

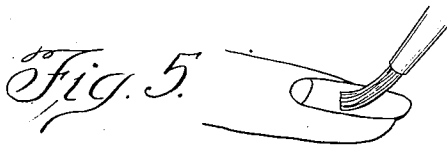
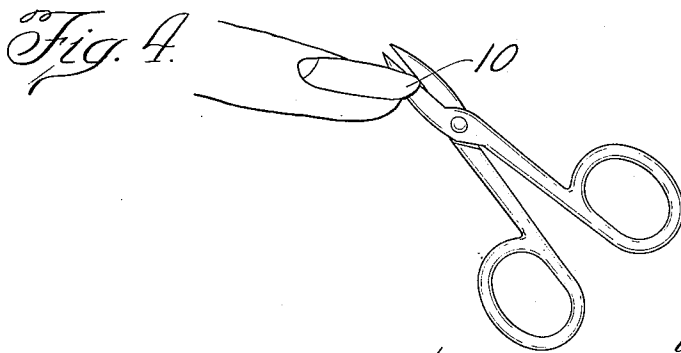
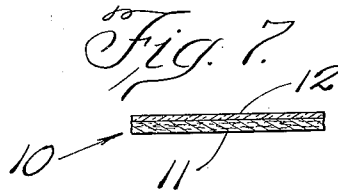
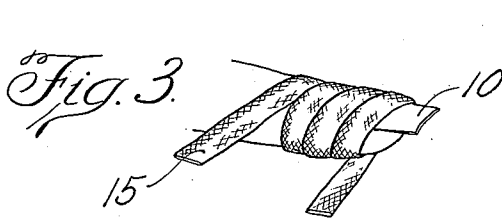
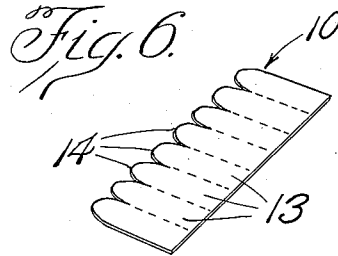
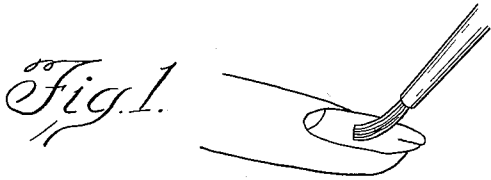
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A. LITT

2,209,408

PROTECTIVE NAIL COVERING

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UNITED STATES PATENT OFFICE

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PROTECTIVE NAIL COVERING

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1 Claim. (Cl. 132-73)

This invention relates to a new and improved method of treating fractured fingernails, and a protective nail covering particularly adapted for that purpose.

To fully appreciate the utility of the invention it should be kept in mind that it is at present customary to wear fingernails of such length that the free edge of the nail projects substantially beyond the finger tips and is, therefore, particularly susceptible to breakage, particularly in instances where women are actively using their hands, as, for example, in operating typewriters, cash registers, or other business machines.

With these facts in mind it will be seen that in order to properly treat a broken nail it is not only necessary to provide a protection for the nail until the nail grows to such length that the split or broken tip may be trimmed off, but it is also essential to provide a protective covering such that the treated nail will be presentable in appearance during the period of treatment.

This result is accomplished in the present invention by providing a very thin, tough, transparent nail covering, which may be adhesively secured to the surface of the nail and which has a smooth, lustrous, upper surface on which ordinary nail polish may be applied. The characteristics of the protective coating are such that the upper surface of the covering is hardly distinguishable from the upper surface of the nail itself, and when a liquid nail polish is applied over the lustrous surface of the protective coating, it simulates the appearance of the true nail so closely as to be indistinguishable.

Referring now more particularly to the drawing:

Figs. 1, 2, 3, 4 and 5 illustrate five successive steps in the method of treatment of the nail;

Fig. 6 is a perspective view of a portion of the nail covering material; and

Fig. 7 is a greatly enlarged sectional view of the protective nail covering material.

The preferred form of protective nail covering material illustrated in Fig. 7 comprises a very thin laminated sheet 10 including a fibrous lower layer 11 and a non-fibrous, non-porous, moisture-resistant upper layer 12. In the present form of the invention the upper layer 12 consists of a cellulose acetate film, but it is contemplated that a film of any cellulose ester, such as cellulose nitrate, cellulose aceto-butylate or of a cellulose ether, as ethyl cellulose or benzyl cellulose may be used. In fact it is contemplated that satisfactory results may even be obtained by the use of a regenerated cellulose film, if this film is pro-

vided with a rosin or lacquer coating to resist moisture. For the best results it is essential that this film be of a nature as to be waterproof or have moisture resisting qualities, for the fingernail itself is to a certain extent hygroscopic, and should be protected against moisture to insure an absolutely satisfactory bonding of the adhesive or cement.

The lower layer 11 of the protective coating 10 is a thin fibrous material of considerable tensile strength and high transparency. It is adhesively united in close bonded relationship with the upper layer 12 and may be impregnated with adhesive. It should be understood, of course, that the sectional illustration shown in Fig. 7 is greatly enlarged and that the protective material 10 is actually very thin, satisfactory results having been obtained by the use of such material in which the combined thickness of both of the layers 11 and 12 total approximately .004 inch. The lower fibrous layer 11 is preferably somewhat thicker than the film 12 to provide sufficient tensile strength in the material.

In the treatment of a split or broken nail, the first step is to adhesively secure a piece of the covering material 10 to the top surface of the nail, it being understood that the covering 10 is applied with the lower fibrous lamination 11 in contact with the upper nail surface and with the glossy cellulose film surface 12 exposed. The fibrous character of the lower lamination 11 provides a lower surface particularly adapted for firm cementitious connection with the nail because of the microscopic irregularities in the surface which tend to facilitate formation of a firm cemented joint. If desired, the lower surface of the lamination 11 may be coated with a pressure-sensitive adhesive during the process of manufacture in order to adhere to the nail surface without the use of liquid cement, but it is at present preferred to use a liquid cement of cellulose ester or cellulose ether composition, as, for example, cellulose acetate.

The first step for the treatment of the nail is to apply liquid cement to the upper nail surface, as illustrated in Fig. 1.

The second step is to apply the protective nail covering 10 on this cement surface with a fibrous layer 11 in contact with the nail, and the lustrous layer 12 exposed. For purposes of convenience, the covering 10 may be manufactured in strips, each including a plurality of separable sections 13 having smoothly curved edges 14 at one end, but this is not essential to the practice of the invention.

The third step is to apply moderate pressure throughout the entire cemented area and maintain this pressure for a short time interval to permit the liquid cement to solidify. This pressure may be applied uniformly and very easily by simply winding a soft fabric ribbon 15 about the nail and allowing it to remain in position until the liquid cement has hardened sufficiently. In this connection it will be noted that the non-porous lamination 12 prevents the liquid cement from penetrating the covering material 10 and thus forestalls any chance that the cement may adhere to the winding ribbon 15.

The fourth step is to trim the protective coating 10 along the free edge of the nail. This may be done either by cutting or filing in the usual manner. After the protective coating 10 is thus applied to the nail, liquid nail polish may be brushed on the lustrous upper surface of the cellulose lamination 12.

As heretofore pointed out, the protective material 10 is very thin and is highly transparent and may, therefore, be applied over the entire surface of the nail, so that the edges of the material 10 are coextensive with the perionychium of the nail without changing the visual appearance of the nail, since the transparent qualities of the covering 10 will allow the lunula to be visible. Thus in the application of the liquid polish, the semilunar area at the base of the nail need not be covered, and the natural appearance of the nail will be preserved. This mode of application of liquid polish is common practice, but it is practical for use in the treatment of injured nails only by virtue of the fact that the protective covering material 10 is of transparent nature and includes a smooth, glossy, non-porous upper surface, which so closely resembles the actual nail surface in appearance as to be indistinguishable from the natural nail when applied as above directed.

It is not necessary, however, that the material 10 be applied over the entire surface of the nail, and very good results may be obtained by apply-

ing the protective covering only at the free edge of the nail and extending back only sufficiently to provide a firm cementing surface. When applied in this manner, it is possible to cover and conceal the rear edge of the covering material 10 by the application of cellulosic liquid polish, as shown in Fig. 5, and thus render the terminating edge of the covering completely invisible. This is possible by virtue of the extremely thin nature of the laminating covering material 10 and by the fact that its close resemblance to the appearance of the natural nail renders any visible distinction difficult, even before the nail polish is applied.

From the above description it will be apparent that by practicing the principles of this invention, a split or broken nail may be quickly covered and permanently protected, and at the same time the fractured area of the nail will be completely concealed and invisible, rendering the nail thoroughly presentable and attractive in appearance.

While I have shown and described the present preferred embodiment of this invention in compliance with the patent statutes, it is subject to numerous changes and modifications without departing from the invention spirit, and I, therefore, do not wish to be limited except as by the scope of the appended claim.

I claim:

The method of treating fractured finger nails comprising the steps of adhesively uniting a protective nail covering in contacting surface engagement with the surface of the nail, said protective nail covering comprising a laminated sheet including a fibrous lower layer having a microscopically uneven surface adapted for firm, intimate adhesive connection with the nail surface, and a smooth, lustrous, non-fibrous, moisture-resistant cellulosic upper layer; trimming the edges of said nail covering to size and shape coextensive with said nail, and applying liquid cellulosic polish to the smooth upper surface of said protective layer.

ANNABELLE LITT.