearly in Fig. 2, each of the teeth 3 is held in position by a nut 4, which seats against the inner face of the bar which carries the tooth.

The wrench 5, which constitutes the present invention, comprises a center or frame 6, which center is formed of oppositely-disposed plates 7 and 8, upon the inner faces whereof longitudinally-disposed shoulders 9 are formed for the purpose which will appear more fully hereinafter. These plates 7 and 8 are maintained apart by means of a central block 10, which is preferably of substantially square section, as shown. The extremities of the plates 7 and 8 are cut inwardly along semi-circular arcs 11 in order to form seats for revolving heads 12 and 13, as illustrated in Fig. 3.

As shown most clearly in Figs. 4 and 5, the head 12 comprises oppositely-disposed spur-wheels 14, which are rigidly attached to a spindle 15, and, as indicated most clearly in Fig. 5, these spur-wheels are formed integrally with disks 16, the outer faces whereof are substantially flush with the outer faces of the plates 7 and 8. The head 13 is very similar to the head 12, comprising a pair of oppositely-disposed spur-wheels 17, which attach rigidly to the same arbor 18; but in constructing this head one of the disks corresponding to one of the disks 16 is replaced by a socket 19, adapted to receive the nut 4, as shown in Fig. 2. In order to provide an additional seat or bearing for the revolving heads 12 and 13, the extremities of the central block 10 are concave, as indicated at 20, and rest against the arbor 18 and the spindle 15, as shown most clearly in Fig. 4. An endless chain 21 is provided for the purpose of driving the socket 19 by means of the spindle 15, said chain being disposed so as to pass around the spindle 15 and the arbor 18, as illustrated. This chain consists of a plurality of links 22, pivoted together, as shown, by means of pins 23, which project laterally beyond the links, so as to lie in the recesses between the spurs of the spur-wheels 14 and 17, as will be readily understood. The rotating heads 12 and 13, together with the chain 21, are enveloped in an oval casing or cover 24, which is attached to



the edges 25 of the side plates 7 and 8 by means of suitable fastening devices, as shown.

The aforesaid spindle 15 terminates in a cross-head 26, in which there is formed a bore 27, receiving a handle or lever 28. This lever preferably consists of a piece of pipe, as indicated most clearly in Fig. 6. The opposite extremities of the handle 28 are open, as shown, and receive shanks 29, formed upon bits 30 and 31. The bit 30 is intended to be used for straightening the teeth 3 when bent or twisted, it being understood that the handle 28 can be readily removed from the cross-head by sliding the same longitudinally therein. It should be understood that in some cases the teeth become bent from a straight line, and in order to straighten the same by means of the bit 30 the said bit is provided with a hollow head 32, provided with an open elongated mouth 33, which is adapted to receive the extended extremities 34 of the teeth, as will be readily understood. After being applied in the manner suggested the handle 28 will be forced in such direction as to straighten the tooth to which the bit 30 has been applied. In some instances it is found that the teeth become twisted, and for the purpose of enabling such teeth to be repaired or readjusted in the wall of the said head 32 an opening 35 is provided, which is adapted to receive one of the extremities 34 of the teeth. When applied in this manner, evidently the handle 28 would project substantially at right angles to the axis of the tooth and afford the usual sufficient leverage for twisting the tooth into its proper shape.

The bit 31 constitutes a pinch-bar when used in connection with its handle 28 for the purpose of rotating the cylinder if the same should become clogged, as sometimes occurs.

The handle 28 is normally held against sliding within the bore 27 by means of a small leaf-spring 36, to the inner face whereof a button is attached, which presses inwardly through an opening in the wall of the head, so as to frictionally engage the side of the handle 28, as indicated most clearly in Fig. 2.

In practice where it is desired to fit the wrench to different conditions several centers 6 would be provided in connection with each wrench, the same being of different lengths. One of the pins 23 of the chain would also be made removable and extra links would be provided, so as to extend or shorten the length of the chain, if necessary.

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

1. A wrench of the class described com-

prising in combination, a center presenting a pair of oppositely-disposed plates having concavely-cut extremities constituting bearings, rotatable heads mounted in said bearings, a socket carried by one of said heads and adapted to be applied to a nut, a spindle for rotating the other of said heads, and a chain passing around said heads to transmit rotation therebetween and lying between said plates, said chain affording means for retaining said heads.

2. In a wrench of the class described, in combination, a center presenting a pair of oppositely-disposed plates the extremities whereof are cut concavely so as to constitute bearings, heads rotatably mounted in said bearings, one of said heads constituting a socket to receive a nut, a spindle attached to the other of said heads and adapted to rotate the same, said heads comprising oppositely-disposed spur-wheels, and a chain passing around said heads between said plates and retaining said heads, said chains having projecting pins engaging between the spurs of said spur-wheels.

3. In a wrench of the class described, in combination, a center comprising a centrally-disposed block and oppositely-disposed plates, rotatable heads mounted at the extremities of said center, said block and said plates having their extremities concavely cut constituting bearings for said heads, an endless chain passing around said heads between said plates and adapted to transmit rotation therebetween, said chain affording means for retaining said heads, a spindle attached to one of said heads, and a socket formed at the other of said heads.

4. In a device of the class described, in combination, a center comprising a block and a pair of oppositely-disposed side plates, said plates presenting oppositely-disposed shoulders formed near the inner faces thereof, said center having concavely-cut extremities constituting bearings, rotatable heads mounted at the extremities of said center, one of said heads comprising oppositely-disposed spur-wheels, a sprocket-chain having pins projecting laterally therefrom and lying in the space above said shoulders, said chain affording means for driving said spur-wheels through the medium of said pins, and a casing surrounding said heads and said center.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

MARTIN MAHLEN.

Witnesses:

CLYDE W. LONG,  
H. A. SHEDD.