This application is a substitute for my aban-
donated application titled 'Bunion removing ap-
pliance'.

The present invention relates to a mechanical
device by which hallux valgus, and bunions of
the metatarsal bone and its connection with the
inner head of the phalanges of the large toe may
be overcome and again restored to nature.

The invention comprises a mechanism whereby
a person's foot may be placed in a mechanical
device with the side of the foot at the little toe
resting against an adjustable side wall of the
apparatus, and an elliptical pad of concave for-
mation placed over the joint of the big toe at
the connection of the phalanges and metatarsal
bones, and with the large toe lying on an adjust-
able device with rubber cushioned pins each side
of the toe above the first joint, and against the
distal phalanx. Thence by certain mechanical
effect crowding the foot between said pad and
the side wall and drawing the large toe outward,
relieve the joint between the lower extremity of
the metatarsal bone and the phalanges of the
toe and cause the bursa development to be dis-
seminated in the circulatory process of the capillaries
and veins of the human organism, which by occa-
sional use will eventually restore the large toe
joint to a natural state.

The invention, together with certain instruc-
tions accompanying the device, and properly
manipulated, will reduce bunions when ossifi-
cation of the joint has not materially hardened,
and formed an enlargement of the joint, and even
in such cases, will somewhat relieve the enlarge-
ment if so formed.

In the drawing illustrating my invention,
Fig. 1 represents the right foot of a person
placed in position on the instrument for reducing a
bunion.

Fig. 2 is a plan view of the instrument.

Fig. 3 is a cross section of the instrument on
the line 2 of Fig. 2.

Fig. 4 is a central section of the instrument on
the line 2', of Fig. 2.

Fig. 5 is a cross section of the instrument on
the line 3, of Fig. 2.

Fig. 6 is a side view of the instrument, looking
from the left of Fig. 2.

Fig. 7 is a detail of one of the toe stretching
and holding pins.

In the drawing, like marks of reference refer to
corresponding parts in the different views; in
which, A represents the main base of the instru-
ment, and B a longitudinal and swiveled adjust-
able carrier on which is placed an adjustable toe
holding bar, or cross piece 1. As shown by the
arrow, the adjustable and swiveled carrier and its
cross piece may be swung over to the reverse side
of the main base of the instrument to receive the
left foot of a person.

The plate A, may have a couple of transverse
ribs 3, by which the instrument is raised for a
supporting surface upon which it is to be op-
erated, and the ribs also elevate the instrument
so that under operating screws may be more
readily handled. This base at one end is some-
what broadened, and through its outer extremi-
ties is formed with parallel slots as shown.

Through these slots, screws 4, extend into offset
posts 5 of a side wall 6, against which the oppo-
site side of a person's foot from the large toe rests
while operating the instrument.

The base plate A, at its opposite and smaller
end is curved upward and forms an offset 7,
through which a wing screw 8, is screw threaded.

This screw at its inner end is formed with a ball
9 and seats in a corresponding concavity on the
outer center of an elliptical concave pad 10. This
pad, as well as the side wall 6, is supplied with
felt or other suitable lining 11, to ameliorate and
tend to lessen harm to one's foot while under-
going an operation, or treatment.

The bar B, to which the toe stretching cross-
piece 1, is attached, is formed with a longitudi-
nal slot 14, and operates below the main frame-
work A. This bar is attached to the part A, by
means of a screw 15, entering the slot from be-
low, and its outer end is curved upward and is
fitted with a wing screw 18, which at its inner
end receives the crosspiece 1. As shown, the
wing screw passes through the part 1, and is
swiveled therein, and to prevent its dislodg-
ment, is fitted with shoulders 17, on both sides
of said crosspiece. This crosspiece rests upon
the part B, and upon its upper surface carries
holes 16, into which toe holding pins 19 are
placed. As shown, but one row of holes are
formed. In lieu of one row of holes, other holes
may be formed in staggering rows as deemed
expedient. The pins entering these holes are of
metal, and are coated with soft pliable material,
as for instance rubber 25, which tends to lessen
harm to one's toe when placed between pins on
each side of the toe when undergoing treatment.

As heretofore stated, in treating the left foot,
the part B, together with its crosspiece 1, may
be swung in a direction of the pointed arrow to
the opposite side of the framework A, while un-
dergoing treatment of the left foot, the swinging
of the part may readily be effected by loosening the screw 15, and swinging the part as stated.

In operation, one's foot is placed in the instrument, and the part B, together with the crosspiece 1, properly regulated to accommodate the large toe, after which the pins 19 are suitably placed in the crosspiece each side of the toe, thence the pad 10, is placed over and against the joint of said toe, with the opposite side of the foot against the wall 6, the latter being properly adjusted to suit the position of the foot in the instrument.

After the foot is properly placed in the instrument, both the wing screws are operated. The wing screw 8, is moved to crowd the joint of the toe inwardly, whilst at the same time the wing screw 16, is moved to draw the toe outwardly to loosen the joint of the toe, and to prevent ossification of the joint during the growth of bunions in formation. By the aforesaid treatment, the joint of the toe is gradually reduced, and a bunion prevented from formation and growth.

In carrying out my invention, it is obvious that minor details of construction might be resorted to in accomplishing the same result as herein explained, and I reserve the right to so arrange, and construct the parts as compatible with the intent and spirit of the appended claims.

Having set forth my invention, what therefore I claim and desire to secure by Letters Patent, is—

1. In a device of the nature set forth, a base plate, an adjustable side wall at one end of said base plate, an adjustable toe joint pad opposite said wall near the opposite end of said plate, an adjustable transverse crossbar secured to said plate, an adjustable toe holding crosspiece carried by said crossbar, and means to adjustably move said crosspiece on said crossbar to stretch a person's toe.

2. In a device of the nature set forth, a base plate, an adjustable side wall at one end of said base plate, an adjustable toe joint pad opposite said wall near the opposite end of said plate, an adjustable transverse crossbar secured to said plate, an adjustable toe holding crosspiece attached to said crossbar, said crossbar having vertical pin holes in its upper side, pins adapted to be placed in said crossbar at each side of a person's toe above the joint, when in operation, and means to draw said toe outward while between said pins.

3. In a device of the nature set forth, a base plate having a broadened portion at its outer end with a central stem in alignment with its upper surface, said central stem having an upturned outer end, said broadened portion having a slot in each of its outer ends in parallel alignment with said stem, a wall seating over said slots, screws extending through said slots and extending into said wall whereby it may be adjustably positioned, a concave elliptical pad having its concavity facing said wall, a wing screw screw-threaded through said upturned end of said central stem and at its inner end engaging said elliptical pad whereby it may be moved inwardly or outwardly, and pivotally attached to said base plate.

4. In a device of the nature set forth, a base plate having a broadened outer end with a central stem having an upturned outer end, said broadened portion having a longitudinal slot at each of its end portions, a movable wall seating over said slots, adjusting screws extending through said slots and screw-threaded into said wall whereby it may be adjusted, a concave elliptical pad facing said wall near the outer end of said stem, said pad pivoting to move said pad on said stem, and an adjustable means for engaging a person's large toe attached to said base plate.

5. In a device of the nature set forth, a base plate having a broadened outer end with a central stem having an upturned outer end, said broadened portion having a longitudinal slot at each of its outer ends, a movable wall seating over said slots, adjusting screws extending through said slots and screw-threaded into said wall whereby it may be adjusted, a concave elliptical pad facing said wall near the outer end of said stem, said pad having a semi-concavity opposite the facing concavity of the same, a wing screw screw-threaded through the upturned end of said stem and having a ball inner end engaging said semi-circular cup of said pad, said wing screw adapted to move said pad on said stem, and an adjustable means for engaging a person's large toe attached to said base plate.

6. In a device of the nature set forth, a base plate, an adjustable wall at one end of said base plate, an adjustable elliptical concave joint pad facing said wall near the outer end of said base plate, means to adjust both said wall and elliptical pad, an elongated bar having a longitudinal slot crossing said base plate, a screw passing through said longitudinal slot and screw-threaded into said base plate whereby said bar may be both moved and longitudinally moved on said base plate, the outer end of said bar having an upturned end, a toe crossbar seating on said elongated bar, a wing screw screw-threaded through said upturned end and pivotally attached to said crossbar, and means for engaging a person's large toe on said crossbar, whereby when said wing screw is turned said toe may be either somewhat lengthened or relaxed, as expedient.

7. In a device of the nature set forth, in combination with means for crowding the joint of a person's large toe between two surfaces, of an elongated bar having an elongated slot, a screw extending through said slot into said means, the outer end of said bar having an upturned end, a toe crossbar seating on said elongated bar, said crossbar having vertical holes in alignment in its upper surface, metallic pins adapted to be placed into said holes, for engaging each side of a person's toe when placed on said crossbar, and a wing screw screw-threaded through said upturned end and pivotally attached to said crossbar to move said bar either inwardly or outwardly, as expedient.

8. In a device of the nature set forth, in combination with means for crowding a person's large toe and foot between two surfaces, of an elongated bar having an elongated slot, a screw passing through said slot and into said means whereby said bar may be both swivelly and longitudinally adjusted on said means, the outer end of said bar having an upturned end, a toe crossbar seating on said elongated bar, said crossbar having vertical holes in alignment in its upper
surface, metallic pins adapted to be seated in said holes, said pins having an outer coating of rubber or equivalent means on their outer walls above their entrance into said crossbar, said pins adapted to be placed one on each side of a person's toe, a wing screw screw-threaded through said upturned end of said elongated bar and swivelly engaging said crossbar by which said bar may be drawn outwardly or moved inwardly in the treatment of a person's toe.

WILLIAM L. CARROLL.