(No Model.)

L. & J. W. MANKER.

DENTAL ARTICULATOR.

No. 252,785. Patented Jan. 24, 1882.

Fig. 1.

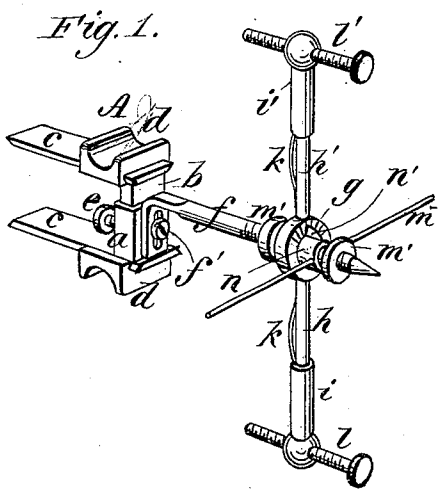


Fig. 2.

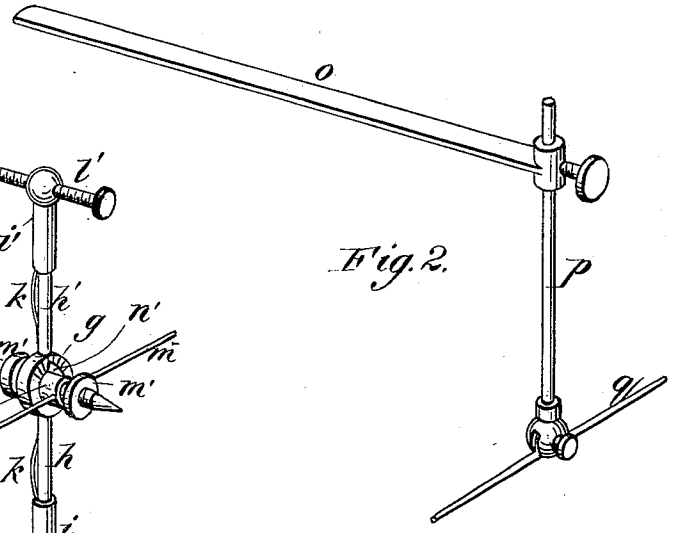


Fig. 3.

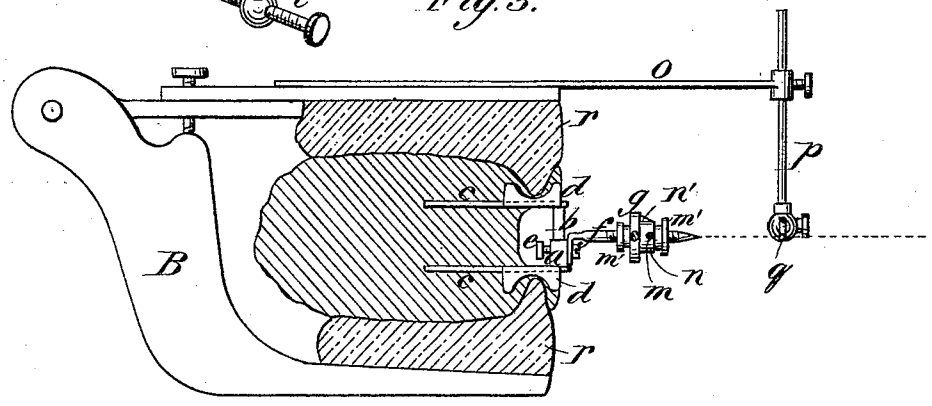
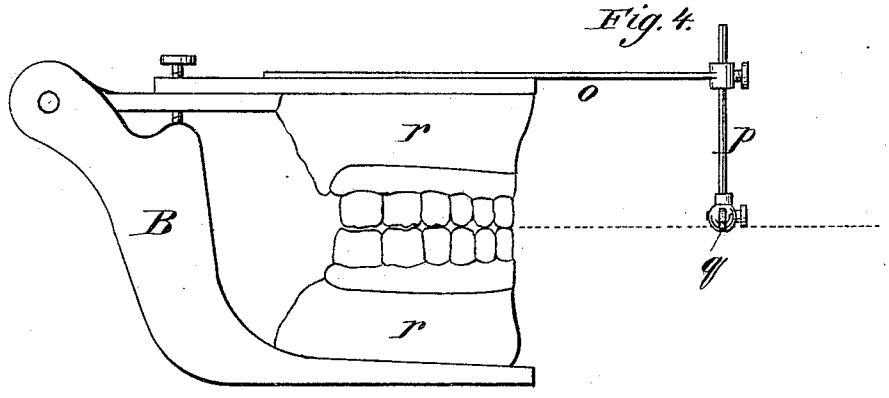


Fig. 4.



WITNESSES:

Donn Twitchell.

C. Sedgwick

INVENTOR:

L. Manker

J. W. Manker

BY Munn & Co

ATTORNEYS.

N. PETERS. Photo-Lithographer, Washington, D. C.

UNITED STATES PATENT OFFICE.

LOUIS MANKER AND JOHN W. MANKER, OF VILLISCA, IOWA.

DENTAL ARTICULATOR.

SPECIFICATION forming part of Letters Patent No. 252,785, dated January 24, 1882.

Application filed October 18, 1881. (No model.)

To all whom it may concern:

Be it known that we, LOUIS MANKER and JOHN W. MANKER, of Villisca, in the county of Montgomery and State of Iowa, have invented a new and Improved Gaging Implement for Artificial Dentures, of which the following is a full, clear, and exact description.

Our invention relates to appliances for dentists' use in setting up artificial dentures. The object is to furnish an implement for obtaining accurately, first, the correct bite of the upper and lower jaws; second, the exact point of occlusion for the upper and lower teeth relative to the lips; and, third, the equipoise or horizontal parallel of the upper with the lower teeth, these being essential for the proper setting and appearance of the dentures.

With the appliances generally employed mistakes are liable to occur in cases where one side of the alveolus is absorbed away more than the other, and from incorrect position of the jaws in taking the bite on wax for the articulation of the teeth. Our invention is for preventing such mistakes and obviating the difficulties experienced by dentists; and it consists in the gaging implement hereinafter described and claimed.

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

Figure 1 is a perspective view of the gaging implement. Fig. 2 is a perspective view of the duplicating-gage. Fig. 3 is a sectional side view, showing the method of obtaining in duplicate the equipoise and point of occlusion from the original gage and ordinary wax bite; and Fig. 4 is a side view, illustrating the operation of setting up the teeth in the articulator by the use of the duplicating-gage.

The implement shown in Fig. 1, which, for convenience, we term the "original gage," will be first described.

A is the bite-gage, consisting of a short telescopic tube, *a*, and pin *b*, to which plates or jaws *c c* are rigidly secured, and on these plates are recessed biting-pieces or saddles *d d*, held by a dovetail joint, so that they are movable. The tube *a* is fitted with a set-screw, *e*, for clamping the jaws *c* at the proper distance apart.

On the gage A an arm, *f*, is attached rigidly by a screw, *f'*, which permits its vertical adjustment, and on the outer end of the rigid arm *f* is a loose collar, *g*, having arms *h h'* attached at its opposite sides. On the ends of rods *h h'* are sliding sleeves *i i'*, held in place by friction springs *k*, attached on the rods and carrying screws *l l'*, tapped through the ends of the sleeves at right angles. This portion constitutes the occlusion-gage.

The gage for determining the horizontal parallel is upon the end of arm *f*, and consists of a wire, *m*, attached to a loose collar, *n*. Both collars *g n* are between set-nuts *m'* on the arm *f*, so that they can be clamped in position.

On the collar *n* is a pointer, *n'*, and on the face of collar *g* is a graduated scale, on which the pointer indicates the variations from the perfect horizontal position of wire *m*, and vertical position of rods *h h'*. The end of arm *f* is pointed, to assist accurate adjustment.

The duplicating-gage (shown in Fig. 2) consists of a bar, *o*, fitted at its end with an adjustable rod, *p*, that carries at its lower end a pivoted wire, *q*, held in place by a set-screw.

The implement is used as follows: The counter cast of the natural jaw is first made in plaster in the usual manner. The biting-gage A is then covered with a piece of wax large enough to receive the gums, and, with its attachments applied, is placed in the patient's mouth to receive the bite in the wax. The saddles *d* are adjusted on the plates *c* to prevent the patient's lower jaw from biting out too far. The collar *g* is clamped on arm *f* to gage by the arms *h h'* any deviation of the lower jaw in case the bite rocks in the mouth, or in case the jaw should be thrown out too far. The slides *i i'* are moved on the rods to suit the length of face, and the screws *l l'* are adjusted so that their inner ends touch the nose and chin of the patient, and any deviation of the lower jaw thus ascertained and corrected. The wire *m*, placed horizontally, gages the parallel of the teeth with the lips, and by the pointer on its collar *n* indicates the variation in case the bite turns in the mouth. The arm *f* is adjusted on the gage A, so as to bring the wire *m* exactly in line with the parting of the lips, which is the proper line for occlusion of the teeth. The wax-bite having been thus obtained, the plaster casts are placed on the bite in impressions

made by the gums, and in this position they are placed in the articulator, as shown in Fig. 3, in which B is the articulator and *r r* the casts. While thus held the duplicating-gage is used to obtain a duplication of the positions. The gage is attached by its bar *o* to the articulator, so that the rod *p* and wire *q* are held, as shown, in front of the arm *f*, and can be adjusted to bring the wire *q* exactly parallel with the wire *m*, to indicate the lines of equipoise and occlusion. After the wire *q* is set and clamped the wax-bite and original gage are removed and the teeth set up, the duplicate gage serving to guide the work, as shown in Fig. 4. These operations are simple, and with proper care in first setting the original gage there can be no mistake, and perfect correctness can readily be obtained in the dentures.

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

1. The combination of adjustable jaw-plates *c c*, sliding saddles, adjustable arm *f*, and pivoted wire *m*, substantially as shown and described, for gaging the lines of equipoise and occlusion.

2. The pivoted arms *h h'*, arm *f*, slides *i i'*, and screws *l l'*, combined with the biting-gage A, substantially as shown and described, for indicating variations of the jaws from their correct position, as specified.

3. The biting-gage A, having saddles *d*, adjustable on plates *c*, for the purpose of preventing the patient's jaw from extending out too far, as described.

4. The combination, with the arm *f*, of the clamping-collar *g* and arms *h h'*, to indicate any deviation of the lower jaw, as described.

5. The combination, with the arms *h h'* on rod *f*, of the slides *i i'* and the adjustable screws *l l'*, to ascertain and correct any deviation of the lower jaw, as described.

6. The combination, with the rod *f*, of the cross-bar *m*, the collar *n*, carrying pointer *n'*, and the collar *g*, having scale to indicate any variation caused by the turning of the biting-gage in the mouth, as described.

7. The wire *m* and the gage A, combined with an arm, *f*, made adjustable in the gage to bring the wire in line with the parting of the lips, as and for the purpose specified.

8. The duplicating-gage consisting of bar *o*, rod *p*, and pivoted wire *q*, for use with the original gage, substantially as shown and described.

LOUIS MANKER.
JOHN WESLEY MANKER.

Witnesses:
A. W. SWEET,
C. E. JENKINS.