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3,349,771

NASAL CLAMP

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FIG. 1

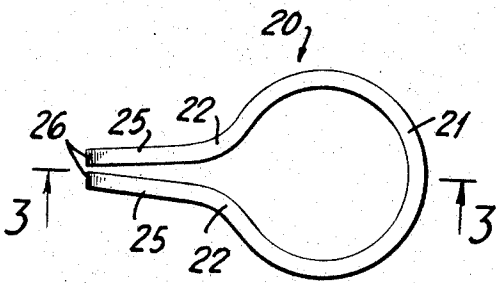
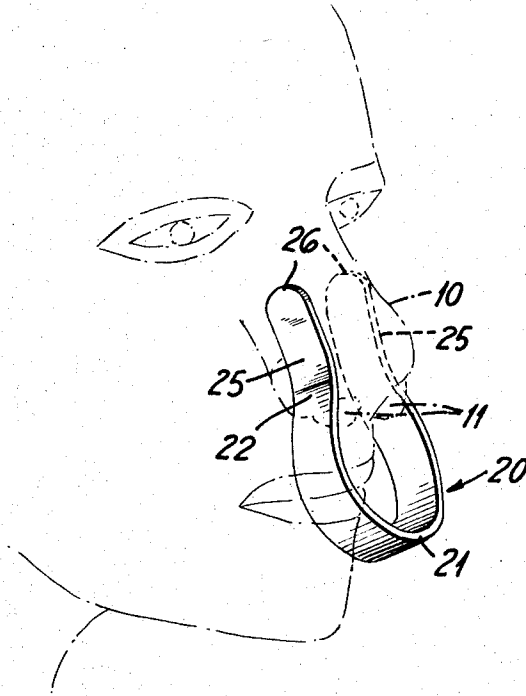


FIG. 2

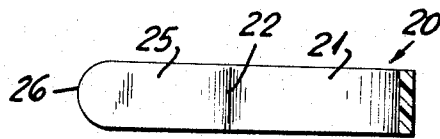


FIG. 3

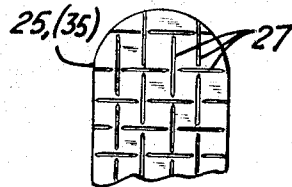


FIG. 5

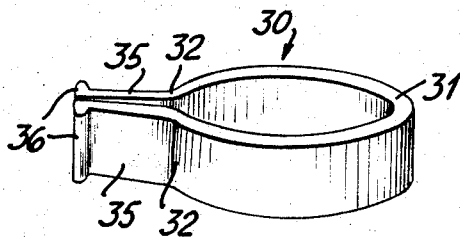


FIG. 4

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NASAL CLAMP

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1 Claim. (Cl. 128—325)

This invention relates to nasal clamps for controlling nasal hemorrhaging and, more particularly, to a novel and improved nasal clamp characterized by ease of application, effective control of hemorrhaging, and simplicity of construction.

Nasal hemorrhaging can be a serious problem, particularly when an attempt is made to stop bleeding resulting from a severe nasal hemorrhage. Among expedients used for arresting nasal hemorrhaging are the insertion of absorbent packing into the nose. However, this by itself is not as efficient as could be desired. Accordingly, external pressure must be exerted against the nose to force the areas of the nose into tight contact with the absorbent packing.

An object of the invention is to provide a nasal clamp which may be clamped over the nose to maintain pressure on the nose and against packing inserted inside the nostrils to arrest nasal hemorrhaging.

Another object of the invention is to provide such a nasal clamp which is simple and inexpensive in construction while being efficient in use.

A further object of the invention is to provide a nasal clamp which can, if necessary, be released and applied by the patient without the assistance of a doctor, as when the patient has been to a doctor's office for treatment of a hemorrhage and has left for home where the hemorrhaging may possibly re-start.

In accordance with the present invention, a novel nasal clamp is provided, comprising a substantially flat and elongated strip of resilient material which is bent to a U-shape to form a bight which is circular through substantially more than 180°, and substantially rectilinear legs extending from the ends of the bight. These legs are arranged to engage and apply pressure to the exterior of the nose, for example at the anterior septal area. Due to the substantially circular formation of the bight of the clamp, adequate and effective resilient pressure can be applied through the legs of the clamp when the latter are placed in contact with the nose.

While the nasal clamp of the invention may be formed of many materials, a preferred material is a resilient plastic composition material. Of such materials, it has been found that cellulose acetate is particularly effective because it has a modulus of elasticity which is sufficient to exert the required pressure, while the material is strong and tough and thus not readily damaged.

In using the clamp of the invention, packing is placed in the nostrils and then the clamp legs are spread apart and placed over the nose so that, when they are released, they will press firmly against the exterior of the nose to maintain firm contact of the nasal areas with the packing. The clamp is particularly effective for hemorrhaging from the anterior septal area, from which arises substantially 90% of nasal hemorrhages.

For an understanding of the principles of the invention, reference is made to the following description of typical embodiments thereof, as illustrated in the accompanying drawings.

In the drawings:

FIG. 1 is a phantom perspective view illustrating a nasal clamp, embodying the invention, as applied to control a nasal hemorrhage;

FIG. 2 is a plan view of the clamp shown in FIG. 1;

FIG. 3 is a section taken on the line 3—3 of FIG. 2;

FIG. 4 is a perspective view of a modified form of nasal clamp embodying the invention; and

FIG. 5 is an enlarged partial inside elevation view of the clamp illustrating a modification.

Referring to FIG. 1, one form of nasal clamp embodying the invention is illustrated at 20 as applying pressure to a patient's nose 10 in which cotton or other absorbent material has been stuffed into the nostrils to absorb the bleeding. Clamp 20 applies pressure to the external surface of the nose adjacent the anterior septal area, thereby compressing the flesh of the nose against the packings 11 so that the latter will effectively absorb bleeding from the nasal areas.

As perhaps best seen in FIGS. 2 and 3, the nasal clamp 20 is a substantially flat and relatively elongated strip of resilient material, such as plastic composition material, of which cellulose acetate is preferred. The clamp may be molded to the desired shape, which is a U-shape including a substantially circular bight 21 of which the circular part extends through substantially more than 180°. The ends of bight 21 are formed as reversely curved transition sections 22 connecting the bight to legs 25 of the U-shape clamps. These legs extend outwardly from bight 21 and converge toward each other in a direction outwardly from the bight when the clamp is in the released position shown in FIGS. 2 and 3. As best seen in FIG. 3, the extreme ends of legs 25 are rounded, as indicated at 26, in the planes of the legs.

The substantially circular design of bight 21, which may be imparted thereto during molding of the clamp, results in an effective spring pressure being exerted through the legs 25. A rather simple circular design of bight 21 has been found to be very advantageous as compared to more complex spring clamp configurations. The relatively elongated and flat nature of legs 25 assures application of the pressure to the nose over relatively extended areas, thereby avoiding points of pressure concentration.

By way of a specific example, clamp 20 may be made in two sizes, and these two sizes have been found adequate to meet the needs of various nasal conditions. A smaller size is provided which measures 1½" in width and 2½" in length, with a cross section of ⅛" x ½". A larger size, by which greater pressure may be exerted, has the same cross section, but measures 2" in width and 3¼" in length. Cellulose acetate is preferred as the material from which the clamp is molded, and the clamp may be transparent or, if desired, may be opaque or colored. Cellulose acetate provides the desired modulus of elasticity for the clamp and, in addition, is a very tough and strong synthetic resin or plastic material.

FIG. 4 illustrates another form which the clamp may take in practice, this form differing somewhat from the form shown in FIGS. 1, 2 and 3. As illustrated in FIG. 4, the clamp 30 is provided with the bight 31 which again is substantially circular and whose ends are connected by transition portions 22 to legs 35. In this case, the ends of legs 25 are not circular, in the planes of the legs, as is the case with the clamp of FIGS. 1, 2 and 3, but extend rectilinearly and have reinforcing ribs 36 extending therealong. The ribs 36 make for ease of applying and removing the nasal clamp. The clamp 30 otherwise has the same general dimensions as does the clamp 20 and is formed of the same material as used to form the clamp 20. Application of clamp 30 is effected in the same manner as illustrated, in FIG. 1, for clamp 20.

For both clamps, 20 and 30, the pressure against the nose is firmly and controllably applied to hold the nasal packing 11 firmly against the bleeding area. It has been found, in practice, that about 10 minutes of pressure will effect control of the nasal bleeding.

In some cases, the clamp may tend to slip along the nose, as under conditions of moisture or perspiration. To prevent such slipping and to greatly enhance the efficiency

of the clamp, the surface configuration shown in FIG. 5 may be used. Referring to FIG. 5, the inner surfaces of legs 25 or 35, over at least the major portions of the lengths of the legs, are formed with indentations 27 arranged in a rectangular grid in a manner to provide the visual effect of being "woven."

These indentations are in the form of V cross section grooves arranged as short grooves aligned and spaced along mutually perpendicular coordinates of the grid. Grooves in any one coordinate crosses over an intersecting coordinate and between the ends of longitudinal adjacent grooves in the intersecting coordinate.

The indentations are less than 1 mm. in depth, and there are no projections outwardly of the nose engaging surfaces of the clamp legs. Nevertheless, a very effective gripping of the nose is provided without any injury to the external surface of the nose.

While specific embodiments of the invention have been shown and described in detail to illustrate the application of the principles of the invention, it will be understood that the invention may be embodied otherwise without departing from such principles.

What is claimed is:

A nasal clamp, for engaging exterior surfaces of the nose at substantially the anterior septal area to apply sufficient pressure on soft cotton pack means, placed within the nostrils, to arrest nasal bleeding, said nasal clamp comprising a unitary one-piece substantially flat and elongated relatively wide strip or resilient plastic composition material having the characteristics of strength and toughness and having a relatively high modulus of elasticity, said strip bent to form a substantially circular bight, having an angular extent substantially in excess of 180°, and to form straight, rectilinear and planar legs, of sub-

stantial surface area, extending from the ends of the bight and, in the unstressed condition of the clamp, in closely adjacent relation and converging toward each other, outwardly from the bight, at a relatively small angle; said legs being spreadable by stressing of the clamp to engage and to apply pressure over substantial areas of opposite exterior surfaces of the nose at substantially the anterior septal area of the nose; the relatively broad nose-engaging surfaces of said legs being characterized by gripping formations including relatively shallow substantially V-shaped grooves, arranged as relatively short, longitudinally aligned and longitudinally spaced grooves along the coordinates of a substantially rectangular grid; grooves on one coordinate crossing over an intersecting coordinate and between the ends of longitudinally adjacent grooves on the intersecting coordinate; the angular extent of said bight in cooperation with said substantially rectilinear legs, providing for such pressure to be exerted by the clamp with the latter oriented at different respective angles relative to the nose; said clamp being retained in operative position solely by the pressure of said engagement with the nose.

References Cited

UNITED STATES PATENTS

2,064,986	12/1936	Mezz	128—132
2,547,424	4/1951	Williams	24—255 X
2,620,793	12/1952	Collubier	128—132
2,685,880	8/1954	Curutchet	128—321
2,757,665	8/1956	Tanikawa	128—346 X

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