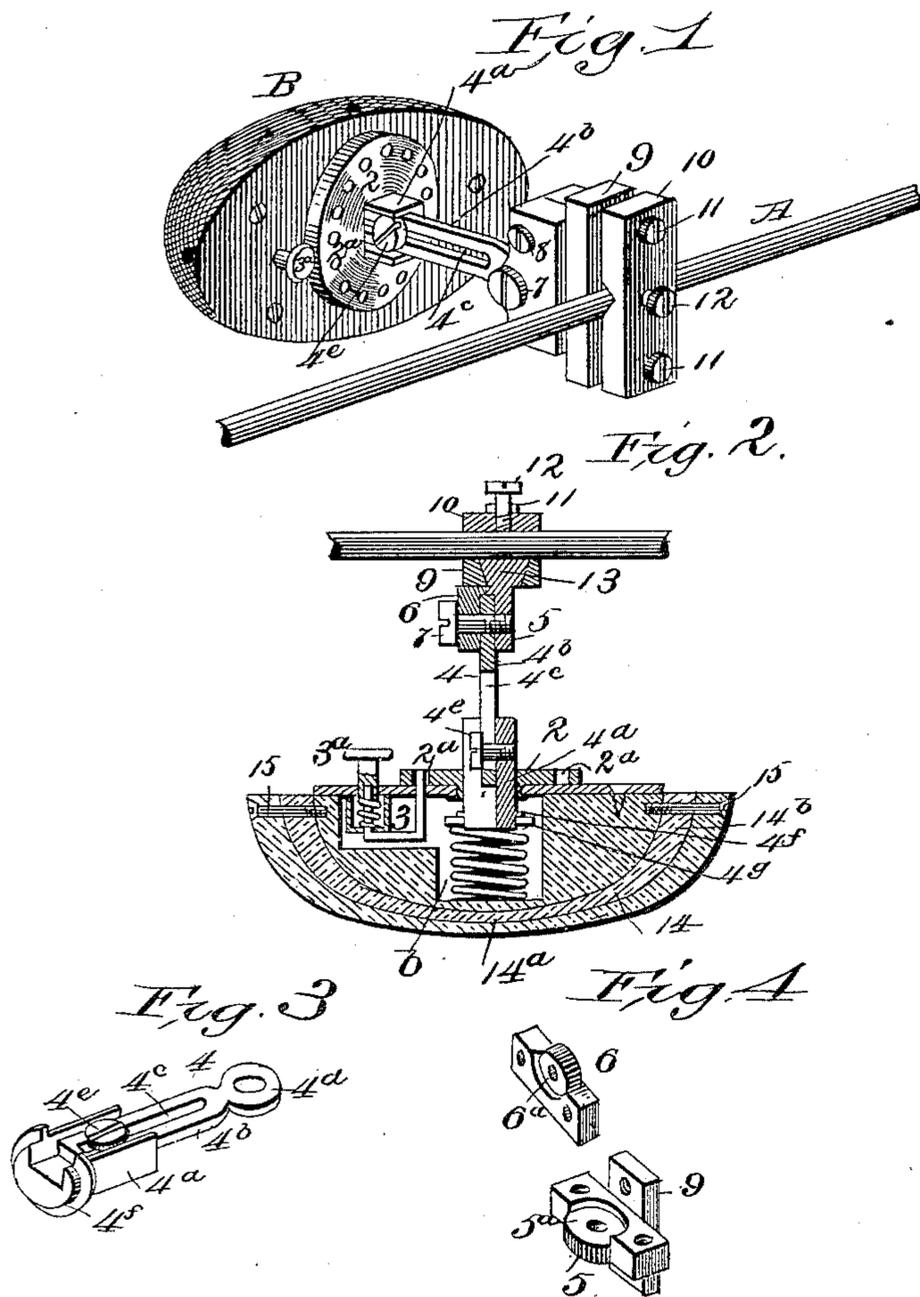


(No Model.)

A. NAIDL.  
TRUSS.

No. 461,040.

Patented Oct. 13, 1891.



Witnesses:  
F. P. Cornwall  
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att'y

# UNITED STATES PATENT OFFICE.

ANTON NAIDL, OF OMAHA, NEBRASKA.

## TRUSS.

SPECIFICATION forming part of Letters Patent No. 461,040, dated October 13, 1891.

Application filed April 25, 1891. Serial No. 390,461. (No model.)

*To all whom it may concern:*

Be it known that I, ANTON NAIDL, a citizen of the United States, residing at Omaha, in the county of Douglas and State of Nebraska, have invented certain new and useful Improvements in Trusses for the Treatment of Hernia; and I hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective view of a truss embodying my invention. Fig. 2 is a central sectional view of the same, and Figs. 3 and 4 are detail views of the adjustable post and its connections.

Like symbols refer to like parts wherever they occur.

My invention relates to the construction of adjustable spring-ball or spring-pad trusses for the treatment of the various forms of hernia, and has for its object the production of an adjustable-post truss of simple construction, capable of being readily changed to increase or decrease the pressure of the pad or to alter the line of applied support and pressure, and which shall not be liable to slip or change position after it has been properly adjusted and secured. To accomplish this, I combine with the ball a two-part sliding post with means for securing the parts together, said post having an adjustable pivotal connection with the clamp which binds the post to the body band or belt, and said construction or its equivalent embraces the first feature of my invention.

There are other minor features of invention, all as will hereinafter more fully appear.

I will now proceed to describe my invention more fully, so that others skilled in the art to which it appertains may apply the same.

In the drawings, A indicates a portion of a wire belt or body-band, which may be annealed to permit the wire to be bent for purposes of the adjustment of the truss, and whereof the portions not shown may be flattened and covered with leather in manner well known to the art to secure a proper truss-belt. As the character of the belt forms no part of the present invention and as any suitable belt may be substituted for the belt indicated by A, no further description thereof is necessary.

B indicates the truss ball or pad provided with a central well *b* for the reception of the spring which supports the yielding truss-post that connects the ball B with the belt A.

1 indicates the ball-plate or pad-plate suitably secured thereto and provided with a central opening for the passage of the extensible post and for the reception of a flange on the under side of a rotary locking plate or disk 2.

3 indicates a spring bolt or catch of general U shape, both ends of which project out through openings in the pad-plate 1, one of said ends being provided with a knob or button 3<sup>a</sup> and the other adapted to enter any one of a series of holes in the rotary locking-plate 2.

2 indicates a rotary locking-plate journaled in the central opening of the pad-plate 1 and provided with a circle of bolt-holes 2<sup>a</sup> for the reception of the locking-bolt 3, which projects up through the pad-plate. This rotating locking-plate 2 has a central opening for the passage of the truss-post, and said central opening should be of rectangular polygonal or some irregular form which shall correspond to the cross-section of the post and prevent the rotation of the post independently of the locking-plate.

4 indicates the ball or pad post which passes loosely through the central opening of the rotating locking-plate 2, is provided at its lower end with a collar or flange 4<sup>f</sup>, which prevents its escape, and with a washer 4<sup>g</sup>, which serves as a seat for the spring 5, that affords the post a yielding support. The flange 4<sup>f</sup> may, if desired, serve both purposes, and the washer 4<sup>g</sup> can be omitted. This pad-post 4 is composed of two telescoping sections, one of which, the lower 4<sup>a</sup>, is of box-form and receives the other 4<sup>b</sup>, which latter slides within the former and has a longitudinal central slot 4<sup>c</sup>, through which passes a set-screw 4<sup>e</sup>, which enters the section 4<sup>a</sup>, so that after the length of the post has been properly adjusted by either drawing out or pushing in the section 4<sup>b</sup> the two sections may be firmly bound together by the set-screw 4<sup>e</sup>. The upper or outer end of post-section 4<sup>b</sup> terminates in flat disk-head 4<sup>d</sup>, with a narrow neck and with a central hole for the passage of a pivot-bolt, and it is by this head that the post is connected to the belt-clamp.

5 and 6 indicate the pivot and clamp plates

for the head of the post. Each of said plates is provided with a countersunk portion 5<sup>a</sup> 6<sup>a</sup> for the reception of the circular head of the post and with a central hole for the passage of the pivot-bolt 7. Said plates 5 and 6 are also provided with side bolt-holes for the reception of the screw-bolts 8. In one of said plates 5 these bolt-holes are threaded, while in the other 6 they are plain and of slightly greater diameter than the bolt, so that by slightly loosening the threaded bolts the plates 5 and 6 may be separated somewhat to permit the adjustment of the post to any desired angle to the belt, after which the said threaded bolts may be tightened up to cause the plates 5 and 6 to clamp the post firmly in the given position.

9 indicates the plate pertaining to the belt-clamp, 10 the yoke of said clamp, and 11 12 11 the screw-bolts and set-screws. The pivot-clamp plate 5, before mentioned, is connected with said belt-clamp plate 9 by a headed pivotal connection 13, so that the post-pivot clamp can turn on the belt-clamp when desired; but as said pivotal connection 13 is located beneath the belt A and its binding-screw 12 the parts are held from turning when the truss is properly and firmly clamped to the belt A.

14 indicates the enlarging cover for increasing the area of the pad without materially increasing its thickness. Said cover may be made of leather, felt, papier-maché, or other suitable flexible material, but is preferably made of a material which is both flexible and extensible, such as rubber, as thereby a single size, or at most two or three sizes, will suffice for any desired degree of enlargement. These ball-covers I form of general cup form, to correspond with the general shape of ball B, making them quite thin at the center, as indicated at 14<sup>a</sup>, and gradually increasing in thickness to the circumference 14<sup>b</sup>, which should be sufficiently thick to securely hold the screws 15 or other fastenings by which said covers are detachably secured to the pad or ball B.

Among the advantages of my invention are the simplicity and security of the several devices by means of which the various adjustments between the ball and belt are obtained.

I do not herein broadly claim the combination, with a truss pad or ball, of a sectional extensible post, one section thereof arranged

to slide in the truss-ball, a spring arranged within the truss-ball to support said sliding section, and means for locking together the post-sections, as the same forms the subject-matter of a former application, Serial No. 279,794, filed by me January 31, 1891.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a truss, the combination, with the ball, of a rotary locking-plate, a lock therefor, a sectional sliding spring-supported post arranged in the locking-plate, and means for securing the sliding sections of the post together, substantially as and for the purposes specified.

2. In a truss, the combination, with the ball, of a rotary locking-plate, a sectional post composed of a lower box-section and an upper longitudinally-slotted section, and a set-screw for connecting the two sections of the post, substantially as and for the purposes specified.

3. In a truss, the combination, with a ball and a belt-clamp, of an interposed post composed of sliding sections, means for binding the sliding sections of the post together, said post having a pivot-head, and a clamp for the pivot-head of the post, substantially as and for the purposes specified.

4. In a truss, the combination, with a belt-clamp and ball or pad, of a rotary locking-plate journaled in the ball, a sliding spring-supported post composed of a box-section and a longitudinally-slotted section having a disk-head, a set-screw for binding the parts together, and a pivot-clamp for the disk-head of the post, substantially as and for the purposes specified.

5. In a truss, the combination, with the ball and belt-clamp, of a sectional adjustable post having a pivot-head, a set-screw for connecting the sections of the adjustable post, and a pivot-clamp for the head of the post, said pivot-clamp having a pivotal connection with the belt-clamp, substantially as and for the purposes specified.

In testimony whereof I affix my signature, in presence of two witnesses, this 18th day of April, 1891.

ANTON NAIDL.

Witnesses:

I. C. BACHELOR,  
JOHN T. WILLIAMS.