Aug. 27, 1957 W. J. WHITTINGHAM 2,804,127

ADJUSTABLE HEAD REST

Filed May 6, 1954

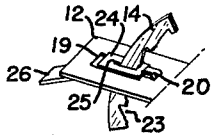


Fig. 7

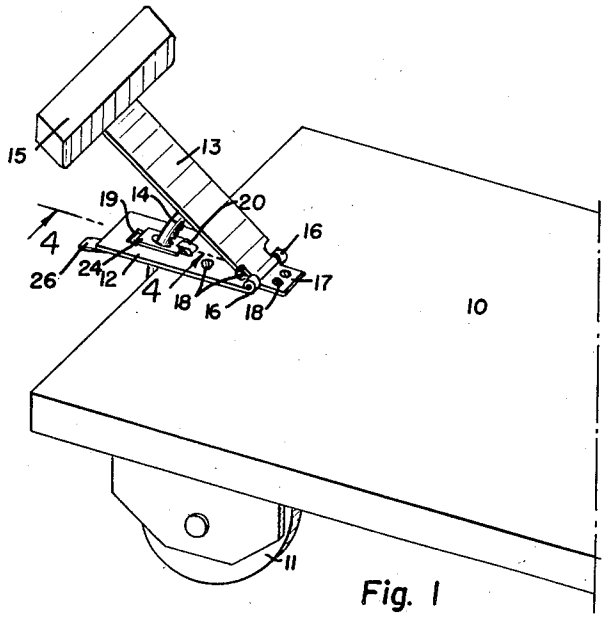


Fig. 1

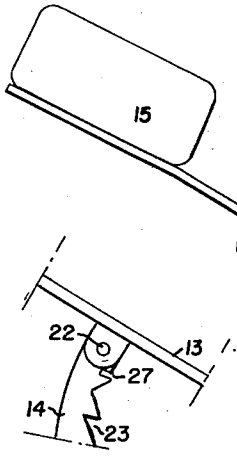


Fig. 8

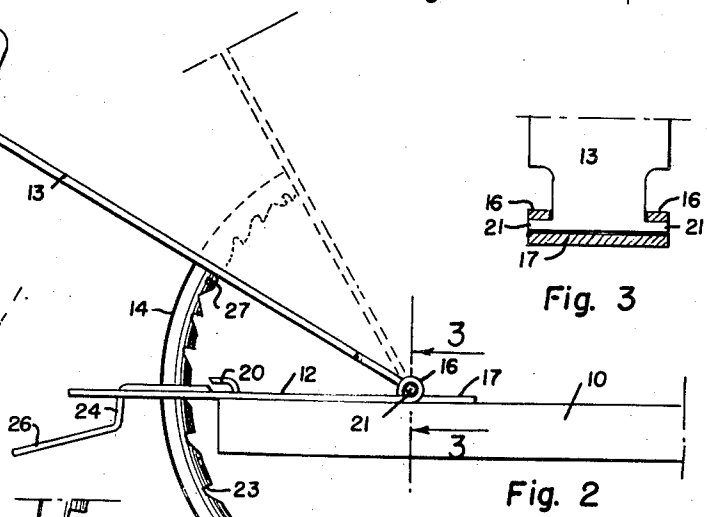


Fig. 2

Fig. 3

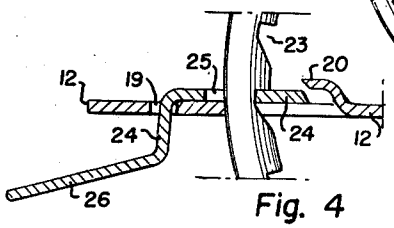


Fig. 4

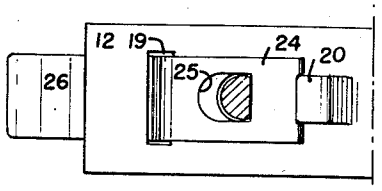


Fig. 5

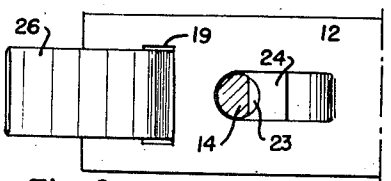


Fig. 6

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United States Patent Office 2,804,127
Patented Aug. 27, 1957

2,804,127

ADJUSTABLE HEAD REST

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Application May 6, 1954, Serial No. 427,975

1 Claim. (Cl. 155—177)

This invention relates to adjustable head rest units adapted for fixed attachment to and any expedient use association with devices for the support of the recumbent human body, such as automobile mechanic's creepers, massage tables, and the like, and has as an object to provide a novel and improved such unit conveniently susceptible of selective elevational adjustment.

A further object of the invention is to provide a novel and improved construction and operative correlation of elements constituting an adjustable head rest unit attachment.

A further object of the invention is to provide a novel and improved adjustable head rest unit particularly adapted for economical production from readily-available stock materials largely by means of punch-press operations.

A further object of the invention is to provide a novel and improved adjustable head rest unit characterized by simple and positive latch means of ratchet type.

A further object of the invention is to provide a novel and improved adjustable head rest unit arranged to automatically interlatch hingedly associated major elements of the unit at one limit of their range of relative travel.

A further object of the invention is to provide a novel and improved adjusable head rest unit of wide practical utility, extensive adaptability, and exceptional operative simplicity.

With the foregoing and other objects in view, my invention consists in the construction, arrangement, and operative combination of elements as hereinafter set forth, pointed out in my claim, and illustrated by the accompanying drawing, in which—

Figure 1 is an isometric view of a typical embodiment of the invention as associated in position of use with a conventional creeper, a portion of the latter being broken away to conserve space.

Figure 2 is a side elevation, on a relatively enlarged scale, of the organization according to Figure 1, broken lines in the view indicating an alternative position of certain movable elements of the assembly.

Figure 3 is a fragmentary, detail section taken substantially on the indicated line 3—3 of Figure 2.

Figure 4 is a fragmentary, detail section, on a scale enlarged relative to that of Figure 2, taken substantially on the indicated line 4—4 of Figure 1.

Figure 5 is a top plan view of the organization according to Figure 4.

Figure 6 is a bottom plan view of the organization according to Figure 4.

Figure 7 is a fragmentary, detail, isometric view of a modification within the contemplation of the invention.

Figure 8 is a fragmentary, detail elevation of a further modification within the contemplation of the invention.

No elaboration should be requisite to establish the extensive use occasions for and the practical utility of an adjustable head rest unit susceptible of expedient attachment to diverse agencies for the support of a human body. Representative of such agencies, the creepers

widely utilized by automobile mechanics are far from satisfactory in use without an associated head rest capable of simple and convenient altitudinal adjustment relative to the creeper bed, and the instant invention is hence directed to the provision of a novel and improved adjustable head rest unit readily mountable as an attachment on and in use association with conventional equipment of diverse particularity.

Typical of the use potential of the improvement, an embodiment thereof is shown in Figure 1 as mounted upon and secured in position of use to one end of a conventional creeper which is partially illustrated as comprising a flat bed **10** rollably supported upon wheels **11**, as is common practice in a wide variety of particular constructions.

The improvement of the invention is constituted as a flat mounting plate **12**, an arm **13** hinged at one end to and adjacent an end of the plate **12** to overlie the latter, an arcuate stem **14** carried by the arm **13** in slidably intersecting relation with the plate **12**, means for releasably latching said stem to the plate in and to determine various angular relations between the arm and plate, and a pillow or pad **15** carried by the free end of the arm **13** at the side of the latter remote from the plate **12**.

The plate **12** is expediently a rectangular member cut from appropriately rigid material, such as strip metal, in size and proportions suited to its functions and relationships as hereinafter described. Inwardly from one of its ends, the plate **12** is cut along lines parallel and inwardly adjacent the plate long sides to release integral strips **16** which are rolled longitudinally of and to stand above the plate as eyes of a hinge member wherewith the arm **13** cooperates as hereinbelow set forth, the area of the plate between the strips **16** being left in coplanar relation with the plate as a tang **17** wherethrough screws or bolts **18** may engage as fasteners to aid in attachment of the plate in its use position. Inwardly of the plate from the tang **17**, apertures are provided for the accommodation of additional bolts or screws **18** functioning as fasteners to complement the mounting and secure attachment of the plate. The end portion of the plate **12** remote from the tang **17** is arranged to overhang and to project outwardly beyond the bed **10**, or other member, upon which the plate is mounted, and inwardly adjacent the free end of said plate a rectangular aperture **19** intersects the thickness of the plate with the length of the aperture transversely of the plate and parallel to the free end thereof. Inwardly of the plate from the aperture **19**, a second elongated aperture intersects the plate thickness centrally of the plate width and with the aperture length longitudinal of the plate, and at the inner end of said latter aperture a lip **20** is struck upwardly from the plate in the same direction as the elevation of the eyes formed from the strips **16** and in a manner to dispose the free end of said lip directed rearwardly of the plate toward the aperture **19** and to overhang the adjacent end of the associated aperture in offset, parallel relation with the plate. As should be obvious, the working of the plate **12** in the manner and to the form and arrangement shown and described is a relatively simple punch-press operation of facility and relatively low cost.

The arm **13** is preferably a rectangular member expediently of the same width as and a length greater than that of the plate **12** which is adapted to be cut from stock material of appropriate rigidity and thickness, conveniently the same as the strip metal from which the plate is formed. At one of its ends, the arm **13** is notched on both of its long margins to leave like ears **21** oppositely outstanding laterally and at the end of the arm in position for engagement within the eyes formed from the strips **16**, in which engagement the ears **21** function as a hinge or pintle wherethrough the arm **13** is hingedly

associated with the plate **12** to overlie the portion of the latter remote from its tang **17**. The hinge construction just described may be varied without departing from the principle of the invention, but the particular organization of hinge elements just set forth is peculiarly adapted for development and completion by simple punch-press operations. The end portion of the arm **13** remote from the ears **21** may be bent somewhat away from the plane of the arm major length and the pillow or pad **15**, of any desired appropriate form or construction, is secured to said free end of the arm by any expedient means to securely interassociate the particular pad and arm with the former transversely of the latter.

The stem **14** may be a cylindrical member, as represented in Figures 1, 2, 4, 5 and 6, or it may be a flat strip member rectangular in cross section, as shown by Figures 7 and 8, but in either form said stem is attached at one end to and centrally of the underside of the arm **13** in position to slidably engage through the aperture longitudinally of the plate **12** and to clear the free end of the lip **20** when the arm **13** is closed toward and against the plate, and the stem **14**, in either of its structural embodiments, is curved longitudinally to a circular arc concentric with the hinge axis common to the arm **13** and plate **12**, so that the member **14** is adapted to slide freely in and through the aperture formed for its accommodation in the plate **12** as the arm **13** is swung about its hinge connection with the plate and through various positions of angular divergence relative thereto. As shown in certain of the views of the drawing, the stem **14** may be securely affixed at one end to the arm **13**, as by welding, riveting, or the like, or, alternatively, and as shown by Figure 8, the stem **14** may engage with the arm **13** through a hinge connection **22** of any desired particularity.

The concave margin of the stem **14** is worked, regardless of the particular stem construction, to the form of ratchet teeth **23** which are preferably progressively spaced apart from the arm **13** and toward the free end of the stem to provide uniform increments of pad **15** elevation relative to the plate **12**, and said teeth are arranged with surfaces radial of the arm and plate hinge axis and with complementary inclined surfaces sloping from the base of the radial surfaces in a direction away from the arm **13**, whereby to condition said teeth for racheting use as the arm **13** is swung away from the plate **12** and for latching action as the arm is approached toward the plate. The latch means coacting with the ratchet teeth **23** is a detent **24** constituted from a strip of metal having a width freely engageable through and to loosely fill the length of the aperture **19**, and an opening **25** for the free accommodation of the stem **14** intersects the detent **24** inwardly adjacent one of its ends, said opening **25** being preferably larger, longitudinally of the detent, than the dimension of the stem **14** therethrough engageable. The opening **25** is so related with the adjacent end of the detent **24** as to engage the free end margin of the detent under the lip **20** when the apertured portion of the detent is slidably engaged against the upper surface of the plate **12** with the detent opening **25** registered with the longitudinal opening in said plate to permit free shift of the stem **14** through the so-registered openings, and at the side of the opening **25** remote from the lip **20** the detent **24** is bent transversely through an angle slightly less than ninety degrees to form an intermediate web portion loosely accommodated in and through the aperture **19**, while at the side of said web portion below the plate **12** and in a considerable spacing from the plate the detent is again and oppositely bent to form a handle portion **26** diverging outwardly and downwardly away from the plate **12** and extending in length outwardly beyond the free end thereof. Obviously, the detent **24** is adapted for economical production from stock strip material by simple punch-press operations.

With the latch element constructed as shown and described and the arm **13** hinged to the plate **12** with the stem **14** accommodated through the longitudinal aperture of the plate, assembly and operation of the latch is simple and reasonably obvious. When the free end of the arm **13** is swung away from the plate **12** to retract the free end of the stem **14** outwardly and away from the plate **12**, the end portion of the detent **24** characterized by the opening **25** is inserted from below through the aperture **19** of the plate **12** until the intermediate web of the detent is received in said aperture and the opening **25** is registered with the longitudinal aperture in the plate, whereafter the arm **13** is swung toward the plate **12** to engage the free end of the stem **14** through the opening **25** and the longitudinal plate aperture, thereby retaining the detent **24** against separation from its association with the plate **12**. Mounted as shown and described, the handle portion **26** of the detent may be moved by a force exerted thereon to shift the detent along the plate **12** and away from the lip **20**, thus to engage the edge of the opening **25** adjacent said lip in and with the ratchet teeth **23** as the radial margins of said teeth clear the upper surface of the plate **12**; such tendency of the detent accomplishing a latching action which automatically holds the arm **13** in any elevated relation with the plate **12** determined by the particular tooth **23** wherewith the detent is engaged. As the free end of the arm **13** is progressively elevated, the sloped surfaces of the ratchet teeth shift the detent toward the lip **20** for engagement of the detent end margin under said lip sufficiently to offset tilting of the detent away from the plate, thus maintaining a relation between the plate and detent effective for latching coaction with the successive ratchet teeth. Release of the detent to permit swing of the arm **13** toward the plate **12** is readily accomplished by the application of moderate lifting pressure to the free end of the detent handle portion **26**, such pressure operating through engagement of the detent intermediate web with a margin of the aperture **19** to shift the detent toward the lip **20** and to engagement of its end margin thereunder in such consequent registration of the opening **25** with the plate longitudinal aperture as fully frees the stem **14** for travel in either direction through the so-registered openings.

At the end of the stem **14** attached to the arm **13** and interrupting the concave margin of said stem, a rectangular notch **27** is provided in position for engagement by the detent **24** when the arm **13** is at the limit of its approach toward and in substantial parallelism with the plate **12**; engagement of the detent in and with the notch **27** serving to interlatch the elements **12** and **13**. This feature is a convenience useful in moving the equipment with which the head rest is associated from one place to another, since the pad **15** offers a rather convenient handle for the shifting and lifting of the entire organization.

Since changes, variations, and modifications in the form, construction, and arrangement of the elements shown and described may be had without departing from the spirit of my invention, I wish to be understood as being limited solely by the scope of the appended claim, rather than by any details of the illustrative showing and foregoing description.

I claim as my invention—

An adjustable head rest comprising an attaching plate formed with holes for the accommodation of fasteners, integral hinge eyes aligned transversely of said plate adjacent one end thereof, an arm, integral ears outstanding laterally and oppositely at one end of said arm and engaged within said eyes, whereby to hingedly associate said arm in alignment with and to overlie the plate, a longitudinally arcuate stem pivotally carried by said arm in slidably intersecting relation with the plate, ratchet teeth on the said stem, a locking member associated with the plate in coacting relation with said teeth, and a pad secured to the free end of said arm, said ratchet teeth progressively increasing in individual length longitudinally of the stem from the arm to the stem end remote from the arm, whereby to determine increments of elevation at

the free end of the arm with respect to the plate consequent upon coaction of the individual teeth with the locking member, said plate including a tang extending therefrom adjacent said hinge eyes and having therein one of the holes for the accommodation of fasteners, said plate being formed with a central aperture elongated longitudinally thereof for the accommodation of the stem, a lip upstanding at the end of said aperture adjacent the hinge common to the arm and plate with its free end directed toward the stem in upwardly-offset, spacedly-parallel relation with the plate, a second elongated aperture transversely intersecting said plate adjacent the end of the plate remote from said lip, and said locking member being constituted as a deformed strip having an intermediate web portion loosely accommodated in said transverse aperture, an integral handle portion inclining downwardly and outwardly from the lower margin of said web portion, and a latch portion integral with the web portion upper margin and extending thence in slidable, overlying relation with the plate across the plate area intersected by the stem and having an end engageable at times beneath

said lip, said latch portion being apertured for slidable accommodation of the stem when end-engaged with the lip and for coaction with the ratchet teeth when shifted out of engagement with the lip, said arcuate stem having a curvature concentric with the hinge axis common to said ears and eyes.

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