

SURGICAL SAW FOR CUTTING OFF CHEEK BONES

TECHNICAL FIELD

The present invention relates to a surgical saw for cutting off cheek
5 bones which is used for cutting off portions of cheek bones during plastic
surgeries for smoothing bulged cheek bones, and more particularly to a
surgical saw for cutting off cheek bones which has spacing-adjustable
double saw blades capable of precisely cutting off cheek bones at one
time in a predetermined width.

BACKGROUND ART

The cheek bones such as the zygomatic buttresses, are bones
bulged out below the tails of the eyes on the both sides of a face.
Appropriate cheek bone bulges give a vigorous and good look and a
15 three-dimensional effect, but excessive cheek bone bulges cause a face
to look wide and a nose to look relatively low in front view so that the
bulges may be a factor for a face appearance to be deteriorated.
Particularly, the excessive bulges together with a square chin which is
distinctly protruded and angled cause a strong and rough appearance so
20 that they give an adverse feeling to others.

Accordingly, plastic surgeries are being widely carried out to look
mild in appearance by smoothing bulged cheek bones in recent.

Methods and difficulty degrees of plastic surgeries for smoothing
cheek bones are dependent upon bulged directions and degrees of the
25 cheek bones. In case that cheek bones are protruded forwards, it is
enough for their smoothing only to trim off protruded portions of the cheek
bones, but in case that cheek bones are severely protruded forwards or
cheek bones are protruded sideways, an effect can be brought only when

portions of the cheek bones are cut off, and remaining separate portions on both sides are pushed toward each other in order for both cross-sectioned ends of the remaining cheek bones to be joined to each other.

In the meantime, a conventional surgical saw 10 for cutting off
5 cheek bones which is used for removing portions of the cheek bones in cheek bone plastic surgeries has an arm 11 formed in an elongate straight bar shape and a saw portion 12 mounted on the front portion of the arm 11 as shown in FIG. 1, and a fixture portion 11a on the rear side of the arm 11 is mounted in a jaw 21 of a handle 20 in which an electric
10 motor is built, so that the jaw 21 reciprocates the saw to cut off portions of cheek bones 101 of a skull 100 exposed through skin opened by the saw portion 12 as shown in FIG. 2.

However, in case that the conventional surgical saw for cutting off
cheek bones as mentioned above is used, the saw portion 12 has only
15 one saw blade so that at least two times cutting operations are needed to partially cut off cheek bones, as shown in FIG. 3, causing a problem that surgeries become very cumbersome as well as require lots of time. Further, a cutting interval has to be adjusted based on naked eyes through the skin opened by cutting, so that it is very difficult to adjust
20 cutting-off widths of both individual cheek bones of a face due to a difficult securing of a visual field, causing a high occurrence frequency of surgery aftereffects bringing an asymmetry of the left and right sides of a face.

DISCLOSURE OF INVENTION

25 Accordingly, in order to solve the above problems caused by the conventional surgical saw for cutting off cheek bones, it is an object of the present invention to provide a surgical saw for cutting off cheek bones which has two saw blades a distance between which can be adjusted and

fixed beforehand to precisely cut off portions of the cheek bones in a predetermined width with a one-time cutting operation.

In order to achieve the above object, the surgical saw for cutting off cheek bones according to the present invention comprises an arm fixed by mounting the rear end portion thereof in a jaw of a handle; and a double saw blade part connected with the front end portion of the arm and having two saw blades arranged side by side in a certain distance.

In the above structure, the individual saw blades of the double saw blade part are preferably fixed on both sides of the front end portion of the arm by a fixing means in a distance to each other.

Further included are at least one or more spacing members selectively placed between the individual saw blades of the double saw blade part and the sides of the front end portion of the arm on which the individual saw blades are closely fixed, and for enabling the distance of the individual saw blades to be adjusted.

Further, the left and right sides of the spacing members and the both sides of the front end portion of the arm, which are closely contacted with each other, have up-and-down movement preventing structures for preventing the individual saw blades from relative rotations with respect to the arm by restraining relative movements in up-and-down directions with respect to each other and movements in up and down directions of the individual saw blades.

Furthermore, the fixing unit includes a bolt transversely penetrating the individual saw blades and the front end portion of the arm and a nut engaged with the bolt.

BRIEF DESCRIPTION OF THE DRAWINGS

The above object and other advantages of the present invention

will become more apparent by describing in detail a preferred embodiment thereof with reference to the attached drawings, in which:

FIG. 1 is a perspective view for showing a conventional surgical saw for cutting off cheek bones;

5 FIG. 2 is a perspective view for showing a motor-driven surgical saw to which a conventional saw for cutting off cheek bones is mounted;

FIG. 3 is a view for showing a conventional surgical saw for cutting off cheek bones in use;

10 FIG. 4 is a perspective view for showing a surgical saw for cutting off cheek bones according to an embodiment of the present invention;

FIG. 5 is a perspective view for showing a motor-driven surgical saw to which a surgical saw for cutting off cheek bones is mounted according to an embodiment of the present invention;

15 FIG. 6 is a view for showing a surgical saw for cutting off cheek bones in use according to an embodiment of the present invention;

FIG. 7 is an exploded perspective view for a surgical saw for cutting off cheek bones according to another embodiment of the present invention; and

20 FIG. 8 is a cross-sectioned view taken along line VIII-VIII of FIG. 7.

BEST MODE FOR CARRYING OUT THE INVENTION

Hereinafter, the structure and operations of a surgical saw for cutting off cheek bones will be described in detail through preferred embodiments of the present invention.

25 FIG. 4 is a perspective view for a surgical saw for cutting off cheek bones according to an embodiment of the present invention, and FIG. 5 is a perspective view for a motor-driven surgical saw to which a surgical saw for cutting off cheek bones is mounted according to an embodiment

of the present invention.

As shown in FIG. 4, a surgical saw 30 for cutting off cheek bones according to an embodiment of the present invention has an arm 31 of an elongate bar shape and a double saw blade part 32 mounted on the front
5 end of the arm 31.

The arm 31 is a round bar of a certain length on the front end of which the double saw blade part 32 is mounted and on the rear end of which a fixture portion 31a having a connection structure is formed to be connected with a jaw 21 of a handle 20, as shown in FIG. 5, so that the
10 double saw blade part 32 is fixed to the handle 20 with a certain distance from the front end of the handle 20 to be easily controlled as well as to transfer a linear reciprocation kinetic energy of the handle 20 to the double saw blade part 32. Particularly, in case that the handle has a motor(not shown) therein as in the present embodiment, a linear
15 reciprocation kinetic energy of the jaw 21 structured to be reciprocated by the motor is transferred to the double saw blade part 32.

The double saw blade part 32 are connected to the front end of the arm 31 to be linearly reciprocated together with the arm 31 so that the double saw blade part 32 directly cut off portions of cheek bones with
20 plural saw teeth formed along the lower sides of the blade part 32. The double saw blade part 32 is constructed with two saw blades 32a and 32b arranged side by side in a certain interval and simultaneously cuts off at least two portions of cheek bones.

With the above structure, in the surgical saw 30 for cutting off
25 cheek bones according to an embodiment of the present invention, the arm 31 and double saw blade part 32 are linearly reciprocated by the jaw 21 which is linearly reciprocated by the motor built in the handle 20, and, in case that the surgical saw 30 is used in surgeries for cutting off

portions of cheek bones as shown in FIG. 6, the surgical saw 30 can saw at least two positions of cheek bones 101 at the same time so that the saw 30 can cut off a portion of the cheek bones 101 with only a one-time cutting operation.

5 Meanwhile, FIG. 7 is an exploded perspective view for showing a surgical saw for cutting off cheek bones according to another embodiment of the present invention.

 As shown in FIG. 7, a surgical saw 40 for cutting off cheek bones according to another embodiment of the present invention includes a
10 structure that individual separated saw blades of a double saw blade part 42 are fixed to the front end portion of an arm 41 by a fixing unit constructed with a bolt 43 and a nut 44. In particular, plural spacing members 45, for example, zero to four spacing members, can be selectively placed on both sides of the front end portion of the arm 41 and
15 between individual saw blades 42a and 42b, and the members 45 and the blades 42a and 42b are tightly fixed to the arm 41 by the bolt and nut 43 and 44. Further, as shown in FIGs. 7 and 8, structures for preventing up-and-down movements are formed on the left and right sides of each of spacing members 45 as well as of the front end portion of the arm 31,
20 having convex and concave portions to be matched with each other to restrain the individual saw blades 42a and 42b from relative movements in up and down directions among the constituents of the structure as well as movements of the individual saw blades 42a and 42b in up and down directions after the individual saw blades 42a and 42b are fixed to the
25 front end portion of the arm with the spacing members 45 placed between the blades 42a and 42b and the front end portion.

 With the structure mentioned above, in case that the surgical saw 40 for cutting off cheek bones according to another embodiment of the

present invention is used in surgeries for cutting off cheek bones 101, the two saw blades 42a and 42b of the double saw blade part 42 can saw two positions of the cheek bones 101 at the same time so that a portion of the cheek bones 101 can be cut off through a one-time cutting operation. In particular, since the distance between the two saw blades 42a and 42b of the double saw blade part 42 can be adjusted by adding the spacing members 45, the surgical saw 40 has an advantage in that widths of cheek bones to be cut off can be diversely adjusted.

The surgical saws for cutting off cheek bones according to the present invention as stated above in detail carry out linear reciprocation movements by the handle or the motor built in the handle. In case that the saws are used in surgeries for cutting off cheek bones, the interval between the saw blades can be adjusted in advance and both saw blades of the combined double saw blades can cut two positions of the cheek bones at the same time in a precise cutting-off length so that the surgical saws can precisely cut off a portion of the cheek bones by a predetermined cutting-off width with a one-time cutting operation. Accordingly, when the surgical saws for cutting off cheek bones according to the present invention are used for surgeries for cutting off cheek bones, the surgeries for cutting off portions of cheek bones can be very conveniently carried out as well as the periods of time for the plastic surgeries for cheek bones can be greatly reduced. In addition, since portions of both cheek bones can be precisely cut off by a width set in advance, an occurrence frequency of asymmetric aftereffects of the left and right sides of a face due to different cutting-off widths of the left and right cheek bones upon plastic surgeries of the cheek bones can be drastically reduced.

CLAIMS

What is claimed is:

1. A surgical saw for cutting off cheek bones, comprising:

an arm fixed by mounting the rear end portion thereof in a jaw of a

5 handle; and

a double saw blade part connected with the front end portion of the arm and having two saw blades arranged side by side in a certain distance.

2. The surgical saw as claimed in claim 1, wherein the individual

10 saw blades of the double saw blade part are fixed on both sides of the front end portion of the arm by a fixing means in a distance to each other.

3. The surgical saw as claimed in claim 2, further comprising at

least one or more spacing members selectively placed between the individual saw blades and the sides of the front end portion of the arm on

15 which the individual saw blades are closely fixed, and for enabling the distance of the individual saw blades to be adjusted.

4. The surgical saw as claimed in claim 3, wherein the left and

right sides of the spacing members and the both sides of the front end portion of the arm, which are closely contacted with each other, have up-

20 and-down movement preventing structures for preventing the individual saw blades from relative rotations with respect to the arm by restraining relative movements in up-and-down directions with respect to each other and movements in up and down directions of the individual saw blades.

5. The surgical saw as claimed in any of the claims 2 to 4, wherein

25 the fixing means includes a bolt transversely penetrating the individual saw blades and the front end portion of the arm and a nut engaged with the bolt.