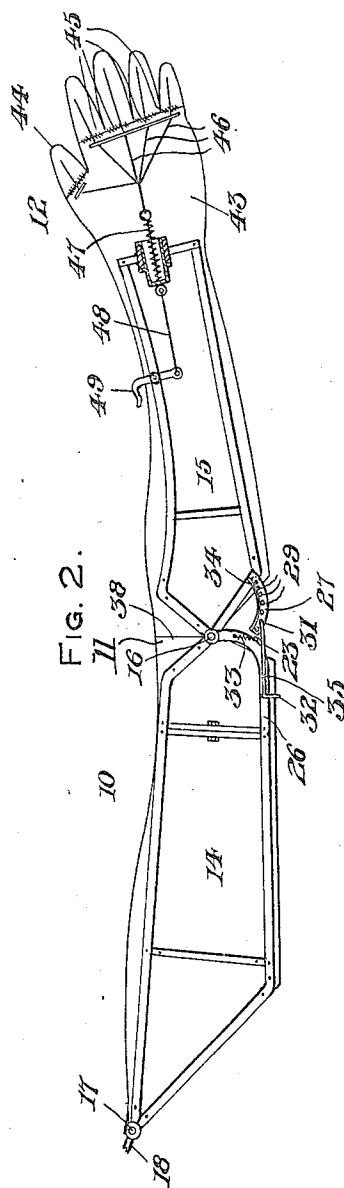
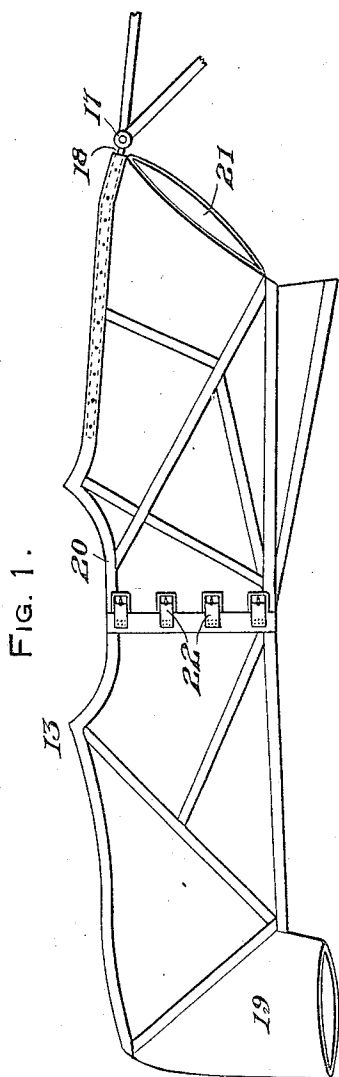


1,301,575.

Patented Apr. 22, 1919.
 2 SHEETS--SHEET 1.



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FIG. 3.

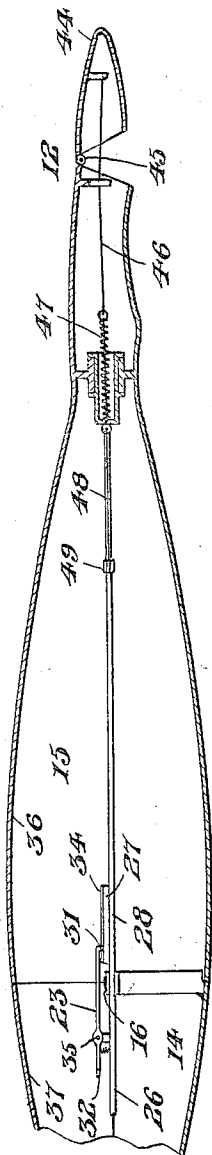


FIG. 4.

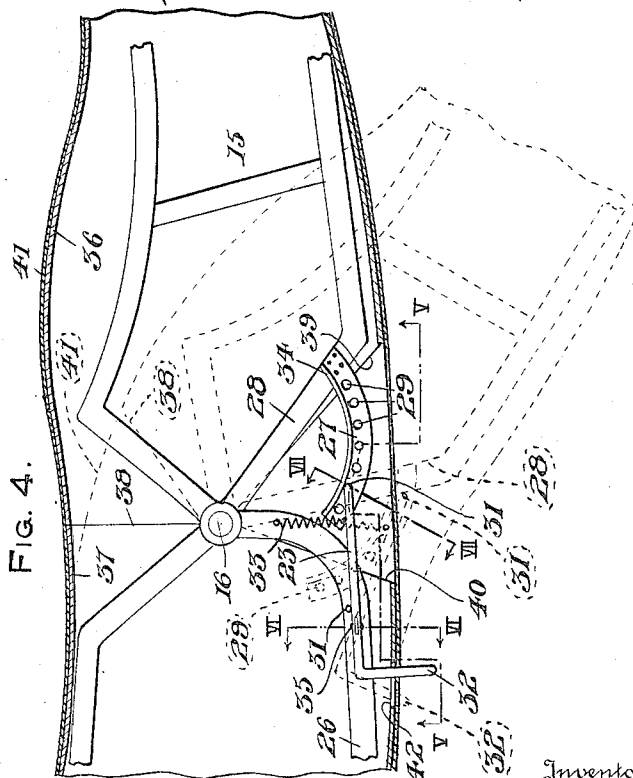


FIG. 5.

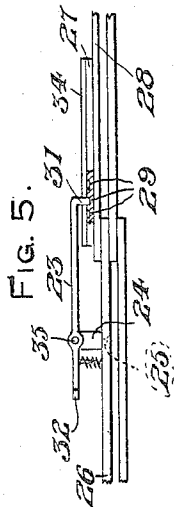


FIG. 6.

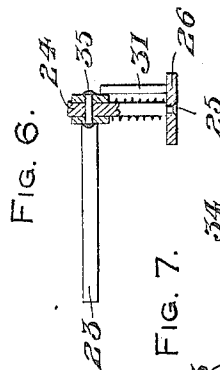
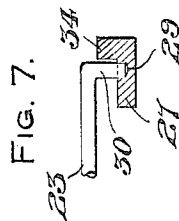


FIG. 7.



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UNITED STATES PATENT OFFICE.

JOSEPH KRAWCZYNSKI, OF WORCESTER, MASSACHUSETTS, ASSIGNOR OF ONE-HALF TO
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ARTIFICIAL ARM.

1,301,575.

Specification of Letters Patent.

Patented Apr. 22, 1919.

Application filed January 14, 1918. Serial No. 211,793.

To all whom it may concern:

Be it known that I, JOSEPH KRAWCZYNSKI, a citizen of Russia, residing at Worcester, in the county of Worcester and State of Massachusetts, have invented certain new and useful Improvements in Artificial Arms, of which the following is a specification.

This invention relates to certain new and useful improvements in artificial arms.

The primary object of the present invention is the provision of a device adapted to be readily worn by a person whose arm or portion thereof has been amputated so that its loss will be partially supplied by my device having the appearance of a human arm and hand.

A further object of the invention is the provision of an artificial arm worn by a person arranged for ready manipulation for bending at the elbow portion thereof and adapted for locking in its adjusted relations.

In the drawings forming a part of this application, and in which like reference characters refer to corresponding parts throughout the several views,

Figure 1 is a front elevation of the attaching portion of the device,

Fig. 2 is a longitudinal sectional view through the device,

Fig. 3 is a longitudinal sectional view taken through the same upon a plane perpendicular to the line of section of Fig. 2,

Fig. 4 is an enlarged sectional view of the elbow portion of the device provided with an outer covering the members being indicated by dotted lines with the elbow bent and

Figs. 5, 6 and 7 are detail sectional views taken upon lines V—V, VI—VI, and VII—VII of Fig. 4.

My device is arranged for taking the place of a human arm and broadly consists of an arm member 10 having an elbow 11 and a hand 12, the arm being removably attached to the person by means of a jacket 13.

The arm 10 consists of an upper arm 14 and a lower arm 15 connected together at the elbow 11 by a hinge 16 while the upper arm frame 14 is hinged as at 17 to a mounting rod 18 carried by the said jacket.

The jacket 13 has a sleeve 19 adapted to receive the human arm of the person at the opposite side of the body from the side to which the artificial arm 10 is to be attached,

a portion 20 of the jacket being adapted to receive the neck of the wearer while a ring 21 will receive the stump of the amputated arm. The jacket may be retained in position by any suitable straps such as 22.

An angular latch 23 is carried by the post 24 swiveled as at 25 to the frame 26 of the upper arm 14 adjacent the elbow hinge 16. A curved rack 27 is carried by the adjacently positioned portion 28 of the lower arm frame 15 having a plurality of sockets 29 adapted to receive the angular end 31 of the said latch when the elbow is bent in its adjusted position. A stop 31 limits the lateral movement of the latch 23 in one direction, the latch being adapted for operation by means of a handle 32 at the outer end thereof at the inner side of the elbow portion of the device.

A spring 33 normally holds the engaging end 30 of the latch 23 in contact with a marginal flange 34 at the concave edge of the rack 27 and it will be evident that by grasping the handle 32, the said latch may be moved upon its pivotal connection 35 with the post 24 while the said post may be simultaneously revolved upon its swivel mounting 25.

A tubular metallic casing 36 is provided for the lower arm 15 while a similar casing 37 is arranged for the upper arm 14. The upper or outer sides of the casings 36 and 37 are adapted for engagement along the line 38 adjacent the elbow hinge 16 when the arm is outstretched while the lower or inner portions of the said casings 36 and 37 are cut away as at 39 and 40 respectively, and arranged separated when the arm is outstretched, the adjacent edges 39 and 40 approaching each other when the arm is bent at the elbow as illustrated by dotted lines in Fig. 4 of the drawings.

The operation of the elbow member will be understood, it being first noted that a resilient and preferably water proof covering 41 is arranged over the casings 36 and 37, the handle 32 projecting through an opening 42 in the casing 37 and also extending through the covering 41 at a point adjacent thereto. By laterally moving the handle 32, the latch 23 is released from its engaging socket 29 and upon moving the fore or lower arm 15 upon the hinge 16, the engaging end 30 of the latch will wipe over the flange 34, and which flange

will thereby swing the latch and its swiveled post 24 to automatically seat within another one of the sockets 29 when the handle 32 is released. For returning the arm to its out-
 5 stretched position the handle 32 is grasped and the latch 23 released from the socket and upon moving the forearm portion 25 the spring 33 will maintain the latch end 30 against the flange 34 until the desired ad-
 10 justment is reached when the latch will seat within the adjacent socket 29 upon releasing the handle 32. The covering 41 may be of flesh color and water-proof and will stretch for spanning the interruptions be-
 15 tween the casings 36 and 37 presented at the elbow portion 11 of the arm.

The hand 12 consists of a main portion 43 and fingers 44 connected thereto by spring hinges 45, for maintaining the fingers nor-
 20 mally outstretched. Pull cords 46 are attached to each of the fingers 44 and arranged with a spring tensioning member 47 while a wire 48 attached to a lever 49 pivoted to the lower arm frame 15 is adapted for pivo-
 25 tal movement when desired to bend the fingers 44 by moving the fingers upon their hinges 45. It will be seen that by shifting the lever 49 for pulling the wire 48 against the spring 47, the cords 46 will be drawn in-
 30 wardly and the fingers 44 swung inwardly with the hand.

A serviceable device is arranged which may have substantially the color, shape and appearance of a human arm and hand, the
 35 same being adapted for manipulation by the adjusting means herein fully described. The device is light in weight and especially adapted for use in time of war, the same being formed of any suitable material, the
 40 covering 41 being preferably of rubber and

the casings 36 and 37 being preferably formed of aluminum.

What I claim as new is:—

1. An artificial arm comprising an upper and lower frame, an elbow hinged connec-
 45 tion for the said frames, a socketed rack upon one of said frames, a swivelly mounted pivoted latch upon the other frame adapted for engaging the sockets of said rack during the adjusted positions of the frames. 50

2. An artificial arm comprising frames having an elbow joint, an arcuate rack upon one of said frames arranged with a plu-
 55 rality of sockets, a post swiveled upon the other frame, an angular latch pivoted to the said post having a handle end projecting outwardly of the adjacent casing and said covering and further having an opposite
 60 engaging end adapted for reception within the said sockets when the frames are in their adjacent relations.

3. An artificial arm comprising upper and lower frames, an elbow hinged connection between the said frames, an arcuate rack
 65 carried by one frame having a projecting flange at its concave edge and further having a plurality of sockets, a post swivelly mounted upon the other frame, an angular
 70 latch pivoted to the said post adapted for adjustable engagement with the sockets of said rack during the adjusted bent positions of the elbow portion of the arm and adapted
 75 for wiping engagement with the said flange during the movement of said frames upon the said hinge, and an anchored spring engaging said latch adapted for normally maintaining the same against the said flange.

In testimony whereof I affix my signature.

JOSEPH KRAWCZYNSKI.