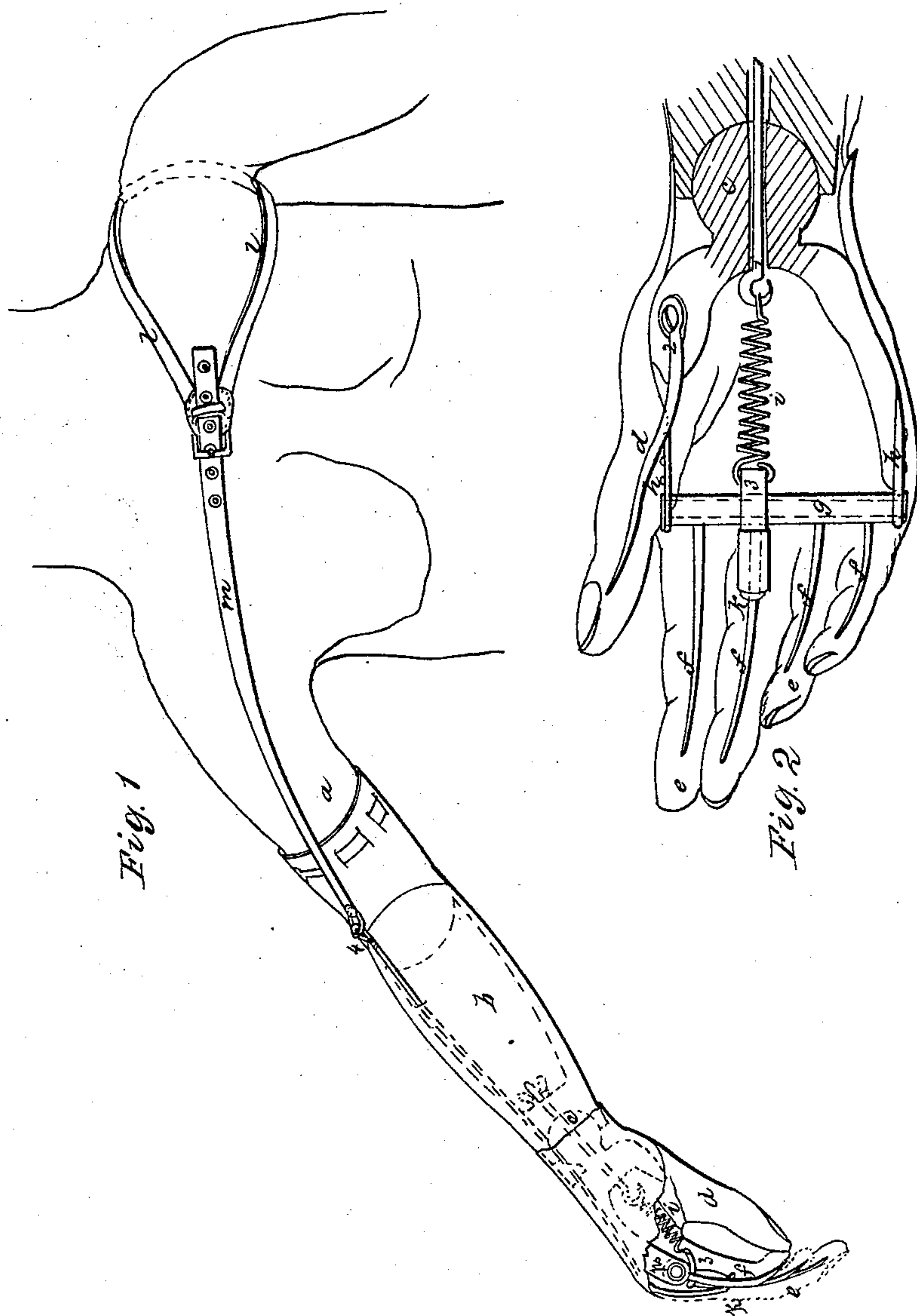


W. Selyho,
Artificial Hand.

No 18,021.

Patented Aug. 18, 1857.



Witnesses;
Alvin S. Saff.
Wm. J. Smith

Inventor;
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UNITED STATES PATENT OFFICE.

WILLIAM SELPHO, OF NEW YORK, N. Y.

CONSTRUCTION OF ARTIFICIAL HANDS.

Specification of Letters Patent No. 18,021, dated August 18, 1857.

To all whom it may concern:

Be it known that I, WILLIAM SELPHO, of the city, county, and State of New York, have invented, made, and applied to use certain new and useful Improvements in Artificial Hands; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making part of this specification, wherein—

Figure 1, is a view of my hand partly in skeleton, showing the manner in which the same is applied to the person, and Fig. 2, is a view of the palm of the hand with the covering removed.

Similar marks of reference denote corresponding parts.

Artificial hands have heretofore been made with the separate fingers adapted to be set so as to retain any article placed within the hand; others have been formed so that the fingers are kept closed by a spring, and are opened by pressure of the stump against the body, or by the other hand.

The nature of my said invention consists in the manner of constructing the joint on which the fingers move, and connecting the spring and parts that move the said fingers. Also in the manner of opening the fingers by a motion derived from the shoulder of the opposite arm.

In the drawing *a*, is the stump or remaining part of the arm.

b, is the socket secured to the arm in any convenient or usual manner and in cases where amputation has taken place above the elbow a joint has to be provided at that point, the same being of any competent character.

c, is the wrist joint, formed as a ball and socket to allow of a limited motion and the pin 1, that connects said ball and socket joint passes through and terminates as a hook within the palm of the hand for a purpose hereafter specified.

d, is the thumb set on a joint 2, at which there is a slight lateral motion allowed so that the thumb can be turned to meet the first or second finger.

e, e, are the fingers formed of suitable elastic material, say india rubber, on a metallic skeleton frame *f, f*, on a cross pipe *g*, set in eyes *h, h*, on the edges of the back of the hand at the line of the knuckles.

3 is a strap passing from one of the fingers (*f*) on the inner side of the pipe *g*, where it connects to one end of a suitable

contractile spring *i* that may be of metal or india rubber and is within the palm of the hand, passing down and connected to the hook of the wrist joint pin 1. It will now be seen that this spring *i*, draws the fingers (*f*) constantly toward the thumb and retains any article placed within the hand and between the thumb and fingers, the spring *i* being sufficiently strong. The hand is opened to release any article by the following means:—

k, is a cat gut or suitable cord around one of the wires or skeleton *f*, of the fingers, kept to its position by a block of wood or similar material, and said gut passes over the knuckle and through the back of the hand and wrist, terminating as a loop 4, near the elbow.

l, is a loop or webbing around the shoulder of the opposite arm to the one on which the artificial hand is attached, and *m* is an adjustable strap connecting the loop 4 of the gut *k* to the said loop or shoulder piece *l*. Upon extending the artificial hand and arm, and by the operation of the shoulders keeping the strap *m*, tightly strained, the said strap *m*, and gut or cord *k*, opens the fingers, extending the spring *i*. The hand may also be opened when not in an extended position by a motion of the opposite shoulder drawing in the shoulder piece, strap *m*, and cord *k*.

I am aware that the fingers of artificial hands have been opened by a motion derived from pressure of the arm or stump against the person, and also that the hand has been closed by a spring, therefore I do not claim the same, but—

What I claim, and desire to secure by Letters Patent, is—

1. Constructing the skeleton fingers on the metallic cross pipe *g* set in eyes on the line of the knuckle of the hand and provided with the contractile spring acting on one side of said pipe to close the hand substantially as specified.

2. I claim opening the artificial hand on one arm by a motion derived from the shoulder of the other arm of the wearer, said motion acting through the shoulder loop *l*, strap *m*, and cord *k*, or their equivalents substantially as specified.

In witness whereof I have hereunto set my signature this 29th day of June, 1857.

WILLIAM SELPHO.

Witnesses:

B. I. PENTZ,

JAMES McCULLOUGH.