E. E. KOKEN.

RECLINING MECHANISM FOR BARBERS' CHAIRS.

APPLICATION FILED MAY 14, 1903.

987,580. Patented Mar. 21, 1911.

3 SHEETS—SHEET 1.

Fig. 1.

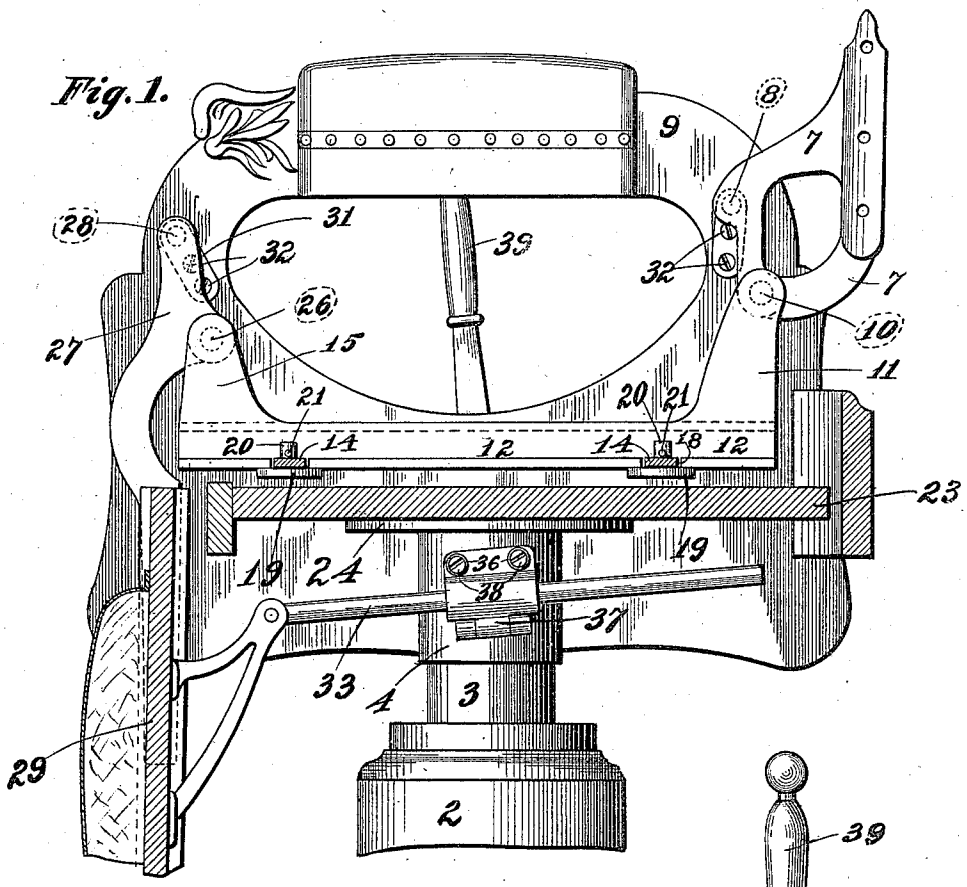


Fig. 2

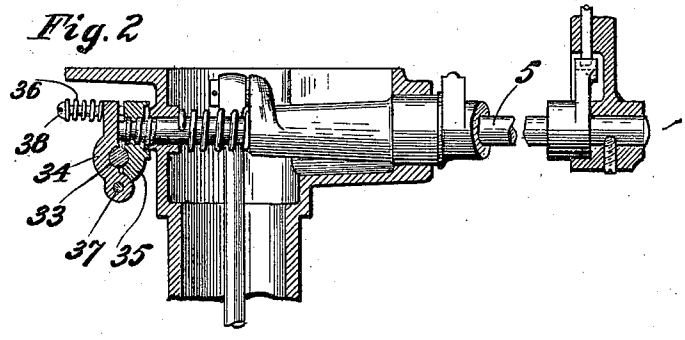
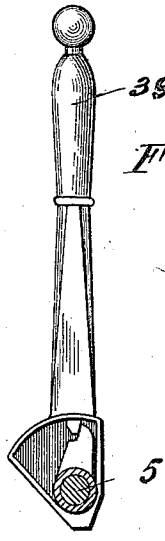


Fig. 3.



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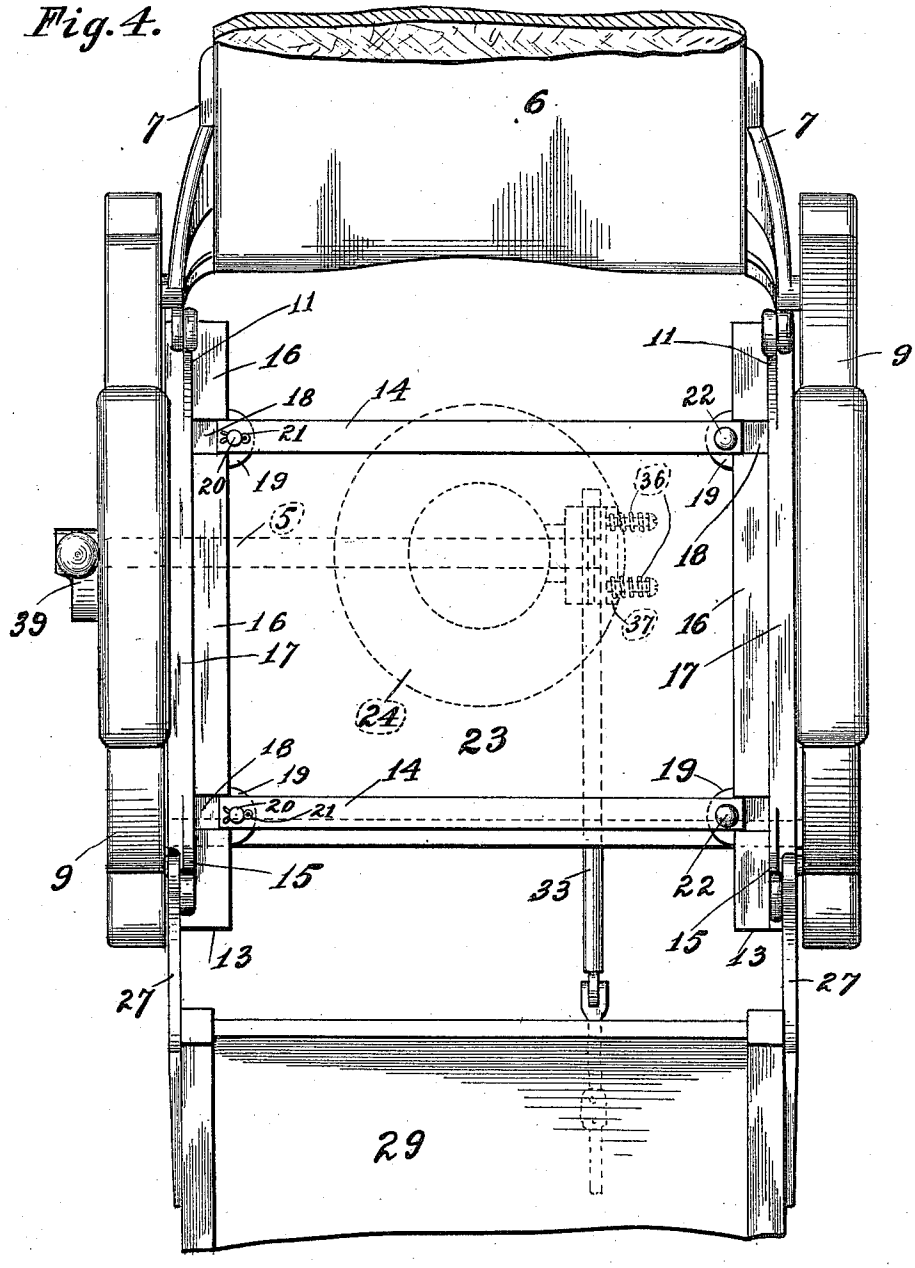
3 SHEETS—SHEET 2.

Fig. 4.



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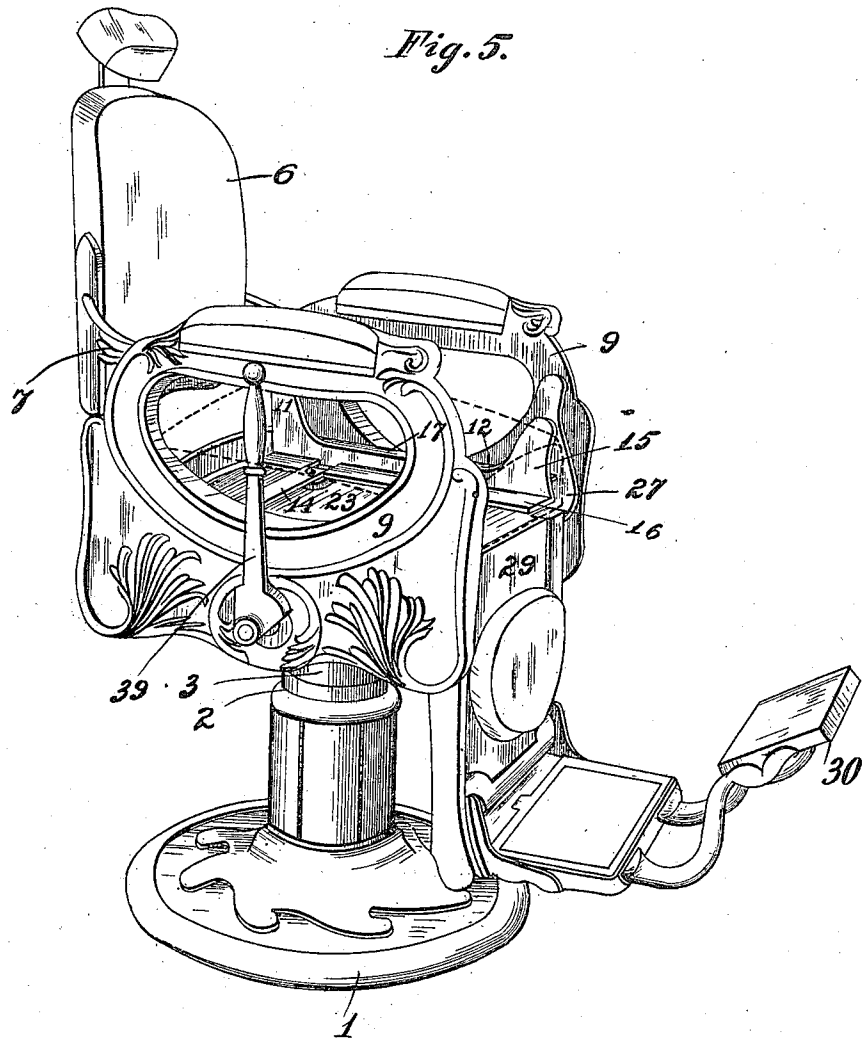
3 SHEETS—SHEET 3.

Fig. 5.



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UNITED STATES PATENT OFFICE.

ERNEST E. KOKEN, OF ST. LOUIS, MISSOURI, ASSIGNOR TO KOKEN BARBERS' SUPPLY COMPANY, OF ST. LOUIS, MISSOURI, A CORPORATION OF MISSOURI.

RECLINING MECHANISM FOR BARBERS' CHAIRS.

987,580. Specification of Letters Patent. Patented Mar. 21, 1911.

Application filed May 14, 1903. Serial No. 157,032.

To all whom it may concern:

Be it known that I, ERNEST E. KOKEN, a citizen of the United States, residing in the city of St. Louis and State of Missouri, have invented certain new and useful Improvements in Reclining Mechanism for Barbers' Chairs, of which the following is a specification.

This invention relates to barbers' chairs, and particularly to the intermediate connecting means between the back of the chair and the apron which carries the foot-rest.

In the drawings, Figure 1 is a view of a barber's chair, in side elevation from the base to the enlarged head of the piston and flange supported thereby, and in section above that point, showing said new connecting means in its position relative to the other parts of the chair; Fig. 2 is a sectional view through the piston-head, illustrating the location and arrangement of a means for locking the connected back of the chair and apron in any desired position; Fig. 3 is a side elevation, partly in section, of the lever for controlling the vertical adjustment and rotation of the chair body; Fig. 4 is a top plan view of the means intermediately connecting the back of the chair and the apron, showing same with the parts in position for the occupant to recline; and Fig. 5 is a perspective view of the chair with the upholstered seat removed, but shown in dotted lines, so as to show the frame for supporting same, and means connecting the frame with the apron.

Heretofore, in chairs of this general class it has been customary to connect the reclining mechanism of the chair to the chair seat, the back of the chair being, also, pivotally connected to the arms of the chair and the latter again pivotally connected to the upper portion of the apron, and the whole manipulated by power applied to the back by the person operating same either to recline or to assume an upright position. The reclining mechanism has usually been arranged so that power was communicated by means of said arm-rests to a portion of the apron or projections thereabove at a point on said projections nearer to the arms than the point at which said projections pivotally connected the foot-rest to the chair seat, the apron and its said projections thus pivoted operating like a lever of the first order, the foot-rest being the weight, whereas in applicant's present construction the parts operate as a lever of the third order.

Referring to the drawings, in which like numbers of reference denote like parts wherever they occur, 1 is the base of the chair, 2 the pedestal which is in the form of a cylinder, in which the piston 3 reciprocates, said piston being enlarged at its upper end into the casing 4, through which the shaft 5 enters.

The chair-back 6 has projections or cheeks 7 adjacent to its lower portion, same being pivotally connected at 8 to the side-frames or arms 9 of the chair. Located at such a point in the projections 7 as to give them the operative effect of levers, are the pivotal connections 10 between the projections 7, carried by the chair-back 6 and the upward projections 11 from the seat-support 12. This seat-support 12 may be arranged to comprise a pair of side-bars 13, connected by cross-bars 14, thus forming a frame. The seat-support has at its rear end the upward projections 11, and at its forward end the upward projections 15. The side-bars 13 are in the form of angle-irons, having the horizontal flanges 16 arranged angularly with relation to the upright portion 17 of the side-bars 13. Depressions 18 are formed in the flanges 16 of the two side-bars 13 to receive the ends of the cross-bars 14, so that they are countersunk therein and rest upon the plates 19, which are formed integral with the flanges 16 and underlie the depressions 18. Said ends of the cross-bars 14 are pierced by openings through which, at one end, the pins or lugs 20 pass, said lugs being formed integral with the plates 19, and being retained in position by the cotters or split-pins 21 passing through the lugs 20. At their other end, the cross-bars 14 are fixed to the other flange 16 by the bolts 22 or other suitable means.

The side-frames 9 may be connected to the piston 3 by any suitable means, so as to move vertically and rotatably therewith, and are preferably rigidly connected together as, for instance, by the transverse body-supporting portion 23, which is supported by the piston 3, being shown in the drawings as borne by a flange 24 integral with the casing 4 formed on said piston, and adapted to move vertically with said piston, and carrying with it the superstructure of

the chair, as hereinafter described. The side-members 9 may be further braced, if desired, for the sake of greater rigidity, by the rear rail 23ª, or like element.

The upholstered seat 25 rests upon the flanges 16, and is held from horizontal movement by the pins or lugs 20 borne by the plates 19, which pins fit into suitable sockets (not shown) in the frame-work of the upholstered seat 25, the construction of the upholstered seat being of the common character.

The projections 15 are pivotally connected at 26 to the levers of the third order 27. These levers are fulcrumed at the pivotal points 28, and, by said pivots 28, are connected with the side-frames 9. The levers 27 form the supports for the apron 29, which carries the foot-rest 30. The seat-support 12 being pivotally connected at 26 to the levers carrying the apron 29, and at 10 to the chair-back 6, and the back 6 being pivoted at 8 to the side-frames 9, and the levers 27 being also pivoted thereto at 28, and the seat 25 resting on the seat-support 12, it is obvious that the parts that carry the occupant of the chair depend from the pivots 28 and 8, and are adapted easily to swing thereon when motion is imparted to the back 6 by the barber, the side-frames 9 being meanwhile stationary. For greater security when the side-frames 9 are made of wood, the pivots 28 and 8 are inserted into the wood through the plates 31, each of which is embedded in the wood flush with its surface and fastened thereto by two or more screws 32, thus forming a fixed and strong metal bearing for said pivots.

When the chair is in the reclined position shown in Fig. 4, the foot-rest lock-bar 33 is tightly held by the clamping pieces 34 and 35, which normally lock said lock-bar 33 by reason of the pressure of the springs 36 against the plate 34, which tends to press the plate 34 against the bar 33, and the latter against the plate 35, the lock-bar 33 being thus locked. The plates 34 and 35 are pivotally united to each other by the hinge 37. The elongated screw-bolts 38, also, connect them.

When it is desired to place the back and foot-rest in the position for the occupant of the chair to recline, the operator releases the lock-bar 33 by rotating the shaft 5 with the hand-lever 39, and, grasping the chair-back 6 firmly in his hand, pulls same backwardly and depresses same to the desired angle. As the chair-back is pivoted at 8 to the side-frames or arms 9 of the chair, it will thus swing downwardly, and, being pivotally connected at 10 to the projections 11 of the seat-support 12, it forces said seat-support 12 in a forward horizontal line (the real character of that line being, however, a slight and peculiar but indescribable curve or series of curves) by reason of the fact that it is stationarily pivoted at 8 and again pivotally connected at 10 at such a distance from its axis of rotation on the pivotal-point 8 as to cause the lever 7 to impart to it a substantially horizontal longitudinal forward movement. This horizontal longitudinal forward movement of the seat-support 12 causes the projections 15 to push the levers 27, which connect the apron 29 and foot-rest 30 to the seat-support 12, and in this way to raise the same on the pivotal point or fulcrum 28. When the desired movement has been accomplished and the chair reclined at the angle sought, the foot-rest lock grasps the lock-bar 33 and all of the parts connected with the reclining mechanism are immediately locked in the position above stated. When it is desired to return the chair back to the upright position the lock-bar 33 is unlocked, the barber with his free hand raises the chair-back 6 to a vertical position, which causes all the parts to move in the reverse manner to that above described, and returns same to the position illustrated in Fig. 1.

It will be obvious that it is not essential that the seat-support should be formed of the frame consisting of a number of separable parts, as hereinabove described, but the seat-support may consist simply of one solid plate or piece, or of a rectangular or other frame formed in one piece. Moreover, the chair-back and apron can be pivoted directly to said frame or plate instead of to projections rising thereabove, such as the projections 11 and 15 mentioned herein.

The necessities of a barber's chair are that the chair-body (as distinguished from the seat only) shall be adjustable vertically; that the chair-body (including the apron and chair-back) shall be rotatable; and that the apron shall be adjustable for the recumbent position of the chair-occupant by manipulation from the chair-back. In a barber's chair it is of paramount importance that all these operations shall be effected with the greatest ease, celerity, and convenience, for the reason that a barber's chair is used to receive a large number of occupants in rapid succession. The stay of each occupant in the chair is brief, each one of them is usually more or less in a hurry, the operation of shaving, for instance, occupies such a short period of time that unless the chair were adjustable very quickly in the three ways above mentioned, the customer would become impatient at the unproportionate length of time occupied in adjusting the chair for the barber's convenience as compared to the length of time consumed in the tonsorial work. Such conditions are not present in surgical chars, for instance, because in surgical operations the highest interests of the patient are at stake, and usu-

ally very careful and time-taking preparations are made for them. For this reason, the patient does not object to the lapse of quite a little time in the arrangement and adjustment of the chair and its several parts into suitable position. Moreover, in surgical chairs, in order to provide for a large variety of positions on the part of the patient, the seats are usually arranged so that they (apart from the chair-body) may be moved vertically, and also that they may tilt or tip forward and backward and sidewise. In the use of surgical chairs the patient occupies a large number of positions utterly unlike the single position which is assumed by the occupant of a barber's chair while being shaved. It is obvious, therefore, that in a surgical chair there is no necessity for rapid manipulation of the chair, as it is more important that the patient should be placed in a position which will afford the surgeon the easiest access to the part to be reached by the knife. For instance, the patient sometimes kneels on an extension of the side-arms of a surgical chair. On the other hand, in the case of barbers' chairs, not only is it necessary, as above set forth, that the chair shall be manipulated with speed and facility, but, on account of the large number of adjustments of the chair in the course of a day, it is evident that a very special simplicity and solidity of construction in a barber's chair is not only desirable, but necessary. If the construction of a barber's chair were as complicated as that of most surgical chairs, it would soon, due to the frequency of manipulation, become rickety and unserviceable. Of the construction presented by this application, it is not too much to say that it embodies the acme of simplicity and is especially adapted for use in a barber's chair, and has been found in practice to give the highest satisfaction and to constitute one of the most important improvements in barbers' chairs in recent years. It is, furthermore, clear that in view of the manner of manipulation of the reclining mechanism exhibited in the present application, as well as of the well-known heavy construction of barbers' chairs, it is essential that a barber's chair shall be provided with a weighty base. This weight is conveniently provided in the chair illustrated in the drawings of the present case in means for the vertical adjustment of the chair which is hereinabove described as a necessity in a barber's chair. Thus, in a barber's chair the weighty base allows for the vertical adjustment of the chair-body, the chair-body is solid and substantial, and the reclining mechanism, which is particularly the object of the present application, is connected with said solid and substantial chair-body, forming part thereof, and the whole unites in a perfect and true combination to form a chair suitable for the purpose of a barber and specially adapted to his exigencies, and hereafter referred to in the claims as "a chair of the type described."

In the claims the word "base" refers not only to the base proper 1, but to all that base portion of the chair, which includes the pedestal 2 also, as distinguished from the chair-superstructure, which comprises the side-frames, the chair-back, the apron, and the part 23 connecting the side-frames from which the piston depends.

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

1. In a chair of the type set forth, a support having side frames and a back thereon, a seat-support having side members formed of angle bars, the ends of the vertical portions of which are extended upwardly to form projections, cross-bars fixed at their one end to the horizontal portion of one of said angle-bars and having openings formed in their other ends, lugs carried by the other of said angle-bars and received in said openings, said lugs adapted to project into the frame of the upholstered seat to retain the latter against horizontal movement, an apron, said apron and back being pivoted to said projections.

2. In a barber's chair, the combination with a base having an upwardly-opening cylinder of a chair-body rotatively and reciprocatively connected with said cylinder, said chair-body constituting a unitary structure comprising three members, namely, a pair of side-members cross-connected by a transverse member spaced from said base, and said three members being stationary relative to each other when the chair is assembled, and said side-members providing support for the arms of the chair-occupant stationary relative to said transverse member and to the hereinafter-mentioned chair-back, seat-support, and apron; a seat-support located above and spaced and severed from said transverse member and movable longitudinally forward and backward thereabove in a line throughout its entire movement approximately parallel to said transverse member; a chair-back and an apron both pivoted to said side-members, said seat-support being pivoted to said back at points below the pivots connecting said back to said side-members, and said seat-support being pivoted to said apron at points below the pivots connecting said apron to said side-members, there being a single member on each side of and projecting from said chair-back to receive within same the pivotal connection of said chair-back both to said seat-support and to said side-members; and locking means connected with said apron and said piston, said locking means being so connected with said piston as to be capable of

rotation and reciprocation therewith, and being so connected with said apron as to be capable of locking same (and said seat-support and chair-back) against forward and backward movement.

3. In a barber's chair, the combination with a base having an upwardly-opening cylinder of a chair-body rotatively and reciprocatively connected with said cylinder, said chair-body constituting a unitary structure comprising three members, namely, a pair of side-members cross-connected by a transverse member spaced from said base, and said three members being stationary relative to each other when the chair is assembled, and said side-members providing support for the arms of the chair-occupant stationary relative to said transverse member and to the hereinafter-mentioned chair-back, seat-support, and apron; a seat-support located above and spaced and severed from said transverse member and movable longitudinally forward and backward thereabove in a line throughout its entire movement approximately parallel to said transverse member; a chair-back and an apron both pivoted to said side-members, said seat-support being pivoted to said back at points below the pivots connecting said back to said side-members, and said seat-support being pivoted to said apron at points below the pivots connecting said apron to said side-members, there being a single member on each side of and projecting from said chair-back to receive within same the pivotal connection of said chair-back both to said seat-support and to said side-members; locking means connected with said apron and said piston, said locking means being so connected with said piston as to be capable of rotation and reciprocation therewith, and being so connected with said apron as to be capable of locking same (and said seat-support and chair-back) against forward and backward movement; a shaft borne by said chair-body for actuating said lock; and means for operating said shaft mounted thereupon.

In testimony whereof I have affixed my signature in presence of two witnesses this 28th day of April, 1903.

ERNEST E. KOKEN.

Witnesses:
MAUD E. LETCHER,
HUGH K. WAGNER.