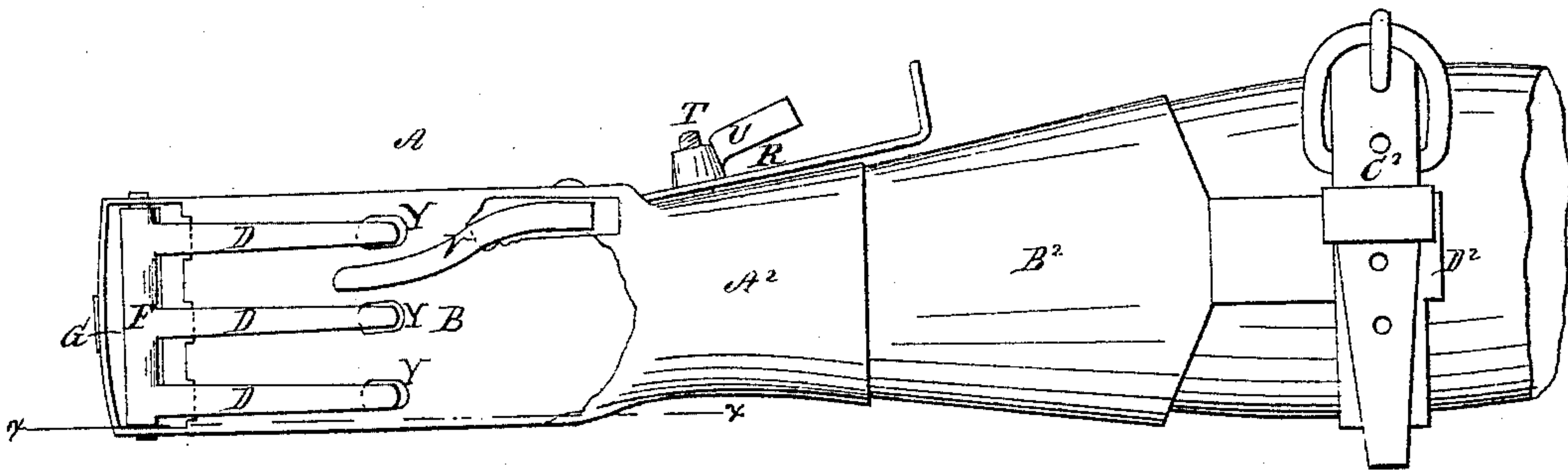


*J. F. Maguire,  
Artificial Hand.*

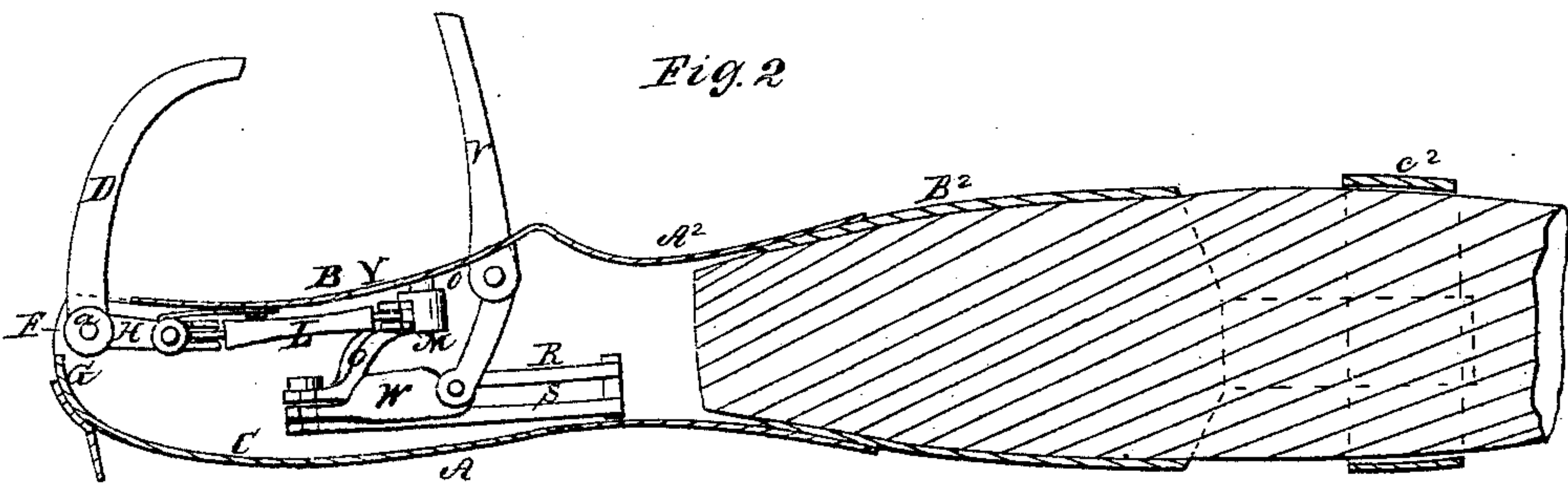
*N<sup>o</sup> 56,427.*

*Patented June 17, 1866.*

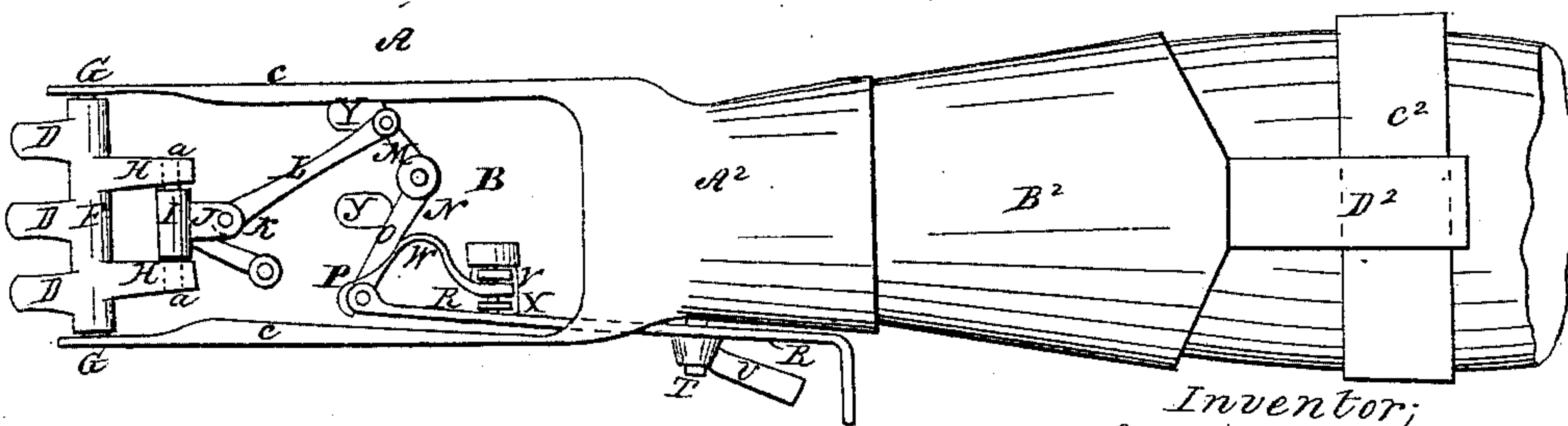
*Fig. 1*



*Fig. 2*



*Fig. 3*



*Witnesses;*

*A. P. Livingston*

*Inventor;*

*J. F. Maguire  
Per M. C. Adams*

# UNITED STATES PATENT OFFICE.

J. F. MAGUIRE, OF EAST BOSTON, MASSACHUSETTS.

## IMPROVEMENT IN ARTIFICIAL HANDS.

Specification forming part of Letters Patent No. 56,427, dated July 17, 1866.

*To all whom it may concern:*

Be it known that I, J. F. MAGUIRE, of East Boston, Suffolk county, State of Massachusetts, have invented new and useful Improvements in Artificial Hands; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification.

The present invention consists in a novel manner of hanging the fingers and thumb to the palm portion of the hand, whereby they can be made to firmly grasp and hold various articles, such as the handle of a hammer, a rope, a tumbler or other drinking-vessel, &c., and the fingers operated independent of the thumb, as will be apparent from the following detail description thereof, reference being had to the accompanying plate of drawings, in which—

Figure 1 is a view of the palm side of the artificial hand, showing the manner of fastening the hand to the arm; Fig. 2, a section through the artificial hand, taken in the direction of its length and in the plane of the line *x x*, Fig. 1; and Fig. 3, an inside view of the hand with the plate constituting the back of the hand removed.

Similar letters of reference indicate like parts.

A in the drawings represents an artificial hand made according to the present invention; B, its palm; C, the back; D, the fingers, and V the thumb. The several fingers D are attached to or form a part of a common cross-head, F, hung and turning at each end in the outer portion or end, G, of the hand, in and between the palm and back of the same.

The cross-head F is provided with two parallel crank-arms, H, in and between which, turning upon a cross-pin, *a*, thereof, a loose sleeve, I, is hung, having an arm, J, to which one end, K, of a connecting-rod, L, is hung, having its other end hung to the short arm M of an angular lever, N, turning upon a fulcrum or center-pin, O, of the interior of the

hand A. To the outer end, P, of the long arm Q of the angular lever N, above referred to, is hung the inner end of a slide-handle, R, passing outward through the hand-casing, which handle has a slot, S, extending in the direction of its length, and moving over a fixed pin, T, on the outside of the hand, having a thumb-nut screwed upon it, which nut, when brought to bear upon the said slide-hand R, firmly and securely holds it in whatever position it may be placed.

V is the thumb of the hand, hung and turning in the hand-casing at the proper point thereof with reference to the fingers, which thumb, through a spring-arm, W, pivoted at one end to its inner end, X, and at its other to the handle-slide R, is connected to the said slide, as plainly shown in Figs. 2 and 3.

From the above description it is plain to be seen that if the slide R is pulled or drawn outward the fingers and thumb of the hand will be all swung down and toward the palm of the hand, the ends of the fingers entering apertures Y Y, made at the proper points in the same, where, by then screwing the thumb-nut of such slide against the same, they can be firmly secured and held, and that, furthermore, by moving the slide inward the fingers and thumb will be raised or brought into a vertical position, or thereabout, as plainly shown in Fig. 3, or to any inclination or position desired between a vertical direction and that in which they lie upon the palm, they being secured or held in any one of such positions by simply tightening the thumb-nut upon the slide. Thus it is obvious the fingers and thumb of the hand can be made to tightly grasp any article desired, and within their limits of play or movement, whether large or small, such as, for instance, a hammer, a rope, a tumbler, and other and various articles too numerous to herein mention, as is manifest.

The artificial hand arranged and constructed as above described is secured at the proper end or its wrist portion A<sup>2</sup>, by means of rivets or in any other proper manner, to a leather casing, B<sup>2</sup>, made of suitable shape to embrace or fit the end of the arm to which the artificial



hand is to be applied, as shown in the drawings, where it is held by means of a strap,  $c^2$ , encircling and buckling about the arm, passing or sliding through loops  $D^2$  of the leather casing  $B^2$ , which enables the said strap to be adjusted upon the arm so as to feel easy and comfortable thereto.

I claim as new and desire to secure by Letters Patent—

1. Connecting the fingers  $D$  of the hand to and with the slide  $R$ , having thumb-nut  $U$ ,

through angular lever-arm  $N$ , connecting-rod  $L$ , and cross-head  $F$   $I$ , substantially as herein described, and for the purpose specified.

2. In combination with the above, connecting the thumb  $V$  with the slide  $R$  through a spring-arm,  $W$ , substantially as and for the purpose described.

JAMES F. MAGUIRE.

Witnesses:

PATRICK KEENAN,  
THOMAS RICE.