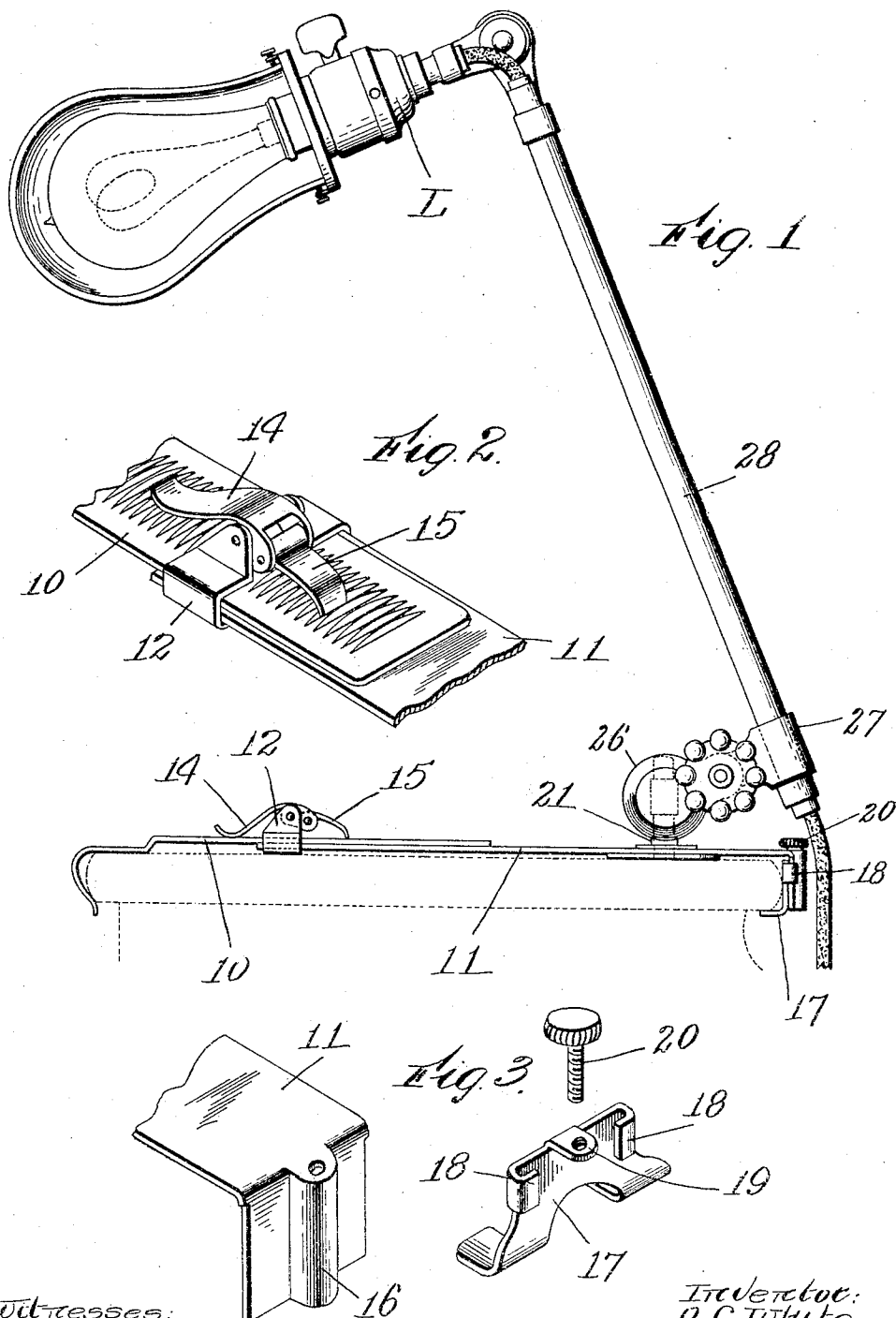


No. 779,453.

PATENTED JAN. 10, 1905.

O. C. WHITE.
ADJUSTABLE SUPPORT.
APPLICATION FILED JUNE 24, 1904.

2 SHEETS—SHEET 1.



Witnesses:
A. F. Messer,
M. C. Regan.

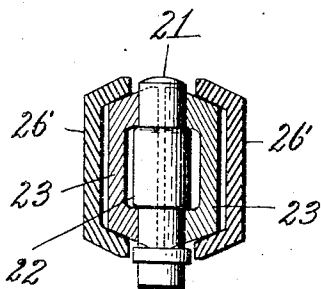
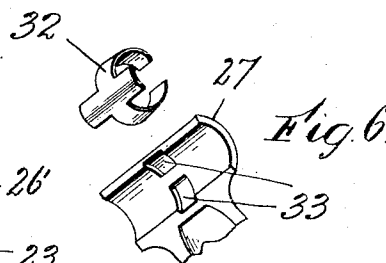
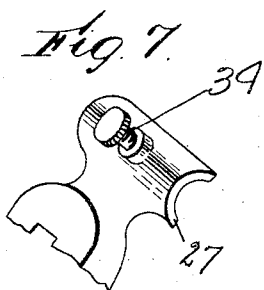
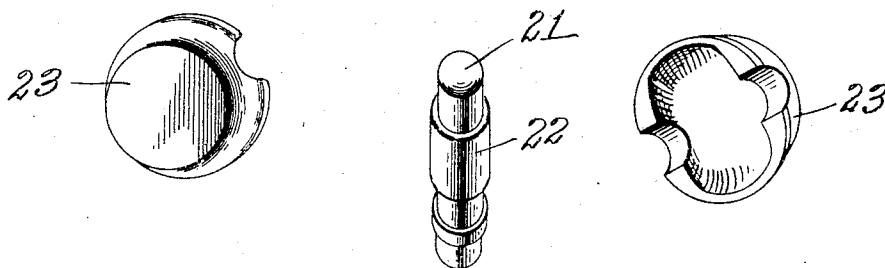
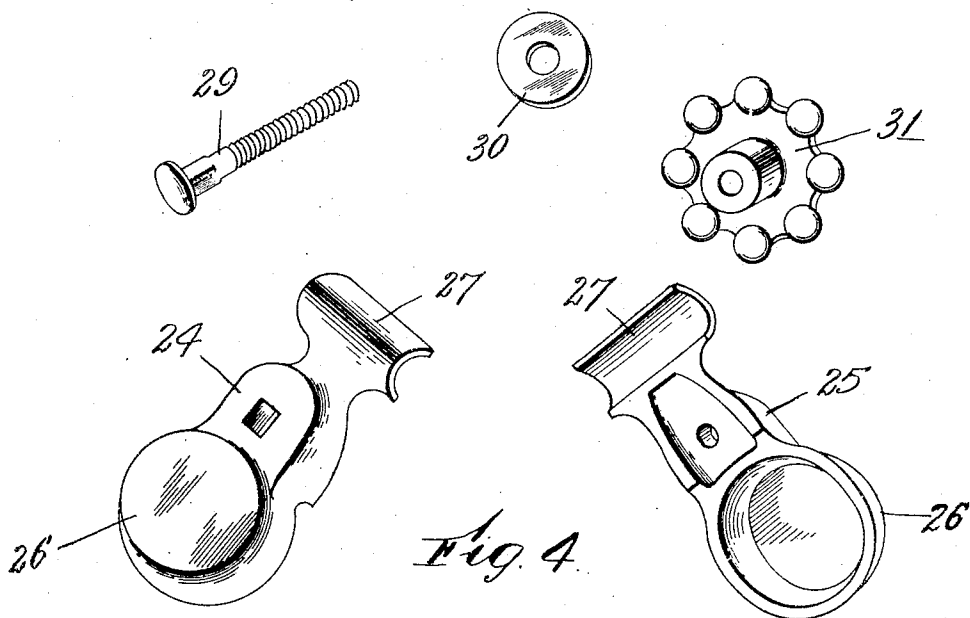
Inventor:
O. C. White
By his Attorneys,
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2 SHEETS—SHEET 2.



Witnesses:
C. F. Mason.
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Fig. 5.

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UNITED STATES PATENT OFFICE.

OTIS C. WHITE, OF WORCESTER, MASSACHUSETTS.

ADJUSTABLE SUPPORT.

SPECIFICATION forming part of Letters Patent No. 779,453, dated January 10, 1905.

Application filed June 24, 1904. Serial No. 213,974.

To all whom it may concern:

Be it known that I, OTIS C. WHITE, a citizen of the United States, residing at Worcester, in the county of Worcester and State of Massachusetts, have invented a new and useful Adjustable Support, of which the following is a specification.

This invention relates to an adjustable support which has been especially designed for incandescent electric lamps, but which can also be used for other purposes.

The especial objects of this invention are to provide a supporting-strap for fastening the support to a desk or similar fixture without scratching or marring the woodwork and to provide a flexible frictional joint for carrying a rod or pipe section, so that the same can be turned or adjusted to any desired position and will remain in the position to which it is set.

To these ends this invention consists of the fastening-strap and of the adjustable joint as articles of manufacture and of the combinations of parts therein, as hereinafter described, and more particularly pointed out in the claims at the end of this specification.

In the accompanying two sheets of drawings, Figure 1 is a side view illustrating the use of an adjustable support constructed according to this invention for carrying an incandescent electric lamp. Fig. 2 is a detail view of the fastening for the adjustable strap. Fig. 3 is a detail view of the adjustable foot-piece, adapting the fastening-strap to desk-tops or boards of different thickness. Fig. 3 is a view showing in perspective the several parts which coöperate to form a joint according to this invention. Fig. 5 is a sectional view of the complete joint, and Figs. 6 and 7 are detail perspective views illustrating a modified construction to be hereinafter referred to.

The fastening-strap which I preferably employ for an adjustable support constructed according to this invention comprises two sheet-metal strap-pieces, one of the strap-pieces being provided with ratchet-teeth, while the other strap-piece carries an operating-handle and locking-pawl coöperating therewith. The strap-pieces are provided at their

ends with hooks for engaging the sides of a desk-top or other board.

The flexible joint of an adjustable support constructed according to this invention is mounted upon a pin which is preferably arranged vertically. In the preferred construction of this flexible joint I employ two bearing-cones which fit onto the pin. The bearing-cones are held in place by clamp-pieces. Each of the clamp-pieces is provided with two clamping-jaws. One set of clamping-jaws engage the bearing-cones, and the other set of clamping-jaws engage the rod or pipe section. The clamp-pieces are fastened together by a screw, and in the completed joint the rod or pipe section can be turned or swiveled in one set of clamping-jaws, the clamp-pieces will pivot or turn on the bearing-cones, and the bearing-cones can be rotated upon the pin. The frictions of all these several adjustments are controlled from a single clamping-screw, and in order to adjust the joint for supporting heavy weights it is simply necessary to tighten the nut on the clamping-screw, while when light weights are to be supported the nut can be left comparatively loose, permitting easier adjustments.

Referring to the accompanying drawings and in detail, the fastening-strap comprises sheet-metal pieces 10 and 11. The sheet-metal piece 10 is provided at its end with a hook and has ratchet-teeth on its upper side, as shown in Fig. 2. The ratchet-teeth of the sheet-metal piece 11 may be formed in any usual way. In the construction illustrated the ratchet-teeth are formed by slots or recesses cut into the surface of the sheet-metal piece 10. Fastened near the end of the other sheet-metal piece, 11, is a stirrup 12, pivotally supported in which is an operating-handle 14, carrying a pawl 15 for engaging the ratchet-teeth. The sheet-metal piece 11 is preferably provided at its opposite end with an adjustable hook-piece.

As shown in Fig. 3, the end of the sheet-metal piece 11 is bent down and is provided with a vertical corrugation having a perforation concentric therewith. Fitting inside of the turned-down end of the piece 11 and held

in place by lips 18 is an adjustable hook 17, having a tongue 19, which runs up and down in the corrugations 16 and which is tapped out to receive the adjusting-screw 20, which
 5 extends down through the perforation in the piece 11. By turning the screw 20 the adjustable hook 17 can be raised or lowered for use on boards, desk-tops, or other fixtures of different thickness.

10 Fastened in the sheet-metal piece 11, preferably by being headed through a number of reinforcing-plates, is a pin 21, upon which the adjustable joint is carried. The parts of the adjustable joint are most clearly illustrated in
 15 Fig. 4. As shown in this figure, the pin 21 is provided with an enlargement 22, at each side of which are reduced bearings. Fitting on the pin are bearing-cones 23, which are provided with cored-out sockets for receiving
 20 the enlargement 22 of the pin, so that the bearing-cones will be held from vertical displacement when clamped onto the pin. Co-operating with the bearing-cones are clamp-pieces 24 and 25. Each of the clamp-pieces
 25 is provided with two sets of clamp-jaws. One set of clamp-jaws, 26, engage the bearing-cones 23, while the other set of clamp-jaws, 27, receive the rod or pipe section 28, as shown in Fig. 1. To fasten the joint and regulate the
 30 friction of the several adjustments thereof, I provide a single clamping-screw 29, having a square section for engaging a corresponding-shaped socket in the clamping-piece 24. At the other end the fastening-screw 29 is provided
 35 with a washer 30, which is preferably slightly arched or bent to form a spring-washer, and threaded onto the screw 29 is a hand-wheel 31. In the completed joint the parts are assembled as shown in Fig. 5, and in
 40 the completed joint the rod or pipe section can be turned in the clamping-jaws 27, the clamp-pieces can be turned upon the bearing-cones 23, and the bearing-cones can be turned upon the pivot-pin, the friction of all these
 45 several adjustments being regulated by the single clamp-screw and its hand-wheel.

The rod or pipe section 28, as illustrated in Fig. 1, may be connected by an elbow to support a lamp-socket L or may be used for supporting
 50 any other article which it is desired to support in a variety of adjusted positions.

In some cases in addition to the swiveling of the rod or pipe section 28 in the clamp-jaws 27 a slipping or telescopic adjustment of
 55 the rod or pipe section through the jaws 27 may be desired, and when this is the case I preferably employ the construction illustrated in Figs. 6 and 7—that is to say, I inclose within the clamp-jaws 27 a four-arm spring 32, as
 60 shown in Fig. 6, the ends of two of the arms engaging sockets 33 to hold the spring from displacement, while the body portion or center of the spring may be engaged by a set-screw 34. (Shown in Fig. 7.) By adjusting
 65 the set-screw 34 I secure an adjustable spring-

pressure upon the rod or pipe section 28, permitting the same to slide longitudinally through the clamping-jaws in addition to turning or swiveling therein.

In the special construction which I have
 70 herein illustrated I have shown the bearing-cones 23 having surfaces or frustums of ordinary right-line cones, although the bearing-surfaces of the cones may, if desired, be somewhat curved or conoidal in form or may even
 75 approximate sections of spherical surfaces, and while I have herein illustrated the pivot-pin of my improved joint carried by a special fastening-strap it is to be understood that this pivot-pin may be attached to or extend out
 80 from any other base, fixture, or support, so far as the application of the adjustable joint thereto is concerned.

I am aware that numerous changes may be made in practicing my invention by those who
 85 are skilled in the art and that certain features of my invention may be used in different combinations and in different relations without departing from the scope of my invention as expressed in the claims. I do not wish, therefore,
 90 to be limited to the constructions I have herein shown and described; but

What I do claim, and desire to secure by Letters Patent of the United States, is—

1. In a supporting-joint, the combination of
 95 a stationary pin, two bearing-cones, and a clamp engaging the bearing-cones, the clamp being pivoted on the cones, and the cones being rotatable on the pins.

2. In a supporting-joint, the combination of
 100 a stationary pin, two bearing-cones, two clamp-pieces, and a screw for fastening the clamp-pieces, the clamp-pieces being pivoted on the cones, and the cones being rotatable on the pin.

3. In an adjustable support, the combination
 105 of a stationary pin, two bearing-cones, a rod or pipe section, and a clamp engaging the rod or pipe section and the bearing-cones, the rod or pipe section being rotatable in the clamp, the clamp being pivoted on the cones, and the
 110 cones being rotatable on the pin.

4. In an adjustable support, the combination of a rod or pipe section, a stationary pin,
 115 two bearing-cones, two clamp-pieces, each having two jaws, and a screw fastening the clamp-pieces so that one set of jaws engage the rod or pipe section, and the other set of jaws engage the cones, the rod or pipe section being pivoted in one set of jaws, the clamp-pieces being pivoted on the cones, and the cones
 120 being rotatable on the pin.

5. In an adjustable support, the combination of a rod or pipe section, a stationary pin,
 125 two bearing-cones, two clamp-pieces, each having two jaws, a screw for fastening the clamp-pieces so that one set of jaws engage the rod or pipe section, and the other set of jaws engage the cones, and means for supporting the rod in one set of the clamp-jaws with
 130 adjustable spring-pressure, so that the rod

can be turned or moved longitudinally there-through.

6. In a supporting-joint, the combination of a pin having an enlargement thereon, two bearing-cones having sockets for receiving the enlargement of the pin, and a clamp for fastening the bearing-cones on the pin so that the enlargement of the pin will prevent the cones from being moved laterally thereon.

7. In an adjustable support, the combination of a rod or pipe section, a stationary pin, two bearing-cones, two clamp-pieces, each having two jaws, a screw, and a hand-wheel thereon for adjusting the clamp-pieces so that one set of jaws will engage the rod or pipe section, and the other set of jaws will engage the bearing-cones.

8. In an adjustable support, the combination of a rod or pipe section, a stationary pin, two bearing-cones, two clamp-pieces, each having two clamp-jaws, and a screw having a square section near one end engaging a corresponding socket in one clamp-piece, the other end of the screw extending loosely through the other clamp-piece, and a hand-wheel threaded onto the screw.

9. In an adjustable support, the combination of a rod or pipe section, a stationary pin, two bearing-cones, two clamp-pieces each having two clamp-jaws, a fastening-screw, a hand-wheel thereon, and a spring-washer controlling the friction of the several adjustments.

10. In an adjustable support, the combination of a stationary pin having an enlargement thereon, two bearing-cones having sockets for receiving the enlargement of the pin, a rod or pipe section and a clamp engaging the rod or pipe section and the bearing-cones to fasten the bearing-cones on the pin so that the enlargement of the pin will prevent the cones from

moving laterally thereon, the rod or pipe section being rotatable in the clamp, the clamp being pivoted on the cones and the cones being rotatable on the pin.

11. In an adjustable support, the combination of a rod or pipe section, a pin having an enlargement thereon, two bearing-cones having sockets for receiving the enlargement of the pin, two clamp-pieces, each having two jaws and a screw fastening the clamp-pieces so that one set of jaws engage the rod or pipe section and the other set of jaws engage the cones to fasten the cones on the pin so that the enlargement of the pin will prevent the cones from being moved laterally thereon, the rod or pipe section being pivoted in one set of jaws, the clamp-pieces being pivoted on the cones, and the cones being rotatable on the pin.

12. A fastening-strap for an adjustable support, comprising two overlapping sheet-metal pieces, one having ratchet-teeth, and the other having an operating-handle with a locking-pawl cooperating with the ratchet-teeth, and one of said sections having a bent-down end with a corrugation therein, an adjustable foot-piece fitted to the bent-down end and held in place by ears, said adjustable foot-piece having a tongue projecting into the corrugation and threaded to receive an adjusting-screw, whereby the hook may be set to different positions to engage boards or supports of different thickness.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

OTIS C. WHITE.

Witnesses:

PHILIP W. SOUTHGATE,
LOUIS W. SOUTHGATE.