

**3,050,064**

*Fig. 1*

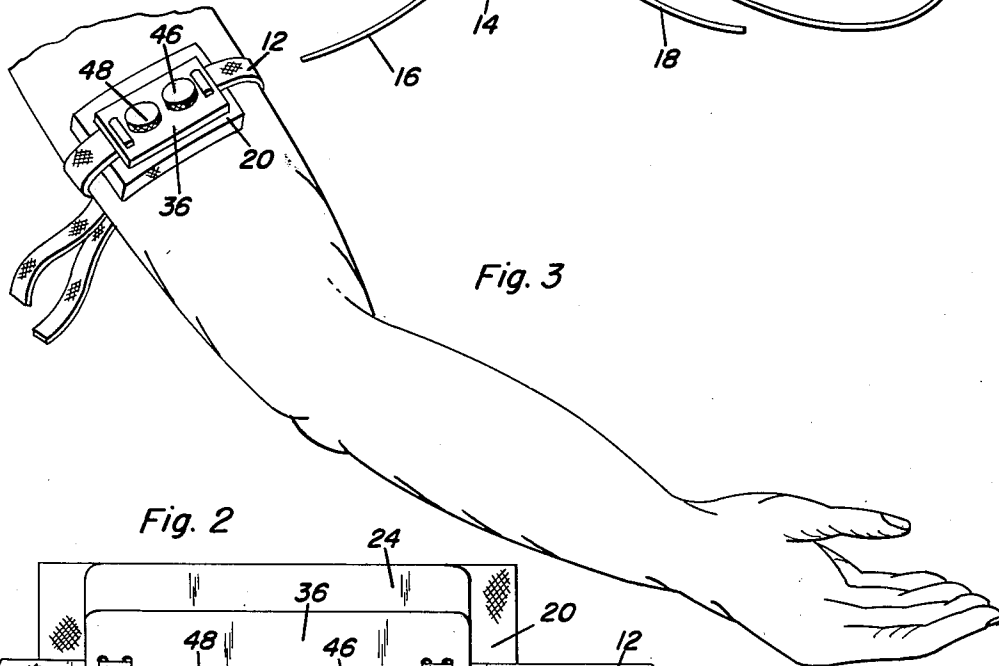
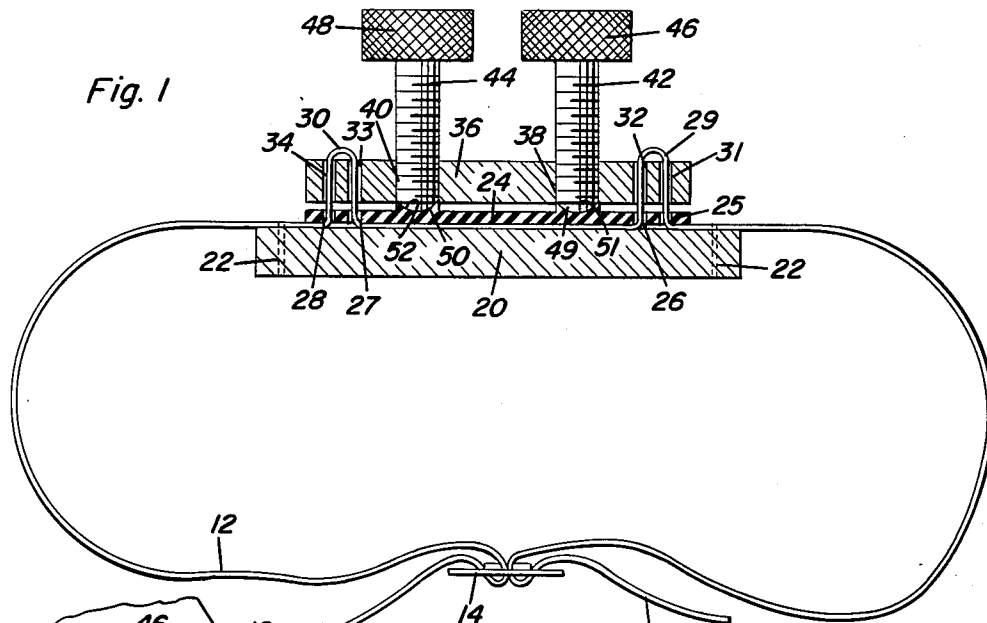
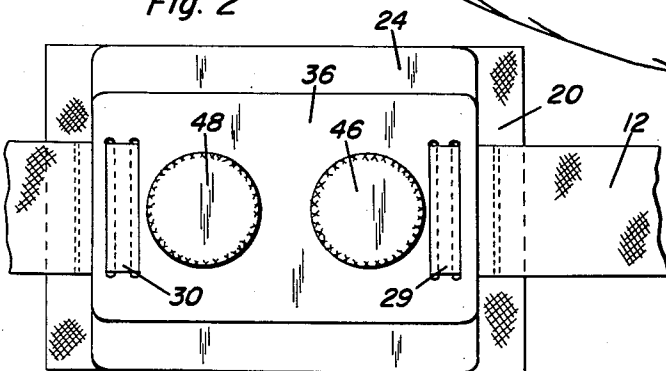


*Fig. 2*



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## MECHANICAL COMPRESS BANDAGE

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This invention relates to compress bandages and more particularly to a compress bandage which is of a mechanical, adjustable nature.

An object of the invention is to provide a compress bandage which is easily used and considerably more effective than prior compress bandages in that a selected amount of pressure may be applied effectively and easily.

Briefly, a compress bandage in accordance with the invention includes a strap which is capable of being secured to any part of the anatomy, for instance the arm, the wrist, the leg, around the torso, etc. The compress structure includes a pad secured to the strap, and means by which to apply pressure on the pad from the exterior of the strap after the strap is applied to the part of the body which is to be treated.

At the outset, it is explicitly pointed out that the principles of the invention deal principally with compress bandages and not tourniquets. There is a great distinction between the two as to achievement and affect on the person with which the bandaging procedure is being accomplished.

A very important feature of the invention is found in the multiple adjustment of the pad. In the use of a compress bandage, as opposed to a tourniquet, the pressure should be applied on the sterile pad directly on the point of bleeding. This is quite a departure from a tourniquet where the purpose is simply to stop blood flow by pressure applied to a vein or artery. In such a situation a single adjustment may be all that is necessary. But, in using a compress in the true capacity of a compress, multiple application of force is found to be far more effective to serve the intended purpose. Of course, for very small wounds, a single point of application for the force is all that is necessary. However in such a situation, a more elaborate compress is ordinarily not necessary.

Another feature of the invention which is worthy of specific mentioning is in the actual means for applying force to the pad. It is preferred that these means consist of a pair of screws, together with a resilient force transfer member located between the screw carrier and the strap and/or pad. In addition, there are shallow pockets in the force transfer member within which the extremities of the screws nest thereby preventing them from shifting or alternatively, preventing the force transmitting member from shifting upon application of force by means of the screws.

These together with other objects and advantages which will become subsequently apparent reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming a part hereof, wherein like numerals refer to like parts throughout, and in which:

FIGURE 1 is a partially elevational and partially sectional view of a compress in accordance with the invention.

FIGURE 2 is a top view of a part of the compress bandage shown in FIGURE 1.

FIGURE 3 is a perspective view showing the compress bandage in use.

In the accompanying drawings there is illustrated a strap 12 of indefinite length and having a buckle 14 at the ends 16 and 18 thereof. The strap can encircle any portion of the anatomy within the sound judgment

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of the user. The strap is flexible and may be made of any suitable, flexible material, such as cloth, plastic, etc.

Sterile pad 20 is attached to strap 12 intermediate the ends of the strap and is made of compress material, for instance layers of cloth, cotton and cloth combination and others. Stitching 22 at the ends of pad 20 connect the pad to the strap 12.

A force transmitting member 24 is superposed with respect to a part of the strap 12 intermediate the ends of the strap. This force transmitting member is made of a resilient but comparatively stiff substance, for example an elastomeric plastic, as polyethylene, or reasonably hard rubber. It has four slots 25, 26, 27, and 28, arranged in pairs, near the opposite end thereof. Two loops 29 and 30 are formed in the strap 12, and these extend through slots 25, 26 and slots 27, 28. The loops also extend through the pairs of slots 31, 32 and 33, 34 formed in the screw supporting base 36.

Screw supporting base 36 is connected, therefore, by loops 29 and 30 to the strap 12. It is superposed with respect to the member 24, and has a pair of threaded apertures 38 and 40 therein accommodating screws 42 and 44 having enlarged heads 46 and 48 at the upper end thereof. The lower ends of the screws are rounded as at 49 and 50, and they seat in upwardly opening recesses 51 and 52. The recesses are formed in short projections rising from the upper surface of member 24, or alternatively, they may be placed directly in the upper surface of member 24. When in short upstanding parts of member 24, they serve the secondary purpose of spacing base 36 and force transmitting member 24.

Structurally, the above is all that is required in the manufacture of a compress bandage in accordance with the invention. As indicated previously it may be used in numerous ways i.e. on portions of the anatomy, and the invention is not restricted to the use of the compress bandage on any particular part of the anatomy. When used, strap 12 is secured to the portion of the anatomy in question, for example the arm as shown in FIGURE 3, and then the screws 42 and 44 are turned. These screws apply force to the member 24 at two spaced places along the length of pad 20. When force is applied in this way, the loops 29 and 30 prevent separation of the assembly and enable the force to be transmitted to sterile pad 20 directly on the point of bleeding. Inasmuch as there is a considerable amount of yield and give to pad 20 and force transmitting member 24, the application of force at two spaced places is important for the reasons pointed out previously. Further, the prevention of shifting of member 24 by means of the structural cooperation between the rounded ends of the screws and the upwardly opening recesses 51 and 52 enables the pad to be applied precisely where intended and without experiencing shifting and other difficulties in the application of the compress bandage.

In order to successfully apply the bandage the user simply holds the sterile pad 20 in one hand and grasps both ends of the tightening buckle with the other hand pulling upwardly on the buckle and thereby loosening the canvas strap 12. He tears the protective wrapper (not shown) off the sterile pad 20, placing the intended surface of the pad on the point of bleeding, holding it at that position. The user then tightens the strap by pulling on the loose ends 16 and 18 in an obvious manner. When the compress bandage is snug against the wound merely apply the necessary pressure to stop the flow of blood by means of tightening the balanced equalizing pressure regulating screws 42 and 44.

It will be evident that the utilization of properly positioned spaced setscrews on the base (bracket or plate) and utilizing pairs of alignable slots at the left and right

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hand end portions of the base 36 and pressure member 24 and by extending the end portions of the pad beyond the ends of the member 24 and stitching the longitudinally spaced portion of the straps, a novel structural arrangement and combination of featured parts is had.

The foregoing is considered as illustrative only of the principles of the invention. Further, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction and operation shown and described, and accordingly all suitable modifications and equivalents may be resorted to, falling within the scope of the invention as claimed.

What is claimed as new is as follows:

1. A compress bandage comprising, in combination, a compressibly resilient sterile pad, a base plate parallel to and spaced from a top side of said pad, a force transmitting and pressure equalizing member interposed and sandwiched between said pad and plate, said plate and member each having slots at their respective transverse ends, a flexible inelastic strap having free ends connectible by a cooperating manually adjustable buckle, a median portion of said strap being interposed between the top of said pad and bottom of said member, end portions of said pad projecting beyond corresponding end portions of said plate and member, median but longitudinally spaced portions of said strap being fixed to the respective projecting end portions of said pad, portions of said strap between the fixed portions being threaded through their cooperating slots and thus assembling the plate, member and pad, the top side of said member having at least one outstanding projection with a sealing recess therein, and at least one pressure screw carried by said plate and having one end aligned with and seated in said recess.

2. A compress bandage comprising, in combination, a compressibly resilient sterile pad, a base plate parallel to and spaced from a top side of said pad, a force transmitting and pressure equalizing member interposed and sandwiched between said pad and plate, said plate and member each having slots at their respective transverse ends, a flexible inelastic strap having free ends connectible by a cooperating manually adjustable buckle, a median portion of said strap being interposed between the top of said pad and bottom of said member, end portions of said pad projecting beyond corresponding end portions of said plate and member, median but longitudinally spaced portions of said strap being fixed to the respec-

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tive projecting end portions of said pad, portions of said strap between the fixed portions being threaded through their cooperating slots and thus assembling the plate, member and pad, the top side of said member having a pair of aligned outstanding projections located inwardly of the adjacent respective slots, each projection having a seat therein, a pair of pressure applying screws carried by the respective end portions of the plate but located inwardly of the slots in said plate, end portions of said screws being removably engaged in said seats and having thrust contact with the member and pad.

3. A compress bandage comprising, in combination, a compressible sterile pad, a flexible body-part encircling strap having a bight portion and free end portions separably connected together through the medium of a connecting and adjusting buckle, said bight portion having longitudinally spaced portions thereof superimposed on end portions of the pad and secured thereto, a force transmitting and pressure equalizing and applying member superimposed on a side of the pad to which the strap portions are connected, said member having spaced parallel transverse slots at respective ends thereof, a base forming plate opposed to and in spaced parallelism with a cooperating surface of said member and having a pair of spaced screw-threaded holes provided with accessible pressure-applying screws with end portions thereof bearing against longitudinally spaced portions of said force transmitting pressure-applying member, said base-forming plate having spaced parallel slots at its ends aligned with the slots provided in said force transmitting pressure-applying member, and portions of said strap inwardly of the transverse ends of the pressure-applying member and base being formed into loops having portions thereof passing through aligned slots.

4. The structure defined in claim 3 and wherein the bight portions of the respective loops are accessibly visible at the side of the base remote from said pressure-applying member.

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