

Dec. 9, 1952

E. F. MUHLETHALER

2,620,795

NOSE CLIP FOR ADMINISTERING MEDICINES

Filed Feb. 13, 1950

Fig. 1

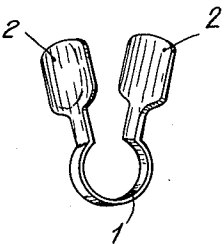


Fig. 2

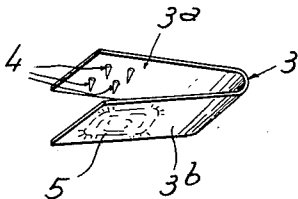


Fig. 2a

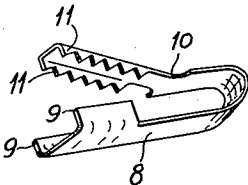
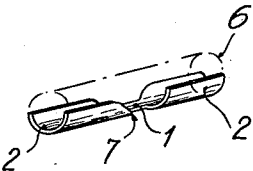


Fig. 3



Inventor

Ernest Frederic MUHLETHALER

By *Frederic G. Hochmuth*
Agent

UNITED STATES PATENT OFFICE

2,620,795

NOSE CLIP FOR ADMINISTERING
MEDICINES

Ernest F. Muhlethaler, Geneva, Switzerland

Application February 13, 1950, Serial No. 143,900
In France November 3, 1949

2 Claims. (Cl. 128—198)

1

The invention relates to a device for treating affections and diseases, particularly diseases of the respiratory tract, through the nose.

Devices and apparatus of this type known heretofore comprised generally a small clip of suitable material clipped to the septum separating the two nostrils. The jaws of said clip were provided with a small concavity or receptacle to receive a medicament suitable to act upon the disease to be treated. Such devices, which were put into place immediately before use, presented serious drawbacks as follows:

The receptacles forming the jaws of the clips were provided with apertures in order to allow the active principle of the medicaments disposed therein to produce its therapeutic action. However, those medicaments lost their active power unless they were utilized shortly after they had been put into the receptacles. Other devices were, at the time of their application, provided with a cotton pad impregnated with the medicament to be applied; in this case, the receptacles were either rather cumbersome and inconvenient for the patient or too small to hold an efficient amount of the medicament. Besides, such devices did not satisfy the sanitary rules and were beyond any medical control. Any person using them could introduce in the apparatus whatever medicament he wanted, which was a grave danger. As the apparatuses were intended for repeated use, it was indispensable to sterilize them after each use.

A principal object of the invention is to provide an apparatus of the type described which is free of the drawbacks inherent in the known devices.

Still other objects and advantages of the invention will be apparent from a consideration of the specification and claims.

The device according to the invention comprises an elastic support with two legs adapted to be introduced each in one nostril, each of said legs carrying a dose of at least one therapeutic agent suitable to act upon the disease or affection to be treated. In this respect, it is similar to known devices; in contradistinction, however, to such devices, at least the dose of the agent carried by the ends of the legs of the support is tightly covered with one or more layers of a protective coating which prevents the access of air to the medicament.

Some embodiments of the invention are shown, by way of example, in the accompanying drawings.

In the drawings:

Fig. 1 shows on an enlarged scale (larger than the actual size) a perspective view of a device according to the invention;

Figs. 2 and 2a are perspective views of perforators adapted to puncture the protective coat

2

covering the impregnated layer carried by the device of Fig. 1, and

Fig. 3 is a perspective view of another embodiment of the invention in an intermediate stage of manufacture.

Having reference to Fig. 1, the numeral 1 represents a support made of a plastic, preferably transparent or colored material; the support is so shaped as to form a little clip or tongs and is obtained by stamping or molding and cambering. The ends of the legs of the clip form spatulas 2 adapted to receive the medicament brought in a form which readily allows of placing it therein.

In order to prevent the deterioration of the medicament in contact with air and to ensure its perfect conservation, the legs of the clip are dipped in a bath of a plastic material which quickly dries and hardens without doing any harm to the medicament.

Enclosed in this manner, the medicament can retain its efficiency indefinitely, as it is withdrawn from the influence of outside agents.

In order to set free the action of the medicament (in other words, to bring the apparatus into operation), it is sufficient to puncture the containers or receptacles placed on the spatulas 2, by means of a perforator, such as shown in Fig. 2. Such perforator is formed by an elastic U-shaped strip 3, the upper leg 3a of which is provided with points 4 and the lower leg of which forms a kind of cup or recess 5 adapted to receive the container or receptacle to be perforated.

Fig. 2a shows another modification of a perforator which comprises a small elastic metal clip. The lateral edges 9 of one leg 8 are bent upwardly in a right angle. The other leg 10 is narrower, so as to fit within the space enclosed by the edges 9; its edges 11 are also bent in a right angle and provided with saw teeth.

When a spatula 2 of the device shown in Fig. 1 is put between the bent edges 9 of the leg 8 and the legs of the clip are pressed together, the teeth of the edges 11 puncture the protective envelope and form therein apertures which release the medicament. The apertures formed by the teeth have less tendency to close again due to the elasticity of the protective envelope than simple perforations such as obtained by the perforator represented in Fig. 2.

The device of the invention may be manufactured, by way of example, in the following manner:

A strip of plastic material is provided with two parallel strips of an absorbing material, for instance blotting paper, cellulosic substances, vegetable or animal fibers such as felt, or also compressed mineral or synthetic porous materials. These absorbing strips are preferably made

adherent to the plastic support either by directly cementing or gluing them thereon or by interposing between the support and the absorbing strips another strip, both sides of which are adhesive. Subsequently portions are stamped out of the composite strip thus obtained and bent so as to give them their final clip-like form and impregnated with the medicament. The impregnated parts are then insulated against contact with the atmosphere, as indicated hereinabove. The stamped out portions may also receive tablets of solid medicated materials (powdered drugs) or of compressed semi-solid substances.

Another method of making the apparatus of the invention is indicated in Fig. 3. A tube 6 is cut along a diametrical plane and each half cylinder is notched out in the middle portion 7 so as to obtain the device comprising the two end spatulas 2 and a springy medial portion which is bent to the form shown on Fig. 1.

The particular form given to the clip 1 ensures that it is securely held in place, whereby the curved portion is placed over the cushion-like end of the septum without exerting any pressure thereon; therefore, the apparatus does not cause any discomfort.

The plastic material in which the clip with the medicaments is dipped, may be constituted for instance, by a gelatin compound, by cellulose varnish such as collodion or by a rubber solution.

The medicament-containing envelopes on the spatulas 2 may be perforated in advance. In this case, the perforations are again closed, for instance by dipping the spatulas and the envelopes fixed thereto in a sealing material which melts when the apparatus is introduced into the nose. The perforations may also be sealed by spreading or brushing thereon the sealing material, or by applying an adhesive element which is mechanically removed immediately before the apparatus is used.

The numbers and dimensions of the perforations will be so adjusted as to conform to the desired rate of evaporation of the medicament.

It is obvious that the use of the apparatus is not limited to the treatment of affections of the respiratory tract but that the apparatus may be successfully employed for preventive purposes.

Since embodiments of the invention have been

shown merely for the purpose of illustration, it will be obvious to those skilled in the art that those embodiments are susceptible of various modifications; for instance the container or envelopes for the medicaments may be attached to the clip only immediately before use, without departing from the spirit of the invention or scope of the appended claims.

The sealing material for closing the perforations of medicament-containing envelopes may be constituted for instance, by a vegetable, animal or synthetic fatty body, with a melting point below 35° C., such as cocoa butter.

Solid tablets may be secured to the clip with glue and then coated by dipping in a liquid plastic material.

What I claim is:

1. An apparatus for treating affections through the nose comprising an elastic support consisting of a curved medial portion and two end portions, each of said end portions adapted to being introduced in one nostril and carrying a medicament, and an airtight protective coating covering the entire surface of said medicament.

2. A blank for manufacturing nose clips suitable for administering medicines, comprising a strip of flexible material, two parallel strips of absorbing material cemented to said strip of flexible material, a volatile medicament absorbed by said strips of flexible material, and an air-proof readily perforatable film of an organic material completely covering said medicament.

ERNEST F. MUHLETHALER.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
622,701	Merritt	Apr. 11, 1899
1,009,180	Richards	Nov. 21, 1911
1,508,890	Lasseaux	Sept. 16, 1924
1,804,670	Brennan	May 12, 1931
2,057,397	Strauch	Oct. 13, 1936

FOREIGN PATENTS

Number	Country	Date
381,127	Germany	Sept. 15, 1923