

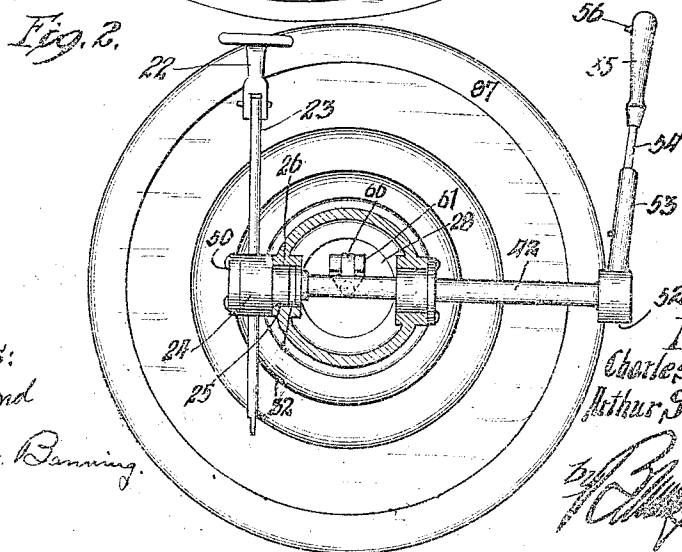
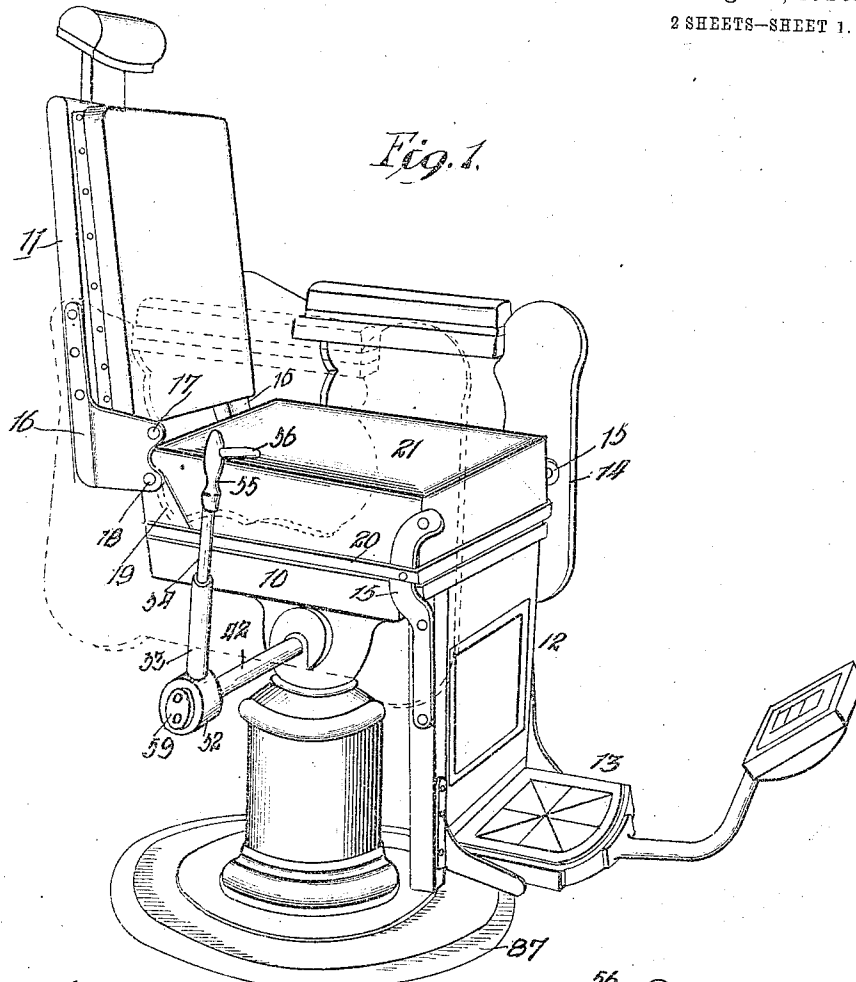
C. PFANSCHMIDT & A. SCHWARZKOPF.
BARBER'S CHAIR.

APPLICATION FILED MAY 21, 1909.

968,404.

Patented Aug. 23, 1910.

2 SHEETS—SHEET 1.



Witnesses:

Wm. P. Bond

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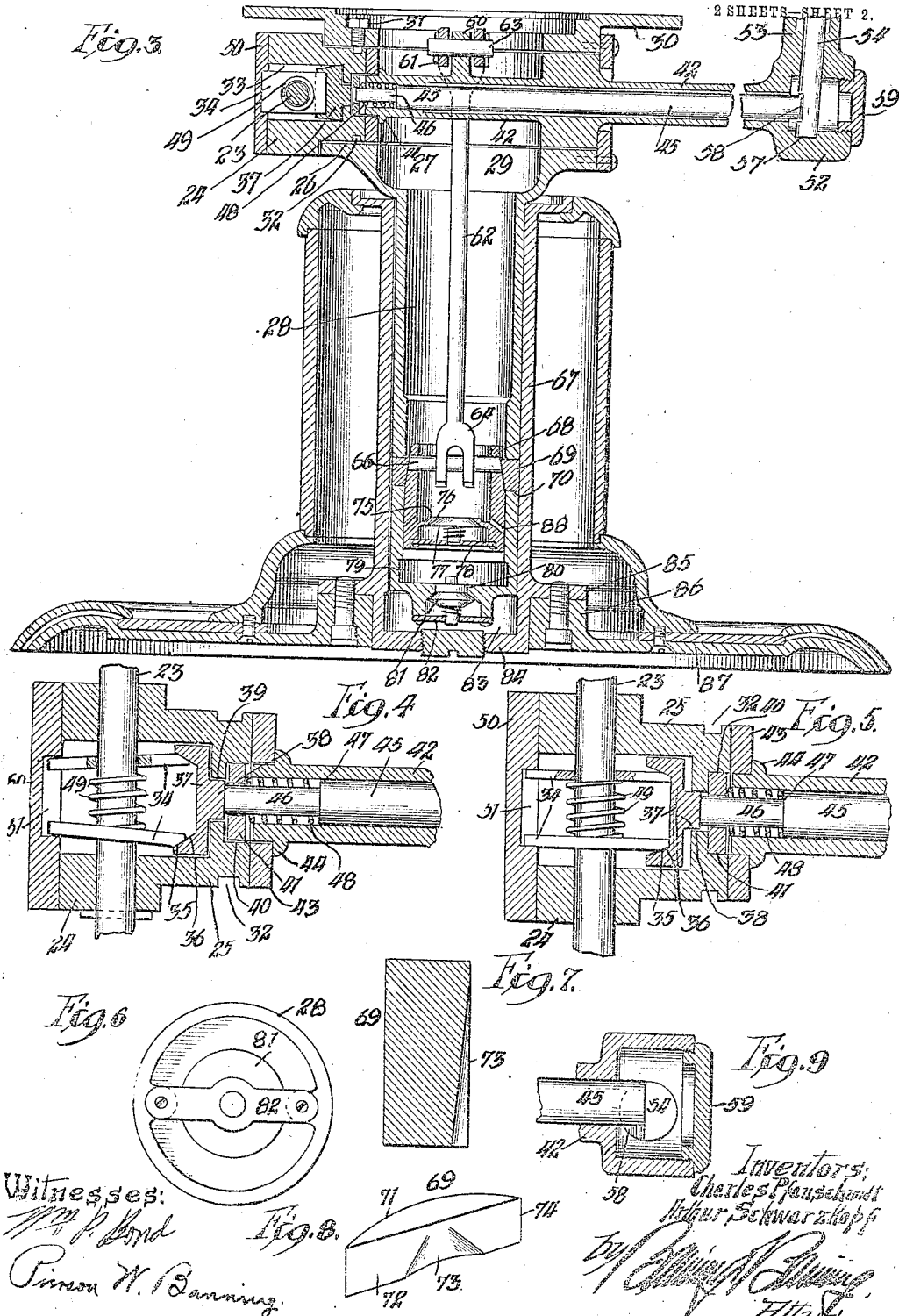
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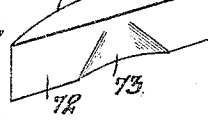


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Fig. 8.



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UNITED STATES PATENT OFFICE.

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BARBER'S CHAIR.

968,404.

Specification of Letters Patent. Patented Aug. 23, 1910.

Application filed May 21, 1909. Serial No. 497,508.

To all whom it may concern:

Be it known that we, CHARLES PFANSCHMIDT and ARTHUR SCHWARZKOPF, both citizens of the United States, and both residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Barbers' Chairs, of which the following is a specification.

The present invention relates more particularly to the locking devices for holding the back and foot rest of the chair in adjusted position, and to the lever mechanism for actuating said devices and for operating the pump employed in raising and lowering the chair.

The present invention relates to a type of hydraulic barbers' chairs in which a lever is provided at the side of the chair for operating the pump, and the object of the present invention is to also provide, in connection with the lever, a suitable device, or devices, for releasing the rod which controls the reclining movements of the chair. In the past, difficulty has been experienced in uniting these various adjusting devices into a single lever mechanism adapted to be easily and conveniently grasped and controlled by the barber with one hand while manipulating the chair with the other.

The object of the present invention is to so construct, arrange and unite the various adjusting mechanisms that a single lever can be employed for effecting all of the operations necessary in the manipulation of a barber's chair, without difficulty and in an easy, convenient and natural manner.

The invention further relates to the clamping devices employed for holding the lock bar, which serves to hold the parts in adjusted position; to the rod and lever mechanism for actuating said clamping devices; to the construction and arrangement of the pump bucket, whereby means will be afforded for locking the chair against revolution; to the bucket actuating rod and connections with the hand lever; and to the chair as a whole and the individual parts thereof.

Further objects will appear from a detailed description of the invention, which consists in the features of construction and combination of parts hereinafter described and claimed.

In the drawings, Figure 1 is a perspective view of a barber's chair, embodying the fea-

tures of the present invention, and having one side removed to illustrate the arrangement of the hand lever; Fig. 2 a sectional plan view through the base or standard of the chair, showing the lever and the operating shaft in elevation; Fig. 3 a longitudinal sectional elevation, taken through the center of the base of the chair; Figs. 4 and 5 sectional plan views of the clamping mechanism in different positions of adjustment; Fig. 6 a bottom view of the pump bucket; Fig. 7 an enlarged cross sectional view of one of the wedge blocks; Fig. 8 a perspective view of the same, reduced in size; and Fig. 9 a detail, showing the end of the hand lever and the clamp operating rod in engagement therewith.

The chair is of a standard type, comprising a body portion 10, a back 11, an apron 12, and a foot rest 13 of the style commonly found in barbers' chairs. The body portion has rigidly secured thereto, on each side, a pair of side arms 14 which extend above the body portion a considerable distance. To the inner sides of the arms are pivoted hanger brackets 15, the lower ends of which are rigidly secured to the sides of the apron. The back is provided, at its lower end on each side, with a bracket plate 16, which forwardly extends from the back and is provided, near its upper corner, with a pivot hole 17, which receives a pivot pin or stud, not shown, which inwardly projects from the adjacent side arm, near the rear end thereof, and serves to pivot the back between the rigid sides of the chair. Each of the bracket plates, near its lower outer corner, has entered therethrough a pivot stud 18 which serves to pivot the bracket plate to a hanger 19 upwardly projecting from the rear corner of an open seat frame 20 which is pivoted to the apron hanger brackets 15. The seat frame 20 serves as a mounting for a seat cushion 21 of the usual style. The construction is one which pivotally unites the seat with the back and apron in such manner that any adjustment of the back, out of the vertical, will be communicated through the seat frame to the apron, and vice versa. This arrangement of parts is well understood and need not be further detailed.

The apron 12 has secured to its rear or inner side a bracket 22, to which is pivoted a rearwardly extending locking rod 23 of

the type sometimes employed in barbers' chairs, which rod, as shown, is of circular formation and is entered through a cylindrical guide block 24 having an inwardly extending cylindrical neck 25 of reduced diameter, which neck finds a bearing in a cylindrical hole 26 formed through the side wall of the main bracket head 27, from which depends the cylindrical stem 28 which mounts the chair. The bracket head is hollow on its interior to afford a chamber 29, and the upper edge of the bracket is provided with flanges 30 which support the body of the chair seat. The neck 25 of the guide block is swiveled within the opening 26, and the body portion of the guide block projects outwardly therefrom in position to have the locking rod passed diametrically through its center. The neck is held against retraction by means of a set screw 31, the end of which is entered into a circumferentially extending groove or channel 32 near the inner end of the neck 25. The arrangement is one which affords the necessary turning movement or oscillation of the guide block to accommodate the locking rod, which oscillates to a slight degree by reason of the swing of the apron.

The center of the guide block is cored out to afford a cylindrical chamber 33, within which is located a pair of clamping plates 34, through which plates the locking rod is entered. The clearance for the rod is so slight that it can be removed longitudinally only when the plates are held in parallel relation, as shown in Fig. 5. When in this position the holes in the plates will be brought into exact alinement and register, so that the rod can be moved back and forth through the holes without clamping or binding against the edges thereof. When, however, the plates are thrown out of parallelism, as shown in Fig. 4, the edges of the holes will impinge or bite against the rod and clamp it in any desired position of adjustment. Each of the clamping plates, at its inner end, is beveled, as shown at 35, the beveled ends being in contact with the beveled inner faces 36 of a recessed wedge block 37, which is in the form of a flat disk fitted into the inner end of the chamber 33 and provided with an inwardly extending stud 38 which is entered through a hole 39 in the neck 25 of the guide block. The hole 39 is counterbored to afford a circular recess 40 which receives a washer 41, adjacent to which lies the end of the tubular rock shaft 42, which end finds a bearing within a washer 43, which abuts against the inner end of the neck 25 and is of equal size therewith. The tubular rock shaft is provided, near its inner end, with a shoulder 44 which bears against the outer face of the washer 43 and prevents displacement of the washer which is held within the inner end

of the hole 26 in the wall of the bracket head.

The tubular rock shaft affords a housing for a longitudinally movable operating rod 45, the inner end 46 of which finds a bearing within the washer 41 and is reduced to afford a shoulder 47 which bears against a spring 48 which surrounds the reduced inner end of the rod. The end of the rod is adapted to abut against and outwardly project the recessed wedge block 37 to the extent necessary to cause the inner beveled faces of the wedge block to engage the beveled faces of the clamping plates and throw the latter into parallel relation against the tension of an interposed spring 49. The recess in the guide block 24 is covered and inclosed by means of a cap 50 provided, in its center, with a recess 51 which holds the ends of the clamping plates.

The operating rod extends, throughout its length, within the tubular rock shaft, and its end is entered within a chambered head 52, which is preferably integrally formed on the end of the tubular rock shaft. The head has formed thereon an upwardly extending sleeve 53 which affords a mounting for a lever rod 54, terminating in a handle 55 provided, on one side, with a laterally extending finger 56 of a size and length sufficient to afford an easy and comfortable engagement for the hand of the user. The lower end of the lever rod 54 is journaled within a recess 57 formed in the lower wall of the head 52, and the lever rod, immediately above its lower end, is cut across its inner face to provide a straight faced notch 58, which notch affords an entrance for the end of the operating rod 45, as best shown in Fig. 9. The lever rod is preferably eccentrically mounted with respect to the center of the operating rod, so that one of the ends of the flat faced notch will abut squarely against the end face of the operating rod in such manner that a turning movement of the lever rod will inwardly project the operating rod against the tension of the spring 48. The outer face of the head 52 is closed by means of a cap or block 59.

The tubular rock shaft is provided, near its center, on its upper side, with an ear 60 which receives the forked end 61 of a pump piston rod 62, the parts being pivoted together by means of a pivot pin 63. The pump piston rod is offset, near its upper end, to clear the tubular rock shaft around which it extends, and is forked at its lower end 64 and entered into the open upper end of a pump bucket, between the walls of which it is pivoted, by means of a cross pin 66. The bucket is of generally cylindrical shape and fits closely within the cylindrical stem 28, which stem is slidably and rotatably mounted within a cylindrical well 67, forming part of the base of the chair. The upper

end 68 of the bucket, on its outer side, is slightly beveled or tapered to engage with a pair of wedge blocks 69 which are entered through slots 70 cut across the cylindrical wall of the stem on opposite sides thereof. The wedge blocks are of the form shown in Figs. 7 and 8, having a rounded outer face 71, which has a curvature commensurate with that of the cylindrical stem within which it is positioned; and having an inner flat face 72, save in the center, where said face is cut away by an upwardly tapered cylindrical concavity 73. The ends 74 of the block are wedge shaped, with the result that, when the bucket is raised to a predetermined height, its tapered upper end will engage the recessed portion of the wedge blocks and force the blocks outwardly, so that the rounded faces of the wedge blocks will bear against the wall of the surrounding well, thereby locking the stem against revolution and affording an extended contacting surface.

The bucket is provided with a floor 75 having a centrally located valve opening 76, the under edges of which are beveled to afford a seat for a spring controlled inner valve 77, the stem of which projects through a bottom plate 78. The lower end of the tubular stem is shouldered to afford an enlarged chamber 79, in the floor of which is a valve opening 80, the under edge of which is beveled to afford a seat for a spring controlled outer valve 81, the stem of which projects through and is guided within an outer plate 82. The well, near its lower end, is shouldered to afford an enlarged chamber 83, which is closed by means of a plugged bottom wall 84. The well is provided with a flange 85, which rests upon an annular boss 86 which projects from a circular base plate 87 which rests upon the floor. The bucket is provided, near the lower end of its inner chamber, with one or more diagonally disposed vent openings 88, so arranged that when the bucket is in its lowermost position they will communicate with the enlarged chamber 79 in the bottom of the well.

In use, when it is desired to recline the chair, the operator grasps the handle of the lever and gives a partial turn to the same by pressing against the laterally projecting finger, which turning movement will cause the edge of the flat faced notch 58 to impinge against the operating rod 45 and inwardly project the same, thereby drawing together the inner ends of the clamping plates, which will normally occupy an outwardly convergent position, as shown in Fig. 4. This action serves to release the plates from clamping engagement with the locking rod, thereby allowing the chair to be reclined to the desired extent. This adjustment can be easily effected by the barber,

who is enabled to grasp the back of the chair with his left hand while operating the lever handle with his right hand. As soon as the lever handle is released, the pressure of the spring 48 against the operating rod will throw back the rod and turn the lever handle to normal position, thereby releasing the clamping plates from engagement by the recessed wedge block, which again locks the chair in adjusted position. When it is desired to raise the chair, the lever handle is rocked or oscillated back and forth, which reciprocates the pump bucket and pumps the oil or other liquid contained in the tubular stem out into the well, thereby raising the chair. With each upward stroke of the pump bucket, the inner valve 77 will be opened by the pressure of the oil to permit the down-flow of a quantity of oil, which will be discharged through the lower valve by the next down stroke of the pump bucket, and this process will continue until the chair has been elevated to the desired degree. Thereafter, when the lever is moved to its normal or vertical position, the bucket will be lifted to its extreme position and brought into engagement with the wedge blocks 72, which are spread to the extent necessary to bring their outer faces into locking contact with the walls of the well, so that the chair will be locked against rotation. A slight movement of the lever in the forward direction will be sufficient to release the wedges and permit rotation of the chair, without either raising or lowering the same. When it is desired to lower the chair, the lever will be thrust down to its lowermost position, thereby forcing down the bucket until the vent openings 88 are brought into communication with the enlarged chamber 83 at the bottom of the well and the bucket forces down and opens the valve 81, at which time the oil will have free communication through the valve and escape through the vent openings, and into the tubular stem of the chair, allowing the latter to gradually descend to the desired point.

The arrangement of the lever handle is such that the barber can manipulate the lever in any desired manner without shifting the position of his hand or body and without any material exertion, leaving his other hand free for the manipulation of the chair. Furthermore, the lever handle can be turned and the chair reclined at any position in the stroke of the lever, which is highly desirable, in that it relieves the barber from the necessity of carefully bringing the lever to a designated position of adjustment before releasing the lock.

It will be seen that the lock operating and pump operating mechanism is so combined that an extremely simple and easily manipulated adjusting mechanism is afforded, which is of great importance in the

art to which the present invention relates. The adjusting operations are further facilitated by reason of the fact that it is only necessary to operate the lever within the radius of a quarter of a circle in order to raise, lower, lock, or recline the chair, as may be desired; in view of which, the barber is not required to make any great exertion or to move his body to an undesirable degree in making adjustments.

By supporting the end of the rock shaft in the washer 34, the guide block will be free to rock or oscillate to the necessary degree without being subjected to the weight of the pump bucket, so that there will be no binding or cramping of the locking rod as it moves through the guide block. The arrangement is such that the working parts are all completely housed and inclosed so as to prevent the ingress of dirt or dust, which might interfere with the bearings.

What we regard as new and desire to secure by Letters Patent is:

1. In a barber's chair, the combination of a locking rod connected with one of the movable portions of the chair, a clamping device for locking the rod in adjusted position, a pump for imparting vertical movements to the chair, a hand lever mounted perpendicular to its longitudinal axis, and also a swinging movement about its longitudinal axis, a connection between the pump and the hand lever whereby the pump will be operated by the swinging movement of the lever, and a connection between the hand lever and the clamping device whereby the latter will be operated by the turning movement of the lever, substantially as described.

2. In a barber's chair, the combination of a locking rod connected with one of the movable portions of the chair, a guide block through which the rod extends, a clamping plate within the guide block provided with a hole through which the locking rod extends, said plate being adapted to release the rod when moved to one position of angularity with respect to the rod and adapted to lock the rod when moved to another position of angularity, a wedge block adapted to engage the clamping plate and move it to locking and unlocking positions, a longitudinally movable operating rod adapted to actuate the wedge block, and a hand lever adapted to be turned to impart longitudinal movement to the operating rod, substantially as described.

3. In a barber's chair, the combination of a locking rod connected with one of the movable portions of the chair, a guide block through which the rod extends, a clamping plate within the guide block provided with a hole through which the locking rod extends, said plate being adapted to release the rod when moved to one position of angularity with respect to the rod and adapted to lock the rod when moved to another position of angularity, a wedge block adapted to engage the clamping plate and move it to locking and unlocking positions, a longitudinally movable operating rod adapted to actuate the wedge block, a swinging hand lever adapted to be turned on its longitudinal axis to impart longitudinal movement to the operating rod, a pump bucket, and connections between the pump and hand lever for operating the former by a swinging movement of the latter, substantially as described.

4. In a barber's chair, the combination of a locking rod connected with one of the movable portions of the chair, a clamping device adapted to lock the rod in adjusted position, a pump for imparting vertical movement to the chair, a hollow rotatable member comprising a horizontally extending portion located in the interior of the chair body, and a portion extending outside of said support and lying in a vertical plane adjacent to the chair body, a rod lying within the horizontal portion and adapted to actuate said clamping device, a rod extending through the vertical portion and having a cam surface adjacent to one end thereof in operative relation with the end of the rod actuating said clamping devices, a connection between the horizontally extending portion and the pump, whereby a movement of the rod extending through the vertical portion around the axis of the rotatable member will actuate said rotatable member to actuate the pump mechanism and raise or lower the chair, and a movement of said rod about its own axis will bring the cam surface thereon into engagement with the rod actuating the clamping device and move said clamping device out of clamping position, substantially as described.

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