

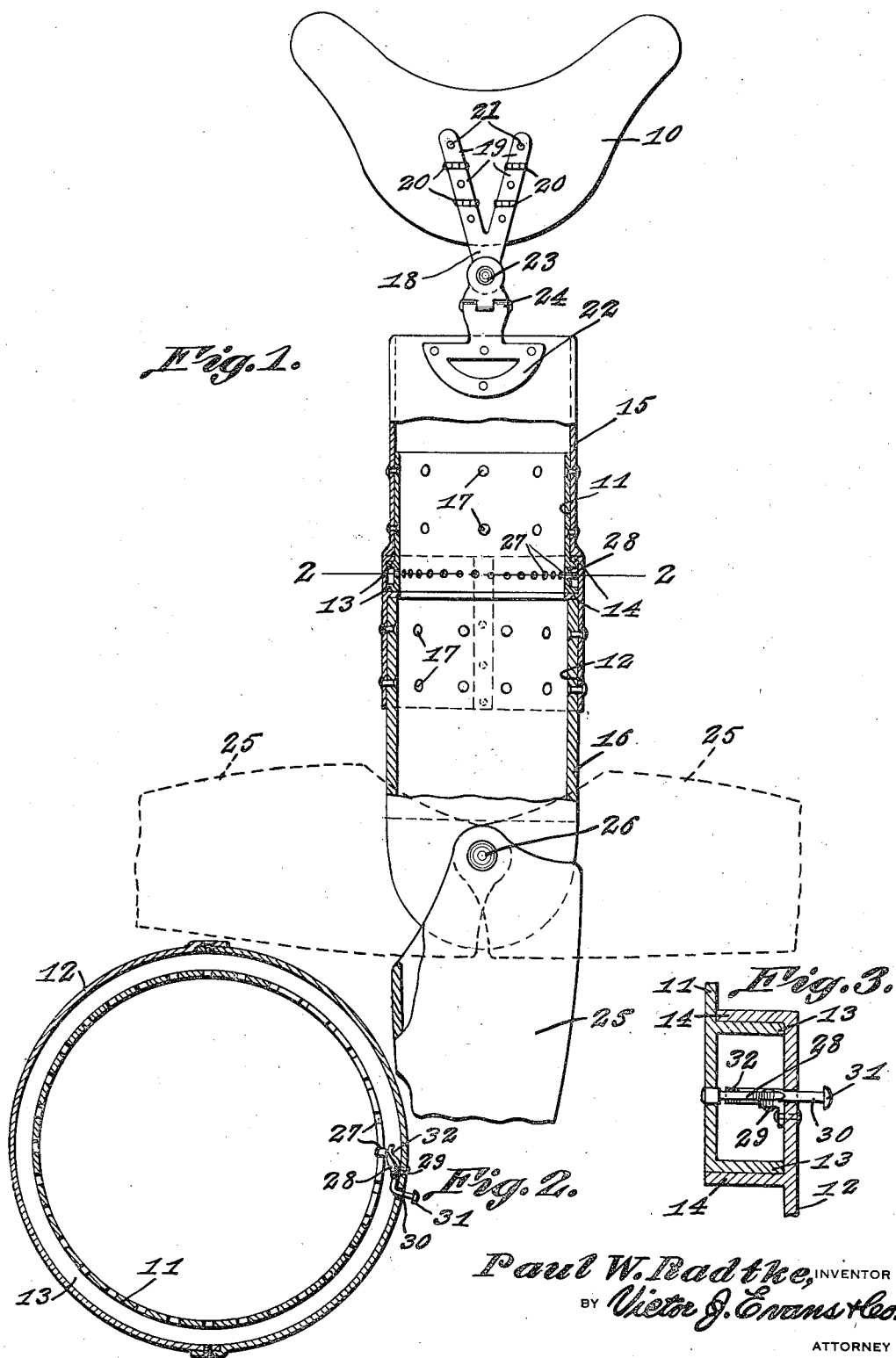
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ARTIFICIAL ARM

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ARTIFICIAL ARM

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1 Claim. (Cl. 3—2)

The invention relates to an artificial limb and more particularly to an adjustable artificial arm.

The primary object of the invention is the provision of an arm of this character, wherein a swivel connection is arranged within the upper arm casting inwardly of the elbow joint, so that the forearm casting can be swung toward and away from the body of the wearer of the arm and such forearm and upper arm casting swung forwardly and backwardly, thus enabling the said wearer to have diversified movements of the artificial arm, so that he or she will be afforded arm articulation to meet the tasks or the work as may be required with success and without inconvenience or awkwardness in the execution thereof.

Another object of the invention is the provision of an arm of this character, wherein the same is provided with a novel shoulder hinge whereby the said arm can be kept in perfect line consistent with the character of work to be executed, and also it can be moved outwardly and backwardly from the body of the wearer, as well as forwardly and backwardly at will, the arm in its entirety being of novel construction.

A further object of the invention is the provision of an arm of this character, wherein at a point between the elbow and the shoulder there is provided an adjustable connection to permit the forearm of the artificial arm to be swung about an axis extending longitudinally of that portion located above the elbow, and the upper casting of this arm carries at its lower end an annular flange coacting with flanges on the lower portion of said casting for rotatably connecting these portions of the upper casting, and a latching device coacts with these portions to latch the same in their adjusted relation to each other, thus permitting articulation of the arm according to the work to be performed by the wearer of the artificial arm.

A still further object of the invention is the provision of an arm of this character which is comparatively simple in construction, thoroughly reliable and efficient in its purpose, comparatively light, yet strong and durable, and inexpensive to manufacture.

With these and other objects in view, the invention consists in the features of construction, combination and arrangement of parts as will be hereinafter more fully described in detail, illustrated in the accompanying drawing, which discloses the preferred embodiment of the invention, and pointed out in the claims hereunto appended.

In the accompanying drawing:

Figure 1 is a fragmentary elevation of an artificial arm constructed in accordance with the invention, the same being partly in section, and by full lines is shown one position of the forearm and by dotted lines other adjusted positions thereof.

Figure 2 is an enlarged sectional view on the line 2—2 of Figure 1.

Figure 3 is a vertical transverse sectional view showing in detail the latch of the rotary connection of the upper and lower portions of the upper arm casting.

Similar reference characters indicate corresponding parts throughout the several views in the drawing.

Referring to the drawing in detail, 10 designates a shoulder pad of the required construction and this is adapted to fit and be made secure at the shoulder portion of the wearer of the artificial arm. Connected with this pad 10 is the upper arm casting including the cylindrical member and also portions or sections 11 and 12, respectively, these having the spaced annular external and internal flanges 13 and 14, the latter being formed with the portion 12 and the flanges 13 being formed with the portion 11. These flanges 13 and 14 are interfitted with each other for the rotation of the portion 12 with respect to the portion 11. Carried by the portion 11 is a cylindrical shell 15 and also carried by the portion 12 is the cylindrical shell 16, these with the casting including the portions 11 and 12 constituting the upper arm of the artificial limb. The shells 15 and 16 are secured to the portions 11 and 12 through the medium of rivets 17 and are preferably of fibrous material, while the portions 11 and 12 are made from sheet metal.

On the shoulder pad 10, medially thereof, is arranged a fork-shaped member 18, its tines being made up of a series of hinge leaves 19 connected through hinge pintles 20, these leaves 19 being secured to the pad 10 through the medium of rivets 21 or other fasteners. Thus it will be seen that the fork member 18 assures flexing of the pad 10 to conform to the contour of the shoulder portion of a wearer of the arm. Secured to the shell 15 is a member 22 which is connected with the member 18 through the medium of the hinges 23 and 24, respectively, their axes of movement being at right angles to each other, so that the artificial arm can be swung outwardly and inwardly or forwardly and backwardly with respect to the body of the wearer of said arm.

Connected to the upper arm is the forearm casting 25, this being of hollow formation and its connection being had by an elbow joint 26, so that the said forearm can swing forwardly or
5 backwardly with relation to the upper arm of said artificial limb.

The portion 11 of the upper arm casting has provided between the flanges 13 thereof a series of spaced holes 27 selectively engaged by the
10 latching dog 28 pivoted, at 29, to the lower portion 12 of the upper arm casting between the flanges 14 of said lower portion and this dog 28 is provided with an extension 30 movable through a suitable clearance in the lower portion 12 and
15 projected exteriorly thereof, it having a finger-engaging head 31, so that the dog can be manually manipulated for the unlatching thereof, the dog being urged to latching position through the medium of a leaf spring 32 active thereon. Thus
20 it will be seen that the lower portion 12 can be rotated with relation to the upper portion 11 of the upper arm casting and latched in the adjusted position, the dog 28 being engageable selectively with the holes 27.

25 The forearm casting 25 has an arcuate swing of approximately ninety degrees.

The artificial arm is susceptible of a maximum articulation, so that the wearer of such arm can perform, with accuracy, all character of work
30 as can be performed by the natural arm.

What is claimed is:

An artificial arm comprising an upper arm casting having upper and lower cylindrical portions arranged end to end, sleeves fitted with said portions, one sleeve being internally arranged in one portion and the other sleeve being externally arranged on the other portion, spaced annular flanges externally of the internal sleeve and located between said portions, annular internal flanges on the external sleeve and spaced apart to accommodate the external flanges for rotatably joining the said upper and lower portions together, said internal sleeve having spaced annularly arranged apertures between its external flanges, a finger actuated latch carried by the external sleeve and working between the flanges of both sleeves to selectively engage an aperture of the annularly arranged perforations for the holding of one cylindrical portion adjusted relative to the other cylindrical portion, a fore arm casting having an elbow joint connection with the lower cylindrical portion of the upper arm casting, and means for mounting upon a shoulder of a wearer and having universal connection with the upper cylindrical portion of the upper arm casting, the universal connection being provided with a flexible portion coacting with said means.

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