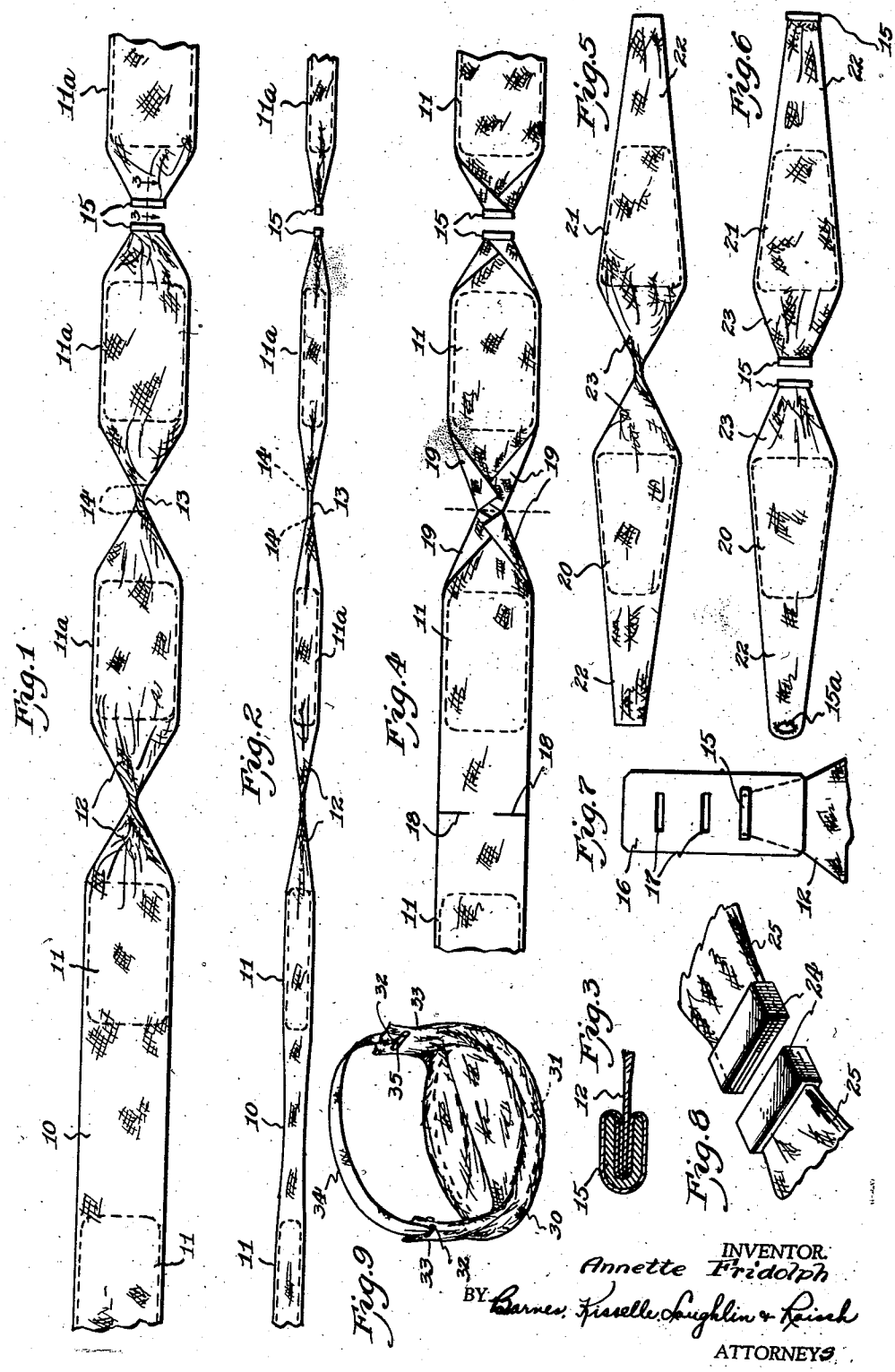
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BANDAGE AND METHOD OF MAKING SAME

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BANDAGE AND METHOD OF MAKING SAME

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This invention relates to improvements in bandages, bandage holders, and the like and to a method of making bandages. More particularly the invention has to do with the provision of scientifically designed bandages, such as surgical bandages, with connecting means secured to one or both ends thereof for quick and facile attachment and detachment to any supporting means, with absolute security.

This is a continuation in part of a prior and copending application, Serial No. 755,484, filed November 30, 1934.

A further object is the provision of such an article with a connecting medium secured to one or both ends thereof, said connecting medium being in the form of a strip or member of relatively stiff material of sufficient length to be passed through an aperture or loop and held securely therein while in cross-wise position, said medium being preferably secured directly and permanently to said article.

Another object is the provision of such an article in which the ends are folded or gathered or otherwise reduced in effective width at or adjacent the junction with the connecting means whereby a hammock-like structure is formed.

An additional object has to do with methods for forming these bandages whereby the desired shape is obtained.

A further object of the invention has to do with the formation of the relatively stiff securing ends of the bandages whereby a plastic material may be incorporated with the bandage gauze at the ends.

The present invention has a number of diversified uses. It is adaptable for use on infants' paper diapers, surgical dressings, hair bands, or ladies' belts. The invention is particularly adapted to making of catamenial bandages or sanitary napkins wherein a filter or absorbent material or pad is used in connection with a gauze bandage as a holder. An example of the application of the invention will be explained in connection with this type of bandage.

In the drawing:

Fig. 1 is a plan view of a strip of the bandage showing the various steps in the manufacture.

Fig. 2 is a side elevation of the bandage of Fig. 1

Fig. 3 is an enlarged section of the completed end of the bandage showing the head portion.

Figs. 4, 5 and 6 illustrate modified methods of making the bandage.

Fig. 7 illustrates the manner in which the bandage is fastened to a retaining strap.

Fig. 8 illustrates a cross-section of a modified end head composed of plastic material.

Fig. 9 is a perspective view of a modification of the invention to be used as a self-supporting bandage.

In the making and using of catamenial bandages, a chief difficulty has been in providing gauze ends which will permit convenient attachment to the belt or clip worn by the user, and still provide a reasonable amount of comfort. The absorbent pads of these bandages are usually confined within the folds of a strip of gauze which is wrapped around the pad several times. The gauze extends several inches beyond each end of the pad. In some bandages the gauze is about 22" long while the pad is only about 8" or 9" long. This extra gauze at each end is necessary to permit the user to fold the ends to provide a reinforced portion which may be grasped and held by a securing clip provided for that purpose. In some cases the manufacturer folds these ends upon themselves and stitches the folds to provide this securing portion.

Referring to the drawing in more detail, Figs. 1 and 2 show plan and side views of the catamenial bandage in the process of manufacture. At the left hand end of these figures a continuous gauze strip **10** is shown folded around absorbent pads **11** which are spaced as shown. It will be recognized that the dimensions of the drawing are shown out of proportion for purposes of clarity and exemplification. The next step in the manufacture is to twist every other pad **11** with respect to the strip so that it is turned upside down. After this step the gauze between the pads **11** and **11***a* takes the shape shown at **12**. The next step in the operation is to cut the gauze at the narrow joining section **13**. If desired, the portions **12** of the gauze may be stitched at **14** to retain the shape as shown. This is not necessary, however, if the process is carried out as will be described.

After the gauze is cut it is held in its twisted shape and immediately clamped between the sides of a U-shaped retaining member **15** which is shown in enlarged cross-section in Fig. 3. This retaining member **15** is a relatively stiff material which is bendable to the extent that it will clamp the ends of the gauze as indicated. Each end of the sections **11***a* are clamped within such a retaining member. This may be done by folding in such a manner as to encase the U-shaped strip with the gauze before it is bent together. The result is a sanitary napkin which

is much more comfortable in use than the usual type and which may be made at a saving of 15 to 20% in the length of gauze necessary. The twisting of the gauze as above described gives an even, smooth and comfortable fold which cannot be obtained by simply folding or gathering the ends of the gauze as is usually done.

With the retaining member **15** as described, it is possible to provide an extremely simple securing means for the bandage. It is necessary only to provide the supporting ribbons or elastic worn by the user with holes having a diameter large enough to receive the cross-section of the member **15** but smaller than the length of the member. This is illustrated in Fig. 7 where a ribbon or elastic **16** is provided with spaced holes **17** to provide adjustability. The lowermost hole is shown with the retaining member **15** inserted longitudinally therethrough and turned transversely as shown so that it serves to fasten the bandade to the securing ribbon **16**.

In Figs. 4, 5, and 6 are shown modifications of the method above described. In Fig. 4, the folded gauze **10** and pads **11** are arranged just as in Fig. 1. However, instead of twisting the intervening gauze it is cut on each side as shown at **18**. The material thus freed is folded upon the center portion as at **19** so that a narrowed portion is formed between the absorptive pads **11**. The neck of the narrowed portion is then cut as before and fastened with retaining end members **15** in the same manner.

In Figs. 5 and 6 a new type of absorptive pad **20** is illustrated in connection with the present invention. This pad **20** is shaped as a trapezium with equal slanting sides. This design is especially recommended by nurses and physicians for the absorptive pad of a catamenial bandage. The reason it has not been more widely used is that it has been difficult to apply gauze to such a pad without considerable expense. The present invention is particularly useful with such a pad. In the manufacture of this type of bandage, pads **20** and **21** are located within the folds of the gauze in alternate reversed position. Every other pad is then twisted as described in connection with Fig. 1. The ends are then cut and fastened with the retaining ends. The result is a bandage in which the gauze assumes the shape of the pad, the longer end **22** tapering gradually (Fig. 6).

In Fig. 8 is illustrated a modified retaining end for the bandages. This retaining end may be formed of a plastic material which softens with the application of heat, or some material similar to Bakelite. The plastic end may be formed of a U-shaped piece **24** having a groove to receive the end of the bandage. After the insertion of the gauze into the groove it is pressed into the gauze by heated members. Another form may be made by pressing a small block of plastic into the gauze at the narrowed juncture **13** of Fig. 1, for example. The block may then be cut in the middle and there will be two finished ends.

There is thus formed a simple and effective article of the character described, which may be readily attached or detached, the connection being in the form of a universal pivot so as to insure maximum comfort, flexibility, and also adjustability when desired. The attachment of the connecting means to the article is strong and secure, as is the connection to the supporting means. The connecting medium is so relatively small in size as not to interfere with the disposal of the discarded articles. The folding and twisting and other steps described in the manufacture as well as the securing of the cross-head connecting member may be readily accomplished by automatic machines which have been developed for that purpose.

An important feature of the invention which should be emphasized is that it permits a secure fastening of the rather weak, flimsy, gauze without the necessity for reinforcement thereof by numerous folds and stitches as in the prior devices. The invention thus permits the saving of a considerable amount of material in the bandage.

In Fig. 9, I have shown a modification of the bandage which may be used especially for cuts or wounds on arms, legs or the neck. An elastic may be provided to join the ends to form a self supporting bandage. It is also possible to form an eyelet in one end of the bandage and a fastening head on the other so that it may serve as a complete bandage without additional supporing means.

What I claim is:

1. The method of manufacturing a surgical bandage and the like which comprises folding a length of flexible bandage material transversely upon itself and placing absorbent bandage pads within said folds at spaced intervals, turning certain of said pads with respect to the others to form a narrowed converging portion in said material between said pads, cutting said material substantially at the middle of this narrowed portion and fastening on these narrowed out ends, a cross-head connecting means formed of stiffened material and relatively long and narrow but substantially shorter than the width of said material.

2. A method as claimed in claim 1 in which the absorbent pad used with the bandage material is formed in the shape of a tapered trapezium, said material being twisted to assume substantially the contour of said pad.

3. The method of manufacturing a surgical bandage and the like which comprises folding a length of flexible bandage to retain flexible pads placed at spaced intervals along said bandage, forming opposed transverse cuts in said bandage between said pads, folding the bandage freed by said cuts upon the center portion to form converging portions from each pad, cutting said bandage at the narrowest point in the convergance and placing on the ends thus formed a cross-head connecting end.

4. A method as claimed in claim 3 which includes placing a block of plastic material on said converging portion, pressing the same into said bandage, and cutting the block transversely to form connecting ends on the bandages.

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