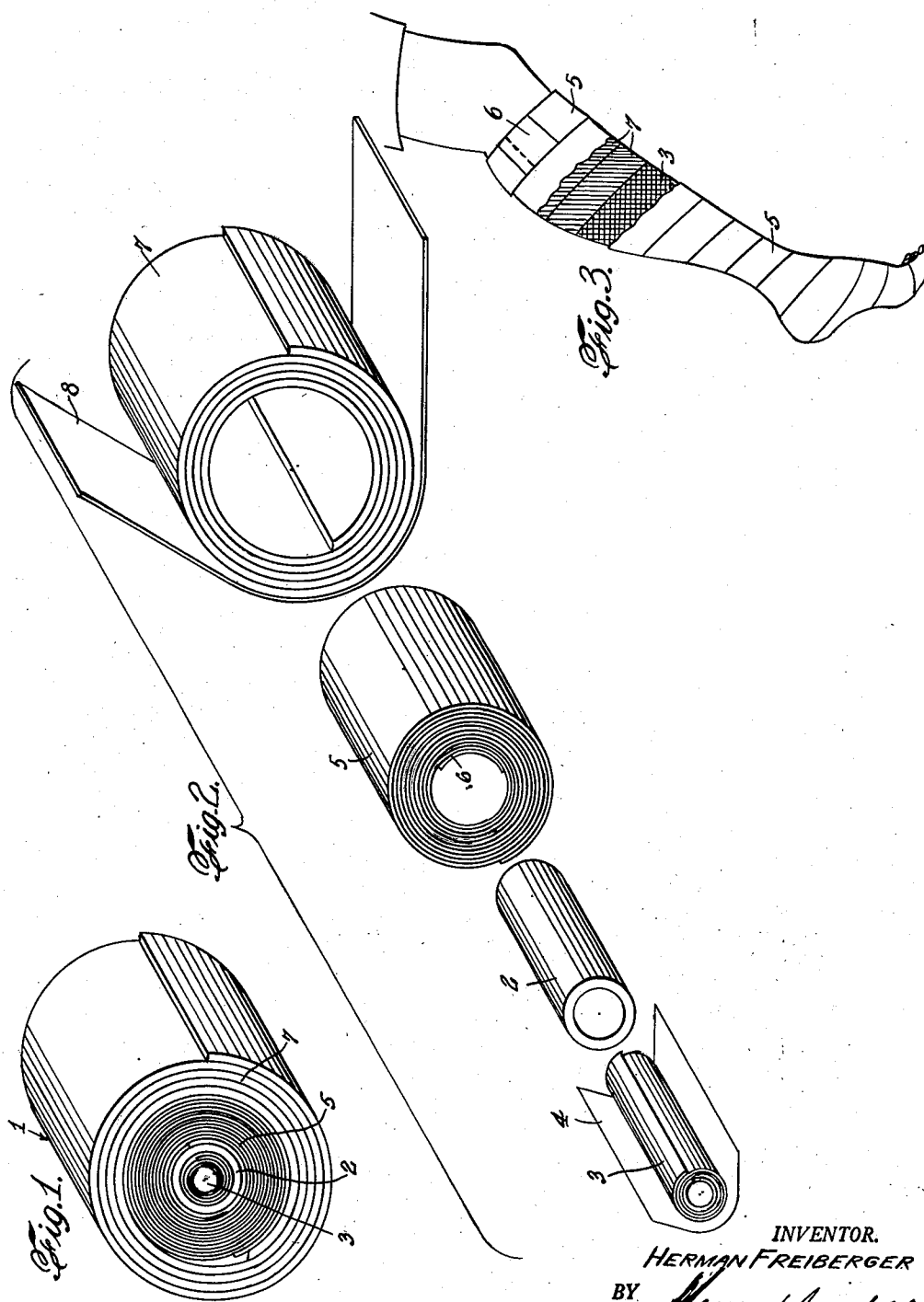


Sept. 22, 1953

H. FREIBERGER
BURN AND WOUND DRESSING
Filed July 24, 1951

2,652,829



INVENTOR.
HERMAN FREIBERGER
BY *[Signature]*
ATTORNEY

UNITED STATES PATENT OFFICE

2,652,829

BURN AND WOUND DRESSING

Herman Freiburger, Glen Rock, N. J., assignor to
Medical Fabrics Co., Inc., Paterson, N. J., a corporation of New Jersey

Application July 24, 1951, Serial No. 238,256

3 Claims. (Cl. 128-170)

1

The present invention relates to a burn and wound dressing and particularly to a combination type sterile dressing for burns and wounds.

In the treatment of burns, the inflammation of the tissues which is caused by the effect of heat is complicated in all second, third, and fourth degree burns by thrombosis of the veins in the area of the burn. The thrombosis of the small veins in the burned area is found either immediately after the burn, or it develops soon afterwards. It is caused by the damaging action of the heat on the walls of the veins. Therefore, in every burn, except those of the first degree the treatment of which offers no problem, there is thrombophlebitis of small veins in the affected area. It is of the utmost importance to prevent the inflammation of the small veins from spreading to the large deep veins. When this happens, the patient is exposed to all the dangers of an acute thrombophlebitis of the large veins. In the extremities this may lead to occlusion of the femoral vein or subclavian vein, and to embolism. But even if these conditions which endanger the life of the patient should not develop, the patient will always be afflicted with a chronic phlebitis after the burn has healed.

It is not sufficient merely to apply a medicated dressing to the burned area; for, no matter how effective it may be in promoting the healing of the burn, and in alleviating pain, it will not heal the thrombophlebitis of the small veins, nor will it prevent the spreading of the thrombophlebitis to the large deep veins.

Regarding wounds, and especially deep muscular wounds, for example wounds necessitating the use of sutures, muscular tone causes a tension force against the sutures which adds to the traumatism, which is not alleviated by means of ordinary dressings.

It is an object of the present invention to provide a combination type sterile dressing for burns and which is effective in preventing thrombophlebitis of the large veins. It is another object of the present invention to provide a combination type sterile dressing for burns and wounds arranged as a complete dressing unit ready for instant use. It is a further object of the present invention to provide a combination type sterile dressing wherein each dressing member is arranged in a particular position in relation to another member and said arrangement being adopted to maintain the combination in a sterile condition during storage, transportation, etc. It is a still further object of the present invention to provide a combination dressing for burns and

2

wounds whereby each member of the combination is particularly arranged over the burned or traumatic area. Other objects and advantages of the present invention will become apparent from the description hereinafter following and the drawing forming a part hereof, in which:

Fig. 1 is a diagrammatic view of a combination dressing according to the present invention,

Fig. 2 is an exploded view illustrating arrangement of the component parts of the present invention, and

Fig. 3 is an arrangement view of the combination dressing as applied to a human limb.

According to Figs. 1 and 2 of the present invention, I provide a combination type sterile dressing for burns in the form of a cylindrical roll 1 having a substantially rigid tubular core 2, e. g. a pressed paper core, which contains a sterile rolled textile strip 3, such as a strip of gauze impregnated with a medicant. The medicated strip is wrapped, for maintaining sterilization in a protective hermetically sealed envelope 4 of heat sealed cellophane or the like material, e. g. a plastic wrapping. Since the medicated strip must at all times maintain its sterilization, the rigid tubular core 2 protects the envelope 4 from extraneous forces which could cause rupturing of the envelope thereby incurring contamination of the impregnated strip.

An elastic bandage 5 is rolled about the tubular core 2 with an end of the bandage 5 anchored to the core by means of an adhesive strip 6. The elastic bandage is a textile strip rendered elastic, at least in part, by the weaving of the material. It comprises substantially parallel non-elastic fibrous strands across the width of the strip and elastic fibrous strands woven continuously along the length of the strip over and under the parallel non-elastic strands to provide a pressure bandage functioning as hereinafter described.

A non-absorbent wadding strip 7 is rolled over or wrapped around the elastic bandage 5 and the combined unit is sterilized and wrapped in a protective hermetically sealed envelope 8 of heat sealed cellophane or the like material, e. g. a pliable plastic wrapping.

In applying the dressing hereinbefore described, the envelope 8 is opened, the medicated strip 3 is removed and the envelope 4 is opened after which the medicated strip is applied to the burned or wounded area, e. g. the burned or wounded area of a limb as shown by Fig. 3. The non-absorbent wadding strip 7 is applied over the medicated strip 3 and the elastic bandage

3

5 is applied over the wadding 7 and fastened or secured by means of the adhesive strip 6 which had heretofore anchored an end of the bandage 5 to the tube 2.

While applying the bandage 5, the core 2 provides for a firm grip of the bandage in handling the bandage or positioning the bandage and furthermore provides a uniform tension across the width of the bandage while applying pressure to the burned area of the limb.

Having now applied the members of the combination pressure dressing over a burned area of a limb, muscular movement is possible due to the elasticity of the pressure bandage 5 thereby promoting circulation and maintaining pressure which prevents the spreading of thrombophlebitis to the large, deep veins, prevents thrombi from detaching themselves from the walls of the veins, prevents the danger of septicemia, effects decongestion of the affected tissues by promoting the circulation, and relieves pain. Furthermore, the combination dressing is particularly adaptable for use in conjunction with medication such as the use of hydrolysed milk which recent advances in medicine have proven to have a substantially scar reducing effect in the treatment of burns. An especially advantageous method is hereby possible wherein the application of such hydrolysed milk, which is applied preferably in conjunction with a jelly base, is pressurized thereby increasing its healing effect.

The members of the combination pressure dressing are similarly applied over a wounded area, e. g. a muscular wound of a limb, whereby the muscle is not immobilized thereby promoting circulation and effecting decongestion, whereby pain is alleviated by pressure adapted to decrease tension against sutures due to muscular tone, etc., whereby during healing the development of scar tissue is substantially decreased by means of said pressure.

In the aforementioned combination, the pressure bandage 5 is a critical member of the combination. The bandage is manufactured as a textile from non-elastic fibrous strands parallel across the width of the bandage and elastic fibrous strands woven over and under across the non-elastic strands lengthwise of the bandage. The fibrous nature of the strands, e. g. yarn strands, render the bandage free of constriction. This is an important characteristic since the pressure bandage 5 thereby acts to provide a venous pump for the muscle veins to promote circulation. When the muscles are relaxed there is only sufficient pressure on the muscle over which the bandage is applied to maintain the dressing combination in proper position without loosening, to pressurize the burned or wounded area to prevent traumatic shock, to prevent con-

4

gestion, and to prevent detachment of thrombi from the vein walls while still being sufficiently elastic to allow substantially free circulation. When the muscles are flexed, the pressure is automatically increased to increase the venous blood flow toward the heart thereby acting as a venous pump.

The combination burn and wound dressing as hereinbefore described, therefore, not only acts as a basic sterile dressing but is particularly adapted to allow substantially normal muscular movement during convalescence thereby increasing healing without swelling of limbs or the usually extreme pain attendant therewith.

What I claim is:

1. A burn and wound dressing comprising in combination a substantially hard tubular core, a rolled medicated textile strip disposed within said core, an elastic textile strip material co-axially rolled about said core, a non-absorbent wadding strip material co-axially rolled about said elastic strip.

2. A burn and wound dressing comprising in combination a substantially hard tubular core, a rolled medicated textile strip disposed within said core, an elastic textile strip material co-axially rolled about said core, a non-absorbent wadding strip material co-axially rolled about said elastic strip, said elastic strip consisting of parallel non-elastic fibrous strands across the width of the strip and elastic fibrous strands woven over and under across the non-elastic strands lengthwise of said strip.

3. A burn and wound dressing according to claim 2, comprising an adhesive strip material adhesively anchored to the outer surface of said core and to an end portion of said elastic strip contacting said core.

HERMAN FREIBERGER.

References Cited in the file of this patent

UNITED STATES PATENTS

Number	Name	Date
1,070,923	Schulz	Aug. 19, 1913
1,762,389	Fagan	June 10, 1930

FOREIGN PATENTS

Number	Country	Date
360,386	Great Britain	Apr. 29, 1930

OTHER REFERENCES

Becton, Dickinson, & Co., T. M. 130,635, Reg. March 4, 1920 (renewed).

Surgery, Gynecology, and Obstetrics, vol. 52, 1931, pp. 1164-1169. Copy available in Scientific Library of Patent Office.

The Merck Report, January 1945, pp. 23, 24. Copy available in 128-155.