

A. W. FELTMANN.
 APPARATUS FOR THE TREATMENT OF HEMORRHOIDS.
 APPLICATION FILED JULY 5, 1912.

1,101,017.

Patented June 23, 1914.

Fig. 1.

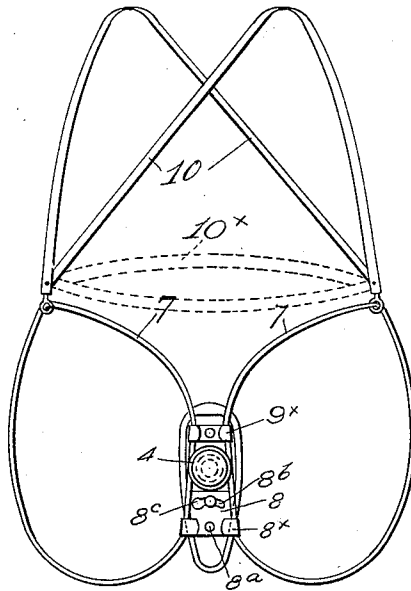


Fig. 2.

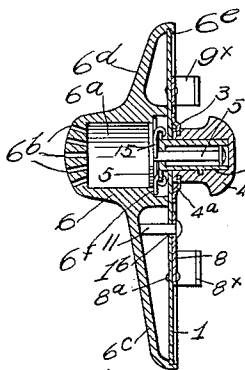


Fig. 3.

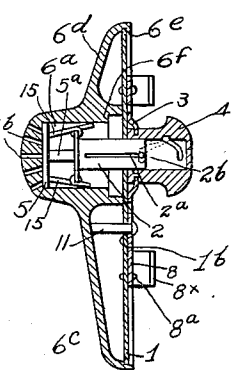


Fig. 4. Fig. 6.

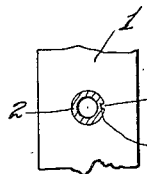
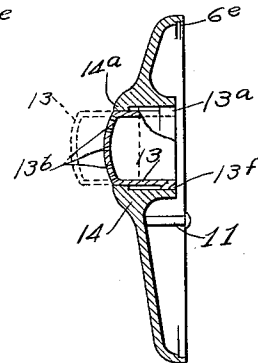
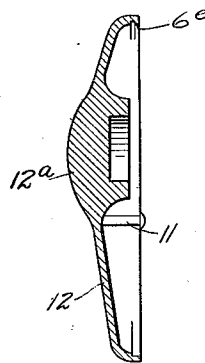


Fig. 5.

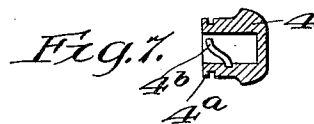


Fig. 7.

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UNITED STATES PATENT OFFICE.

ADAM WM. FELTMANN, OF CHICAGO, ILLINOIS.

APPARATUS FOR THE TREATMENT OF HEMORRHOIDS.

1,101,017.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, ADAM W. FELTMANN, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented new and useful Improvements in Apparatus for the Treatment of Hemorrhoids, of which the following is a specification, reference being had to the accompanying drawings, forming a part thereof.

The purpose of this invention is to provide an improved apparatus for the treatment of the disease known as hemorrhoids or piles, the device being particularly adapted to be used by the patient himself without assistance.

It consists of the features and elements described and shown in the drawings as indicated in the claims.

In the drawings:—Figure 1 is a bottom plan view of the device together with a harness adapted to be worn by the patient for securing it in place. Fig. 2 is a medial section of the injector-plunger in combination with the dilator truss form. Fig. 3 is a similar section of the same showing the plunger at the limit of its injecting stroke. Fig. 4 is a medial section of the simple supporting truss. Fig. 5 is a detail view of the plunger-supporting plate and the hollow spindle carried therein. Fig. 6 is a medial section of a modified form of the device which is adjustable to serve the purposes of the two forms of truss illustrated in Figs. 2 and 4, respectively.

As indicated in Fig. 1, the apparatus which is the subject of this invention partakes both of the nature of a surgical tool and of a truss device which is intended to be worn continuously by the patient under treatment.

It is contemplated that the form of the device shown in Figs. 2 and 3 shall serve principally as a surgical tool, but shall be replaced by the form shown in Fig. 4 which is to be worn continuously as a truss to support the parts under treatment.

The device comprises a supporting base plate, 1, in which is mounted a hollow spindle, 2, having a longitudinal guide groove, 2^a, into which a feather, 1^a, of the plate, 1, projects to prevent rotation of the spindle, 2. A bearing plate, 3, which is brazed or soldered to the plate, 1, is formed with a circular cupped portion between

which and the plate, 1, there occurs an annular space in which the flange, 4^a, of the operating wheel or button, 4, is journaled. The hollow hub of the wheel, 4, has a spiral groove of fairly steep pitch formed in its inner surface to engage a projecting stud, 2^b, of the spindle, 2. Thus it will be seen that rotation of the wheel, 4, will cause translation of the spindle, 2, in and out of the wheel, 4, and through the aperture of the plate, 1. The projecting end of the spindle, 2, carries a piston head or plunger, 5, which is properly fitted to the cylindrical bore, 6^a, of the dilator portion of the device shown in Fig. 2. This bore is designed to contain any medicament or ointment which the treatment requires, and the end of the dilator is provided with a series of perforations, 6^b, through which such medicament may be injected by the movement of the plunger, 5, forwardly and rearwardly of the dilator at, 6^c and 6^d, respectively, to form supporting surfaces by which the apparatus may be properly positioned and which adapt it to serve in operation as a sort of truss. The harness illustrated in Fig. 1, comprises a pair of loops or stirrups, 7, 7, which engage the device by means of the hooks, 8^x and 9^x, which are secured to the base plate, 1; these stirrups are designed to extend around the thighs and preferably about to the waistline, where they may be supported by means of a belt, but more advantageously by means of shoulder-straps, 10, of the general character indicated in Fig. 1.

Each of the truss forms illustrated in Figs. 2 and 4, respectively, is removable from the base plate, 1, and the plunger mechanism carried thereby; each of said truss forms is provided with a headed stud, 11, dimensioned to extend through an aperture, 1^b, in the plate, 1. The hooks, 8^x, are formed on a plate, 8, which is pivoted to the plate, 1, at 8^a, and which has a grooved slot, 8^b, formed about the center, 8^a, and provided with an enlarged portion, 8^c, at one end dimensioned to receive the head of the stud, 11. With this portion, 8^c, of the slot registering with the aperture, 1^b, of the base plate, 1, the opposite end of the plate, 1, is inserted under the overhanging lip, 6^c, of the truss form, 6, and the stud, 11, is thrust through the plate, 1, and locking plate, 8. The locking plate, 8, is then swung about its

pivot, 8^a, to bring the narrower portion of the slot, 8^b, under the head of the stud, 11. The presence of the stirrup loops, 7, 7, extending in a general longitudinal direction of the device tends to prevent the locking plate, 8, from swinging to unlocked position, and will keep the parts in the proper relation for an indefinite time. After the injection of a charge of medicament through the dilator of the truss form, 6, this device may be worn for such length of time as the effect of the dilator is desired; thereafter, it may be unlocked from the base plate, 1, and replaced by the plain truss form, 12, shown in Fig. 4. The hump or projection, 12^a, of this truss is much lower than that of the form, 6, since it is not intended to serve as a dilator but merely as a support. Since the base plate, 1, and the form, 6, must be separated after use to re-fill the chamber, 6^a, with a new charge of medicament, it is found simplest to leave the base plate, 1, attached to the harness by means of the hooks, 8^x and 9^x, and merely to replace the dilator, 6, with the truss form, 12. But, in order to further simplify the apparatus, I have devised the modified construction shown in Fig. 6, in which the protruding portion of the dilator is designed to telescope within the base of the truss form to render the outline substantially equivalent to that of the supporting truss, 12, thus adapting a single device to serve the same purposes as the combination of the forms, 6 and 12. Fig. 6, therefore, shows the telescoping dilator portion, 13, collapsed within the remainder of the truss form, 14, indicating in dotted lines the extent of its outward protrusion which is limited by the engagement of a flange, 13^a, of the one element with the flange, 14^a, of the other. When this arrangement is followed, it becomes necessary to employ the movement of the plunger for causing the protrusion of the dilator, 13, as well as for ejecting the medicament therefrom. But this has been found to present no additional problem mechanically, since the thickness of the ointment usually employed is such that the ointment itself will serve to transmit motion from the plunger to the movable dilator, 13, until the latter has reached the limit of its protrusion, after which further outward travel of the plunger serves to eject the ointment through the perforations, 13^b. But, in order to obtain sufficient movement of the plunger in either construction without making the hub of the operating wheel, 4, longer than is desirable, it becomes necessary in some way to multiply the movement of the spindle, 2, instead of transmitting it directly to the plunger, 5. This is accomplished by mounting the plunger on a stem, 5^a, which extends into the hollow interior of the spindle, 2, and permits free movement of

the plunger toward and from the outer end of the spindle, 2. On this end of the spindle there are provided two small levers, 15, with their longer arms in contact with the plunger, and having their shorter arms extended slightly beyond the circumference of said plunger in position to engage a shoulder, 6^c, formed at the inner end of the bore, 6^a, of the dilator. In the modified form, a corresponding shoulder is provided at, 13^c. Thus a slight movement of the spindle, 4, by rocking the levers, 15, causes a greater movement of the plunger head, 5, within the bore, 6^a, and until the levers, 15, have assumed the angle indicated in Fig. 3, in which their shorter ends can be accommodated within the bore, 6^a, the plunger, 5, will be advanced with comparative rapidity by a slight advance of the spindle, 2; after this condition obtains, the advance of the plunger is continued by the direct thrust of the spindle, 2.

When the telescoping form of dilator shown in Fig. 6 is employed it becomes necessary to lock the dilator, 13, in protruded position, and this is accomplished by extending the end of the spiral groove of the wheel, 4, in a circumferential direction at 4^b; this acts as a back-lock to prevent the return of the portion, 13, until it is voluntarily accomplished by rotation of the wheel, 4.

I claim:—

1. A device for the purpose indicated comprising a base plate, an injecting plunger permanently mounted thereon for movement transversely thereof, a truss form adapted to be removably secured to said base plate in position to inclose said plunger, a harness for holding said truss form in position, and means on the base plate adapted for securing said harness thereto.

2. A device for the purpose indicated comprising a base plate, an injecting plunger permanently mounted thereon for movement transversely thereof, collapsible means operable at will for effecting such movement of the plunger, a truss form adapted to be removably secured to said base plate in position to inclose said plunger, a harness for holding said truss form in position, and means on the base plate adapted for securing said harness thereto.

3. A device for the purpose indicated comprising a base plate, an injecting plunger permanently mounted thereon for movement transversely thereof, a truss form adapted to be removably secured to said base plate, having a dilator portion positioned to inclose the plunger and perforated to serve as a discharge nozzle for medicament, a harness for holding said truss form in position, and means on the base plate adapted for securing said harness thereto.

4. In a device for the purpose indicated, in combination with a truss form having a

dilator portion adapted to telescope within the body of the truss form, a base-plate, a plunger mounted thereon for reciprocation in contact with the dilator transversely of the plate, a wheel or button journaled on the plate for rotation about the axis of such reciprocation, said plunger being connected with said button by cooperating features which adapt the rotation of the button to cause translation of the plunger along its axis, one of said features being of helical form with a terminal portion in circumferential direction and adapted to serve as a back-lock to hold the plunger in protruded position.

5. In a device for the purpose indicated comprising a hollow dilator perforated to serve as a discharge nozzle for medicament, a base-plate adapted to close the cavity of the dilator, a spindle mounted in the base-plate for movement into and out of said cavity, a plunger extensibly mounted at the end of said spindle, a lever fulcrumed on said spindle with its one arm in contact with said plunger and with the other arm extending beyond the periphery thereof, the device having a shoulder positioned in the path of travel of said extending arm of the lever for engaging the same as the spindle is thrust into the cavity, and means for so moving such spindle.

6. A device for the purpose indicated comprising a truss form having a dilator portion adapted to telescope within the body of the truss form, said dilator portion having a hollow chamber and discharge apertures leading therefrom, a plunger mounted for movement with respect to the truss form

and adapted to engage the dilator portion in such movement for protruding it, and dimensioned to enter the hollow chamber of said dilator portion for ejecting medicament therefrom in a part of the same movement.

7. A device for the purpose indicated, comprising a truss form having a dilator portion which is chambered for containing medicament and perforated at the inner end for discharge of the same, the truss form having a cavity into which the dilator is adapted to be retracted so as to expose continuous with the inner surface of the truss form the perforated end of said dilator, and means for protruding and withdrawing the dilator portion.

8. A device for the purpose indicated comprising a truss form, a dilator member mounted in the truss form and adapted to be protruded therefrom and retracted thereinto, and manually operable means mounted on the truss form for so protruding and retracting the dilator member at will.

9. A device for the purpose indicated, comprising a truss form, a dilator member mounted in the truss form and adapted to be protruded therefrom and retracted thereinto, and manually operable means mounted on the truss form adapted for so protruding and retracting the dilator member at will and locking it in protruded position.

In testimony whereof I have hereunto set my hand at Chicago, Illinois, this 2nd day of July, 1912.

ADAM WM. FELTMANN.

Witnesses:

ROBT. N. BURTON,

EDNA M. MACINTOSH.