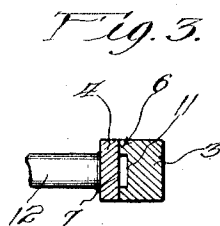
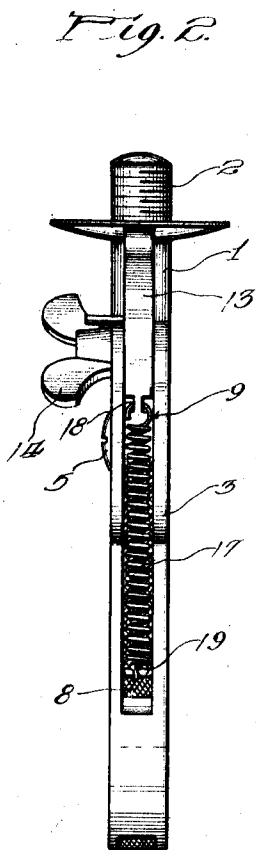
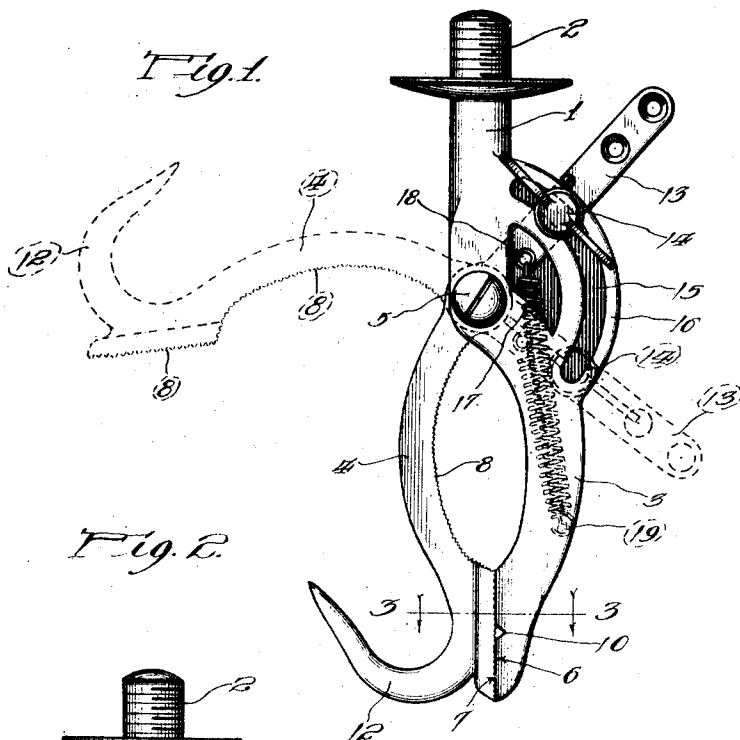


F. C. HENNING.
 ARTIFICIAL HAND.
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1,365,692.

Patented Jan. 18, 1921.



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UNITED STATES PATENT OFFICE.

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ARTIFICIAL HAND.

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To all whom it may concern:

Be it known that I, FREDERICK C. HENNING, a citizen of the United States, residing at Chicago, county of Cook, State of Illinois, have invented a certain new and useful Improvement in Artificial Hands, and declare the following to be a full, clear, and exact description of the same, such as will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

My invention has for its object to produce a simple and novel device which may be used as a substitute for a missing human hand in doing various kinds of work requiring the use of considerable strength.

A further object of the present invention is to produce a simple and novel jaw device adapted to be employed as a substitute for a missing human hand, which may be closed upon an article to be held with any desired degree of pressure depending upon the demands of the work being done.

The various features of novelty whereby my invention is characterized will hereinafter be pointed out with particularity in the claims; but, for a full understanding of my invention and of its objects and advantages, reference may be had to the following detailed description taken in connection with the accompanying drawing, wherein:

Figure 1 is a side elevation of my improved device shown in full lines in its closed condition and in dotted lines in its open position;

Fig. 2 is an elevation of the right hand side of the device as viewed in Fig. 1; and

Fig. 3 is a section taken approximately on line 3—3 of Fig. 1.

Referring to the drawing, 1 represents a post provided at its upper end with a screw thread, 2, or other means for securely fastening it to a supporting member on the arm of a wearer. At the lower end of the post is a jaw member, 3. A second jaw member, 4, is pivotally connected to the lower end of the post at the base of the jaw member 3 by means of a bolt screw or other device, as indicated at 5. The two jaw members are curved throughout the greater portion of their length while, at their lower ends, they are provided with flat faces, 6 and 7, respectively; the parts being so constructed that when the jaws are closed, the

two flat faces engage with each other and the two curved portions position themselves to form an elongated O. An object may be gripped either between the flat faces or between the curved inner edges of the jaws and, in order to insure a tight grip, at least one of the flat faces and one of the curved edges are roughened as, for example, by providing them with fine teeth as illustrated at 8. In the arrangement shown, the roughened face and edge are on the jaw member 4 which is made comparatively thin so as to pass through a slot, 9, in the other jaw member; the curved portion of the jaw member 3 being conveniently formed of two parallel elements spaced apart from each other to form the slot. Therefore the curved portion of the jaw member 4 lies in the same plane as the slot and between the two halves of the corresponding portion of the jaw member 3 and an object gripped between the curved portions of the jaw members is therefore engaged at two points on one side and at one point on the other side lying between the aforesaid points. The flat portion, 6, of the jaw member 3 is preferably provided with a transverse groove, 10, and also with a longitudinal groove, 11; the groove 10 forming a seat which will permit small objects to be gripped in much the same manner as larger objects are gripped between the two curved parts of the jaw members, and the groove 11 producing the same condition at the flat faces that the slot 9 produces in the upper portion of the jaw.

At the lower end of one of the jaw members, in the arrangement shown, the member 4, is a laterally-projecting hook, 12.

The upper end of the jaw member, 4, is extended past the pivotal point so as to form an arm, 13, to which a suitable actuating cord or other element may be secured. The arm, 13, carries a thumb screw, 14, the shank or stem of which passes through a slot, 15, in one of the guide plates or flanges, 16, between which the arm lies. A long spring, 17, is arranged in the slot, 9, of the member 3, has its upper end fastened to the arm 13 as indicated at 18, and is connected at its lower end to a pin, 19, fixed in the lower end of the slot 9. This spring is under initial tension so that, when free to do so, it opens the jaw, swinging the member 4 into the position illustrated in dotted lines in Fig. 1.

When an object is to be gripped, the member 4 is swung downwardly until the device is closed on the object, the gripping force being regulated to suit the demand by varying the pull on the actuating arm. If an object is to be held for any considerable length of time, the device may be locked in its closed position by means of the thumb screw. Similarly, when an object is to be carried by the hook, or when the device is not being used to hold an object, the member 4 may be locked in the position shown in full lines in Fig. 1.

It will thus be seen that I have provided a simple and novel device in which a great variety of objects may be gripped with any desired degree of pressure, depending upon the nature of the object, just as the grip of the human hand would be regulated if a human hand were used instead.

While I have illustrated and described with particularity only a single preferred form of my invention, I do not desire to be limited to the exact structural details thus illustrated and described; but intend to cover all forms and arrangements which come within the terms employed in the definitions of my invention constituting the appended claims.

I claim:

1. An artificial hand comprising a pair of jaw members pivotally connected together, a spring tending to swing said arms apart, and an actuating arm on one of said members for swinging it toward the other member.

2. An artificial hand comprising a pair of jaw members pivotally connected together at their upper ends, a spring tending to swing said members apart, and an actuating arm for one of said members in the form of an upward extension beyond the pivotal point.

3. An artificial hand comprising a post, a jaw member extending downwardly from the lower end of the post, a second jaw member pivotally supported at its upper end in the vicinity of the upper end of the other jaw member, the upper end of said second jaw member being continued beyond the pivotal axis in the form of an actuating arm extending upwardly at an acute angle to the post.

4. An artificial hand comprising a post, a jaw member extending downwardly from the lower end of the post, a second jaw member pivotally supported at its upper end in the vicinity of the upper end of the other

jaw member, the upper end of said second jaw member being continued beyond the pivotal axis in the form of an actuating arm extending upwardly at an acute angle to the post, and a spring tending to swing said jaw members apart.

5. An artificial hand comprising a pair of jaw members pivotally connected together, a spring tending to swing said arms apart, an actuating arm on one of said members for swinging it toward the other member, and a lock for securing said jaw members in any desired angular relation to each other within the limits of their relative movements.

6. An artificial hand comprising a supporting post, a downwardly-projecting jaw member rigidly connected to the lower end of said post, said jaw member having a slot extending through the same from the inner edge to the outer edge, a second jaw member extending through said slot and pivotally connected to the post in the vicinity of the upper end of the first jaw member, the upper end of said second jaw member being continued past the pivot point to provide an actuating arm extending upwardly at an acute angle to the post, and a spring lying in said slot and connected at its ends to said actuating arm and to the stationary jaw member, said spring being under an initial tension tending to swing said jaw members apart.

7. An artificial hand comprising a supporting post, a downwardly-projecting jaw member rigidly connected to the lower end of said post, said jaw member having a slot extending through the same from the inner edge to the outer edge, a second jaw member extending through said slot and pivotally connected to the post in the vicinity of the upper end of the first jaw member, the upper end of said second jaw member being continued past the pivot point to provide an actuating arm extending upwardly at an acute angle to the post, a spring lying in said slot and connected at its ends to said actuating arm and to the stationary jaw member, said spring being under an initial tension tending to swing said jaw members apart, a slotted guide plate extending from said post over said arm, and a locking screw carried by said arm and extending through the slot in the plate.

In testimony whereof, I sign this specification.

FREDERICK C. HENNING.