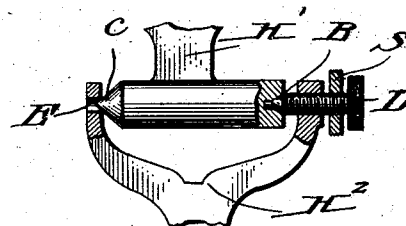
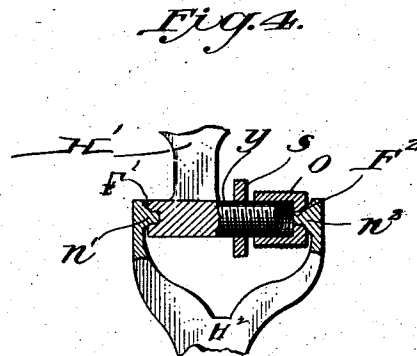
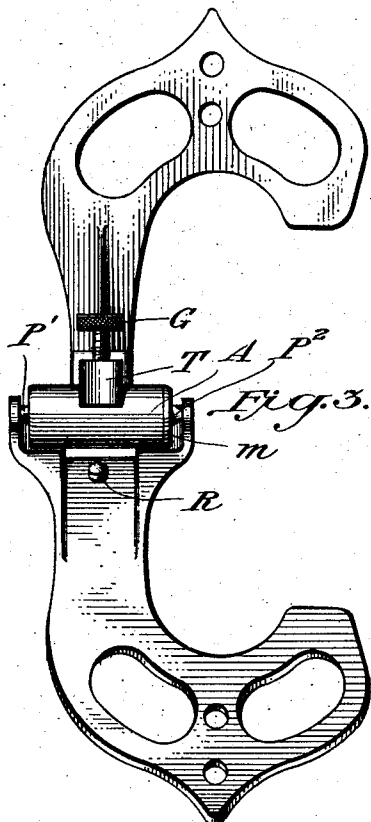
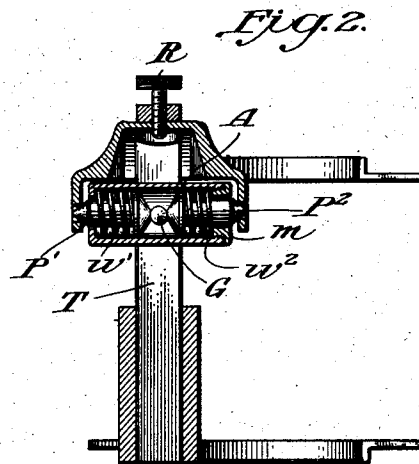
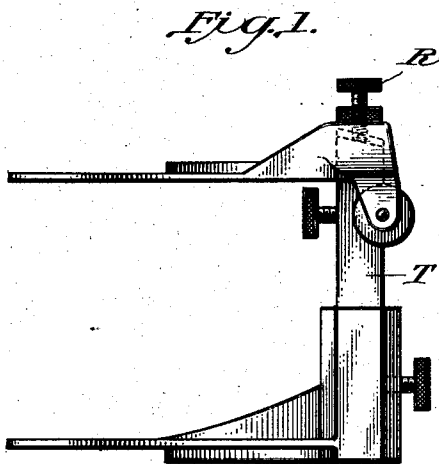


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HINGE ARTICULATOR.
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1,027,443.

Patented May 28, 1912.



Witnesses:
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UNITED STATES PATENT OFFICE.

HEINRICH SCHWEITZER, OF NEW YORK, N. Y.

HINGE-ARTICULATOR.

1,027,443.

Specification of Letters Patent.

Patented May 28, 1912.

Application filed June 22, 1911. Serial No. 634,788.

To all whom it may concern:

Be it known that I, HEINRICH SCHWEITZER, a subject of the German Emperor, residing in the city of New York, in the county and State of New York, have invented Improvements in Hinge-Articulators.

The following is a specification.

In the original hinge articulator the axis of the hinge is represented by a wire or rod which is to be adjusted from one side to the other through holes in the two trays. In order to separate the two articulator halves it is necessary to remove the hinge axis from both parts. Frequently removing and adjusting of this hinge axis and the opening and closing of such articulators during work, causes a quick wear off in the joint and makes the apparatus inaccurate.

The object of my invention is to create a more accurate hinge joint by means of a journal which reduces the length of the hinge axis, and permits a quick and easy separation of the articulator halves.

Figure 1 of the accompanying drawing is the lateral view of the articulator closed. Figs. 2 and 3 illustrate the model holders and parts of the hinge joint. These are the hinge pivots, P^1 , P^2 , the screw G , located in the tube A . Perforated metal pieces, M close the ends of the tube. Figs. 4 and 5 illustrate construction of hinges with different kinds of journal.

My improvement in the construction of the hinge joint consists in the attachment of bearings and journals in the hinge parts of the articulator arms such as are used on steam machines and tool machines, where it is aimed to obtain most accurate axial revolutions and to avoid wearing by forcing the ends of the journals toward the counter bearings.

The construction shown in Figs. 1-3 is the following: Two hinge pivots, P^1 , P^2 , are located in a tube, A , the middle of which is perforated to carry a pointed screw G , which can be forced between the approximal ends of the journal pivots. These hinge pivots are provided with a larger circumference near the approximal end fitting into the tube A , and a smaller circumference near the distal ends in order to receive a spiral spring, W^1 , W^2 . The approximal ends are obtuse conical. The distal ends of the hinge pivots project from the tube, A , where a round end or conically pointed

screw is forced between the approximal ends of the journal pivots. The tube A , is fastened to a perpendicular bar which represents the connection of the hinge axis to one of the trays, usually the lower one. Said tube A is closed at the ends with metal pieces, M , having central holes for the passage of the ends of the journal. The spiral springs, W^1 , W^2 , are held between the closed ends of the tube A and the approximal heads of the journal pivots; they continually press the pivots toward the middle of the tube where the set screw, G , is located. This screw, G , perforates the vertical connection bar opposite the tube A , and said screw G , is provided with a pointed end, which end is directed toward the interior of the tube. Driving of the screw causes the adjustment of the ends of the journal to the counter bearings; unscrewing, permits separation of the joint.

The construction of the hinge illustrated in Fig. 4 is as follows: The joint arm of one tray, H' , is provided on one axial end with a female bearing, F' , for the engagement of the male bearing, N' , of the joint arm of the opposing tray. The other axial end of the joint part of tray H' terminates in a screw spindle, Y , upon which move the set screw, S , and the adjusting screw, O , the latter carrying the female bearing, F^2 , for tray H' . Driving the screw O toward the bearing N^2 adjusts the hinge parts, moving the screw O in opposite direction separates the joint.

In Fig. 5 the screw, D , is lodged in one of the hinge ends of the tray H^2 ; it is provided with a male center on the point and is movable toward the bearing, B , of the hinge part of the opposing tray; the other hinge end, C , of the tray H' is the male center engaging the counter bearing, E , of the tray H^2 . Driving the screw, D , toward the bearings adjusts the hinge parts, unscrewing separates the joint.

The bearings may be situated in the arm of the upper articulator tray and the journal attached to the projecting bar of the end of the lower articulator tray or vice versa. The ends of the journal may be provided with male or female centers to engage the corresponding counter-bearings. The model holders for full cases extend only to one side of the articulator part leading to the joint arms, by which position it is aimed

to expose to free view the tongue parts of the teeth from the rear side of the articulator.

5 The connection bar, T, meets on its top the end of the bite regulating screw, R, of the opposing tray. The top part of this connection bar is provided with a groove like concavity, which concavity allows natural motions of the trays. These trays are
10 directed by the end of the bite regulating screw as it slides in the opposing groove when the set screw of the journal is loosened and the hinge joint partly freed.

15 In order to obtain a sharp and easy recognition of the median line, I provide the trays in the anterior middle with pointed index fingers, while the rest of the main part is designed symmetrically in the usual way.

20 Having now fully described my invention I claim:

1. In a dental articulator having an upper model holder, a lower model holder, and a hinge joint connecting the holders, the combination of bearings in the joint part of

one holder and a journal attached in the joint part of the other model holder, said journal provided with centers conically shaped in the engaging ends, with a screw engaging said centers on one end and with means contributing to produce both, the projection of the ends of the journal centers toward the counter bearings of the opposing joint part by turning on of said screw and the removal of the ends of the journal centers from the counter bearings by unscrewing of said screw substantially as described and shown.

2. In a dental articulator an upper and a lower model holder projecting from only one side of the parts leading to the joint arm and provided with index fingers in the anterior median line substantially as described and shown.

HEINRICH SCHWEITZER.

Witnesses:

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."