E. F. Banning,

Truss.

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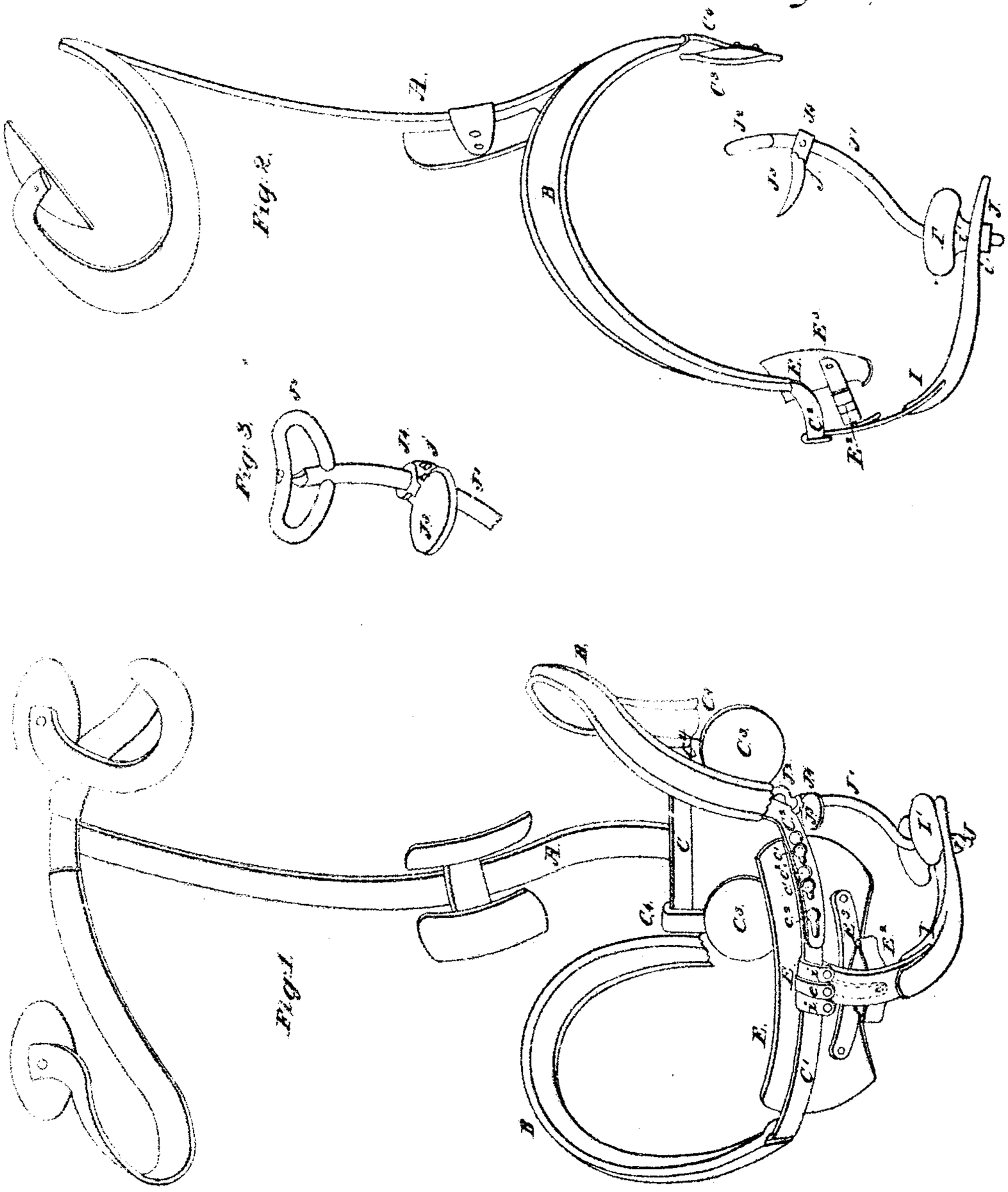

Witnesses:
Charles D. Smith
Edward K. Knight

Inventor:
E. F. Banning
Per Munn & Co
Attorneys.

UNITED STATES PATENT OFFICE.

EDMUND P. BANNING, OF NEW YORK, N. Y.

IMPROVEMENT IN TRUSSES FOR UTERINE SUPPORTS.

Specification forming part of Letters Patent No. **43,560**, dated July 19, 1864.

To all whom it may concern:

Be it known that I, EDMUND P. BANNING, M. D., of the city, county, and State of New York, have invented a certain new and Improved Uterine Support or Balance; and I do hereby declare the following to be a full and exact description of the same, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a perspective view of my improved apparatus. Fig. 2 is a side elevation of the same.

Similar letters of reference indicate corresponding parts in the several views.

This invention relates to an apparatus that may be employed with salutary effect by females suffering from prolapsus uteri or other derangements of the pelvic organs.

In order that others skilled in the art to which my invention appertains may be enabled to fully understand and use the same, I will proceed to describe its construction and operation.

In the accompanying drawings, B B represent springs, which are arched or curved in the manner shown, and either formed in one piece with the horizontal bar C or securely attached thereto by screws or in any other suitable manner. The bar C passes through a loop formed on the lower end of a bar, A, and is firmly fastened therein by a screw. The curved springs B B may be made to exactly conform to or fit the arch of the innominata or side bones of the hips, and when adjusted to the person and employed in connection with the other parts of the apparatus to be described, said springs exert a regular and even pressure at the sides and upon the front and hinder parts of the body throughout their entire extent, their position when adjusted being just above and inside of the crests of the hip-bones. At their front ends or the ends opposite those conjoining the bar C the springs B B may be connected by bars C′ C^2, which occupy about the same horizontal plane as the bar C, and cross the body at a point say one and one-half or two inches above the pubes. The bars C′ C^2 may in like manner with the bar C be formed in one piece with the springs B B, or separately, as may be preferred, and they are adapted to be turned open to any extent to admit of the application of the springs B B to the body and from what may be termed a "slip-lock," the bar C′ being provided with projecting catches *c*, which enter either of a series of corresponding apertures, c^2, in the bar C^2, whereby the springs B B may be securely retained in any position in which it is desired to adjust them.

To the rear bar, C, are attached hip-pads C^3 C^3 by means of short perpendicular springs C^4 C^4, which are so curved inward as to adapt the pads C^3 C^3 to press upon the glutei muscles in such a manner as to prevent the bar C from squeezing or chafing the hips. These pads C^3 C^3 constitute the rear distal points of the main spring's power, and they not only protect the bones, vessels, nerves, and muscles from the pressure of the bar C, but by their firm pressure upon the belly of the glutei muscles they greatly support and aid in walking, precisely as a person when fatigued receives support and rest by pressing the hands upon the hips. When the springs B B are adjusted to the hips, they are not liable to accidental displacement, the hips constituting such firm bearings for them to rest upon that they will be uninfluenced by any movement of the body whatever, and from their peculiar construction and adaptation are capable of sustaining a great amount of weight, even the weight of the whole body, without causing pain, strangulation, or impediment in walking.

As hitherto constructed, the horizontal bands or braces which pass around and outside of the hips are very defective, as they are caused to assume lower positions under pressure or weight, and constantly compress the muscles, strangulate the vascular and nerve circulation, and are pepetually shirking or slipping as the patient bends or shifts his weight from one foot to the other, thus depriving the wearer of any firm or reliable support, and producing uneasiness, numbness, and dissatisfaction generally. It is evident that by my invention these difficulties are altogether obviated.

E represents a plate or pad attached to the front bar, C′, at a point equidistant between the front ends of the main spring B B by means of a short and curved vertical spring, E′, which is looped over the bar C′ and secured in position by a screw, *e*. The lower

edge of the plate E is of such length and shape as to fit just inside of the bony boundary of the lower abdomen, and through the medium of the curved springs E′ and the elliptical and semi elliptical spring E^2 E^3, which are interposed between the lower end of said spring E′ and the plate E, the inner face of the latter is presented in such an upward and backward direction or position that when in contact with the body it has an almost exclusive lifting or upward action, and does not (as in the case with front plates of other supports) have to depend upon traversing the periphery or sweep of the long main spring, in which case the upward movement exerted on the body by the plate is scarcely anything when compared with its backward movement, which causes only a squeezing or pressing upon the bowels.

In my invention the front plate, E, in turning inward on its axis gives an elevating and supporting action not only upon the lower link of bowels, but also upon the whole line of viscera. The value of this peculiar lifting action of the front plate, E, in the cure of affections of the spine, chest, abdomen, pelvis, and extremities will be apparent.

I represents a curved spring formed with loops to admit of its ready attachment to the bar C′, upon which bar it is secured by means of screws, *i*. This spring I is adapted to pass down over the pubes and extend back between the limbs to the posterior nares of the vulva. At the lower rear end of the spring I is supported a pad, I′, by means of a screw, J′ which may be secured in either of a series of apertures or slots in the spring I, and retained in an immovable position by nuts or washers *i′ i′*. This pad or block I′ in shape may be likened to two fingers placed side by side, the two convexities thereof, when the pad is applied, pressing on the outer edges of each labia, and the depression between them, or in the center, protecting the inner edges from any pressure or opening action; but, on the other hand, the block closes the meatus externus by pressing the labiæ together. It is manifest that there is a cardinal difference between this device and the perineum supports hitherto employed, as they are invariably convex and have a separting or opening effect upon the labiæ, which is very prejudicial, as it increases the very weakness and falling through the vulva which it is desired to avoid. The pad I′ has a deep niche cut out at both ends, so as to allow of the passage of both urine and feces without its removal. The spring I and block I′ are designed to unite with the front pad, E, in relieving the prolapsus uteri or of the bladder, and antiversion of the uterus. Thus, while the plate E raises the weight from the sinking womb and bladder, the spring I and block I′ impart the relief by gently lifting between the limbs and exciting the natural and relaxed boundaries to activity and strength, thus supporting and resting and stimulating by pressure. The screw or threaded stem J, which supports the pad I′, is formed on the end of a rod, J′, which may be composed of hard rubber, gutta-percha, metal, or other suitable substance. It may be curved in such manner that when introduced into the vagina its convexity will just fit the concavity of the sacrum and the curve of the rectum without touching either of them, or the rod J′ may be made straight or angular, if desired. This rod J′, when inserted into the vagina, should reach about as high as the posterior fundus of the uterus, and in the top of said rod is attached a cross-piece, J^2, which may be either adapted to rotate upon the rod J′ or fixed in a rigid position thereon, and formed in one piece therewith. This cross piece, when the rod J′ is introduced, passes behind the uterus and before the rectum, and carries the intervening and relaxed fold of the vagina upward before it, and, in proportion as it does this, so stretches it as to compel the os uteri to be drawn back from the axis of the inferior to that of the superior strait of the pelvis, while the top or cross piece, J^2, crowds the fundus uteri forward from the axis of the inferior to that of the superior strait; in short, lateral obliquity, retroversion, or antiversion is prevented, or a retroverted uterus is restored to its altitude and proper axis without touching the uterus or rectum, but simply by elevating the vaginal septum in the curve of the superior sacrum, and also prolapsus of the urinary bladder is removed. But to avoid danger of irritation or ulceration by a too steady pressure of the cross-piece J^2 on the vaginal tissue, I construct a stirrup-cup, J^3, of shape and size adapted to receive and fit the os uteri. This I attach to the curved rod J′ by means of a sliding ring, J^4, and adjust it to any desired position upon the rod J′ by a set-screw, *j*, which passes through the ring J^4 and enters either of a series of small holes which may be formed in the rod J′. The cup J^3 and ring J^4 are attached together by a hinge, which is so formed as to allow the cup to fold up against the rod in introducing the uterine balance J^2 into the vagina, and then allow it to fall to a horizontal position, or, rather, to a right angle with the rod, to cause it to assume which position a cord may be employed. When introduced, the rod J and cross-piece J^2 restore the desired uterine axis, and the cup J^3 lifts the whole uterine body, and hence the pressure is so divided between the cross-piece J^2 and cup J^3 that there is no danger of irritation or ulceration, and the uterus is compelled to assume its position and retain it so long as the piece J^2 is supported to a proper height. To do this and to prevent the uterine balance J^2 rotating in the vagina, the threaded protruding portion J of the rod J′ is made flat at its sides, like a tenon. The slot in the carved spring I through which this tenon J passes is made like a mortise, so that when inserted the rod

J′ is prevented from receiving any undue rotatory movement. The spring I both crowds up the balance J^2 and holds its convexity to the concavity of the sacrum. To prevent the too forcible ascent of the balance J' J^2, the block I′ is slipped upon the tenon J previously to the insertion of said balance, and thus, besides covering and supporting the vulva, acts as a guard to regulate the desired depth of insertion. Thus, by the joint lifting action of the plate E—elevating the visceral weight up from the wou[illegible]—and cross piece J^2 and cup J^3 is accomplished the easy and comfortable removal of uterine retroversion, lateral obliquity, or antiversion, without injurious pressure on the bladder, rectum, or uterus, and without the least debilitating distention of the vagina, as is always produced by the usual globe, ring, horseshoe, and other pessaries. Hence it is manifest that neither the balance alone nor the plate E could accomplish the object in view, but the combined action of the two effects it perfectly.

Having thus described my invention, the following is what I claim as new therein and desire to secure by Let[illegible]s Patent.

1. The uterine balance J J' J^2 J^3, constructed and operating substantially as described.

2. The cap or block I′, constructed with two convexities and operating to support the vulva, in the manner described.

3. In combination with the spring B B and uterine balance J' J^2 J^3, the curved spring I, adapted, as explained, to permit the ready attachment, removal, and adjustment of the said balance.

E. P. BANNING.

Witnesses:
OCTAVIUS KNIGHT,
CHARLES D. SMITH.