

(No Model.)

J. MONTO.  
PLIERS.

No. 486,616.

Patented Nov. 22, 1892.

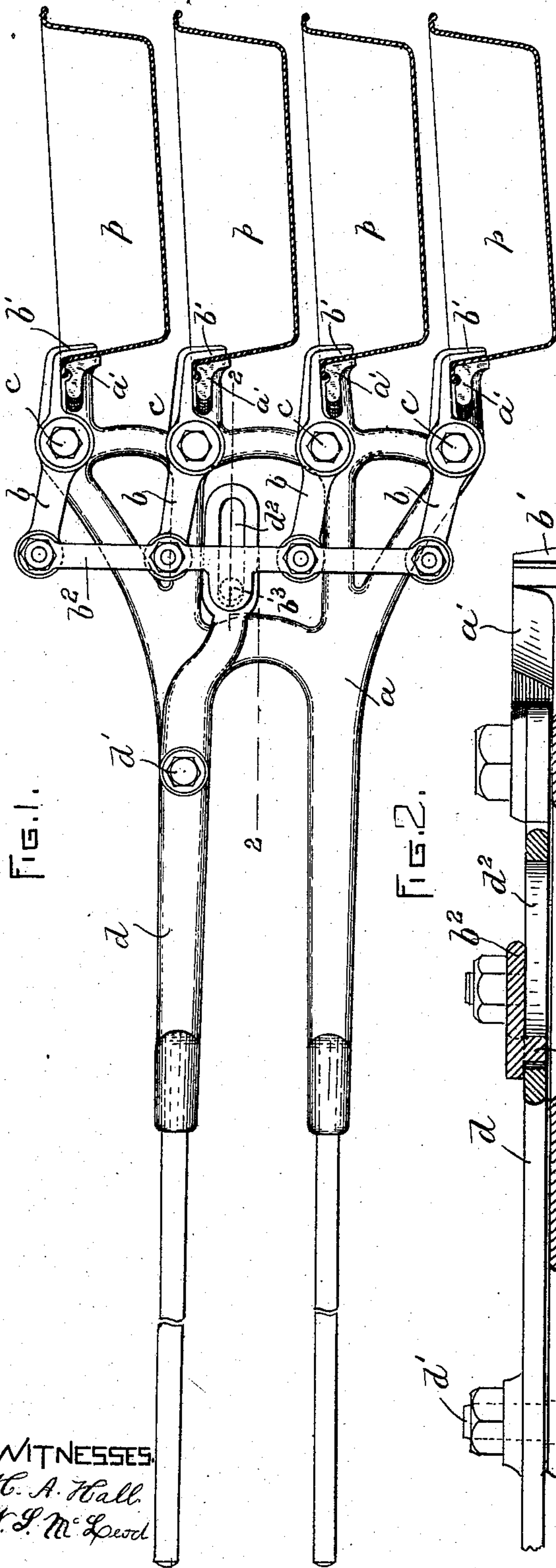


FIG. 1.

FIG. 2.

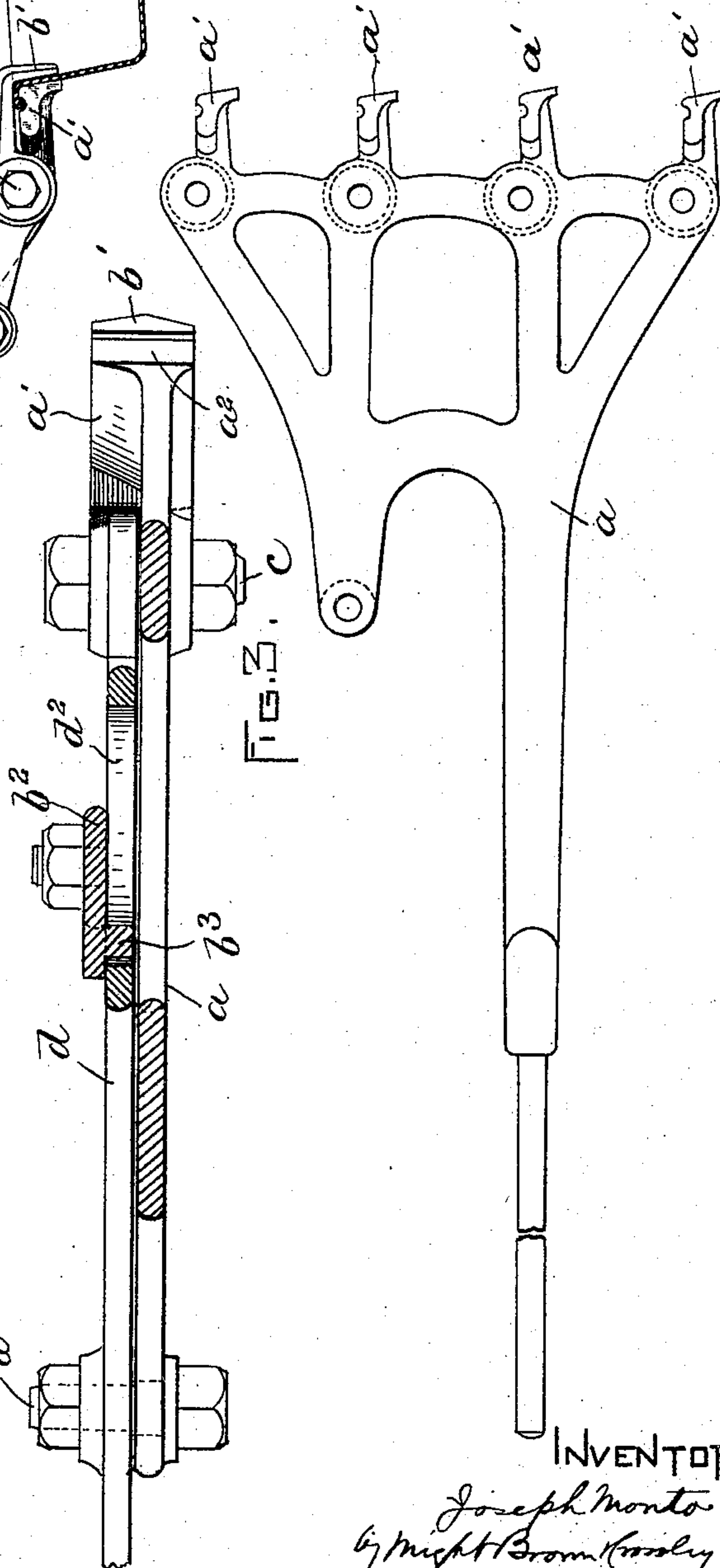


FIG. 3.

WITNESSES:  
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# UNITED STATES PATENT OFFICE.

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## PLIERS.

SPECIFICATION forming part of Letters Patent No. 486,616, dated November 22, 1892.

Application filed September 1, 1892. Serial No. 444,721. (No model.)

*To all whom it may concern:*

Be it known that I, JOSEPH MONTO, of Needham, in the county of Norfolk and State of Massachusetts, have invented certain new and  
5 useful Improvements in Pliers, of which the following is a specification.

This invention has for its object to provide a tool whereby two or more articles—such as sheet-metal pans—may be handled at the same  
10 time, and it consists in the improvements relating to pliers for grasping a series of articles which I will now proceed to describe and claim.

Of the accompanying drawings, forming a  
15 part of this specification, Figure 1 represents a side elevation of a pair of pliers embodying my invention. Fig. 2 represents a section on line 2 2 of Fig. 1, and Fig. 3 represents a side view of one of the parts of the pliers detached.  
20 The same letters of reference indicate the same parts in all of the figures.

In the drawings, *a* represents a lever having a series of rigid jaws *a'*, of which there may be any desired number, four being shown  
25 in the present instance. The lever and its jaws may be formed in one piece by casting or otherwise, or the jaws may be made separately or riveted or otherwise secured to the lever. The jaws *a'* are in this case formed  
30 to fit the under side of the body or flange and the upper portion of the outer surface of the body of a sheet-metal pan *p*, as shown in Fig. 1; but it is obvious that the form of the jaws may be varied and that they may be made  
35 to correspond to the form of any article to be grasped by the pliers.

*b b b b* represent a series of short levers pivoted at *c c c c* to the lever *a*, each of said shorter levers having at its lower end a jaw *b'*,  
40 formed to co-operate with a jaw *a'* in grasping the article *p*. The opposite ends of the levers *b* are connected in a series by a rod *b<sup>2</sup>*, as shown in Fig. 1.

*d* represents an operating handle or lever,

which is pivoted at *d'* to the lever *a*, and is 45 provided at one end with a slot *d<sup>2</sup>*, which receives a stud or pin *b<sup>3</sup>*, affixed to and projecting from the connecting-rod *b<sup>2</sup>*, the arrangement being such that when the lever *d* is oscillated on its pivot its engagement with the  
50 connecting-rod by means of the slot and the stud will cause the connecting-rod to move lengthwise, and thus swing the series of levers *b* on their pivots, thus causing the jaws *b'* to move toward or from the jaws *a'*, as the case  
55 may be. If desired, the slot *d<sup>2</sup>* may be formed in the connecting-rod, the stud *b<sup>3</sup>* being affixed to the lever *d*.

It will be seen that this improved tool may be constructed with any desired number of  
60 jaws and that the jaws are adapted to firmly hold the articles disposed between them and to readily grasp and release said articles.

I claim—

1. Pliers comprising a lever having a series 65 of rigid jaws, a series of short levers pivoted to said lever, said short levers having jaws arranged to co-operate with the said rigid jaws, an operating lever or handle pivoted to the jaw-carrying lever, and connections between  
70 said operating-lever and the series of shorter levers, as set forth.

2. The improved pliers comprising a lever having a series of rigid jaws, a series of shorter levers pivoted to said lever and having jaws 75 arranged to co-operate with the said rigid jaws, a rod connecting the rear ends of said shorter levers in a series, and an operating handle or lever pivoted to the jaw-carrying lever and connected with said rod, as set forth. 80

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 20th day of August, A. D. 1892.

JOSEPH MONTO.

Witnesses:

C. F. BROWN,  
A. D. HARRISON.