Aug. 21, 1923. 1,465,429

S. GASPARAITIS

LIFTING DEVICE

Filed Jan. 7, 1922

FIG. 1

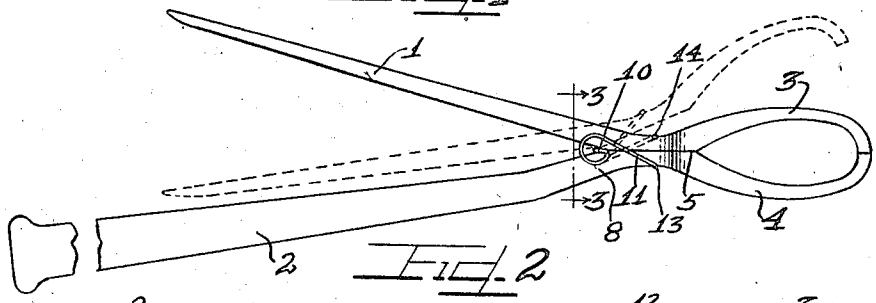


FIG. 2

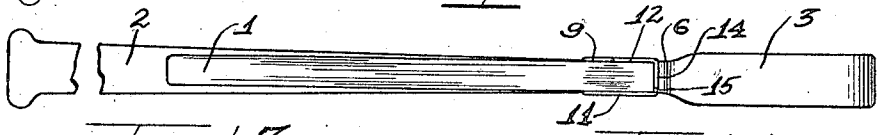


FIG. 3

FIG. 4

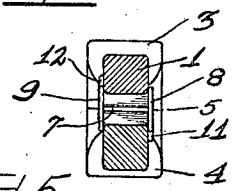


FIG. 5

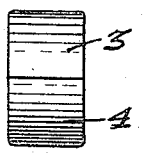
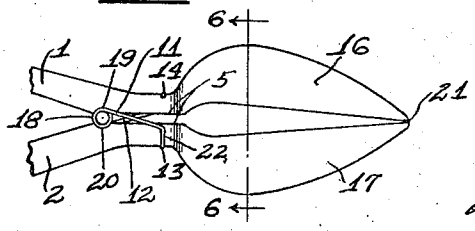


FIG. 7



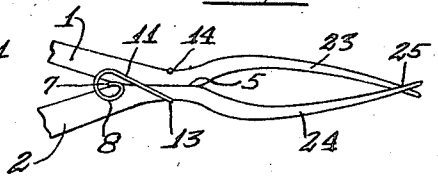


FIG. 6

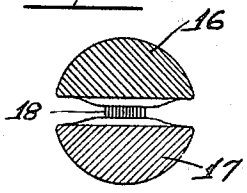
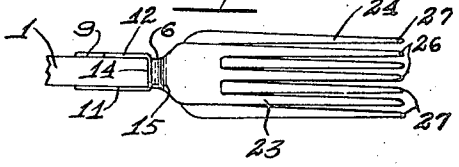


FIG. 8



Witnesses

Rudolph J Berg

Carlson Hice

Inventor

STANLEY GASPARAITIS.

By Rathbun Fulton Atty.

Patented Aug. 21, 1923. 1,465,429

UNITED STATES PATENT OFFICE.

STANLEY GASPARAITIS, OF CHICAGO, ILLINOIS.

LIFTING DEVICE.

Application filed January 7, 1922. Serial No. 527,583.

To all whom it may concern:

Be it known that I, STANLEY GASPARAITIS, a citizen of the United States, and a resident of the city of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in a Lifting Device; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to the numerals of reference marked thereon, which form a part of this specification.

This invention relates to devices such as tongs which are used for grasping articles to lift them.

It is an object of this invention to produce a device of this class in which the parts shall be held together by a spring which also acts as a pivot.

It is a further object of this invention to produce a device of the class indicated which may be quickly and easily disassembled for cleaning and reassembled for use.

It is a further object of this invention to produce a device of this class which shall be inexpensive to manufacture and can readily be produced in a number of forms.

Other and further objects of the invention will be apparent from the disclosures in the specification and the accompanying drawings.

The invention (in a preferred form) is illustrated on the drawings and will be hereinafter more fully described.

On the drawings:

Figure 1 is a side view of a pair of tongs involving this invention.

Figure 2 is an edge view of the same.

Figure 3 is a section upon the line 3—3 of Figure 1.

Figure 4 is an end view looking from the right in Figures 1 or 2.

Figure 5 is a view showing the application of this invention to a pair of spoon shaped lifting members.

Figure 6 is a section upon the line 6—6 of Figure 5.

Figure 7 shows the application of the invention to a pair of fork-like pivoted members.

Figure 8 is an edge view of the form shown in Figure 7.

As shown on the drawings:

The pair of tongs shown in Figures 1 to 3 consists of a pair of members pivoted together. One member comprises a handle and a jaw 3 which is upon the same side of the pivot as the handle 1. The handle 2 is continuous with the jaw 4 upon the same side of the pivot as the handle 2. Thus the members do not cross one another at the pivot, as is usual in ordinary tongs, scissors and similar instruments.

In the form illustrated in Figures 1 and 2, the handle 2 is shown of considerably greater length than the handle 1. This is in order that the handle 2 may be used to lift objects out of hot water or other places where the worker does not wish to insert his hands. For example, this tool may be used for lifting clothes out of a clothes boiler.

Where the handle 1 and jar 3 merge and where the handle 2 and jaw 4 merge, each of the members is provided with a flat surface so that the two members contact over a considerable area, as indicated at 5. As shown at 6 in Figure 2, jaws 3 and 4 are narrowed as this portion 5 is approached, and the handles also may narrow towards this portion.

The two members are fastened together by a wire spring. The central part of this wire spring consists of a straight portion 7 which goes across the tool between the handles 1 and 2 just at the left, as shown in Figure 1, of the flat contacting portion 5. At each side of the tool, the wire spring is coiled as indicated at 8 and 9, the innermost end of these coils being connected to the portion 7 by a straight radial part as shown at 10. From the outer end of the coils go tangential parts 11 and 12 which extend to the curved surface of the member at a point considerably to the right, as shown in Figures 1 and 2, of the middle of the flat surfaces 5. The ends of the portions 11 and 12 are bent through a right angle, and seated upon the curved surfaces of the members which lie opposite the flat surfaces 5, as shown at 13 and 14 respectively. A groove is provided in each of the members for the reception of the ends 13 and 14. This groove is shown at 15 in Figure 2 where it projects beyond the end of the portion 14. Preferably also similar grooves are provided to accommodate the portion 7 of the spring. Each of these latter grooves is of a depth less than the radius of the wire of the spring, so that the handles 1 and 2 may fulcrum on the wire 7. Preferably this wire is located beyond the end of the flat surfaces 5 but if desired it may be between these

surfaces. When the latter position is used, the surfaces 5 do not contact but are separated by the wire as indicated in Figure 6.

This figure shows the jaws of the members replaced by two spoon shaped ends 16 and 17 forming prolongations of the handles 1 and 2 respectively. The spring used with this form of the device may be the same as that shown in Figures 1 to 3, or it may differ by having a coil in the place of the straight portion 7. This coil is indicated at 18, and to accommodate it a pair of grooves 19 and 20 are formed in the members 1 and 2 to the left of the flat portion 5. Preferably these grooves are not made deep enough to let the coil 18 into the members 1 and 2 so far that the surfaces 5 will contact. As a consequence, the spoon-shaped jaws contact only at said tips, as shown at 21. Because the coil 18 is of smaller diameter than the coils 8 and 9, the oblique portions 11 and 12 of the spring are not as steep as in the form shown in Figure 1. Also, if desired, the portions 11 and 12 may be made to slope still less by connecting them to the cross pieces 13 and 14 by means of a portion at right angles to the surface 5. One such portion is shown at 22.

Another application of the spring pivot or fastener is shown in Figures 7 and 8, where the members 1 and 2 are integral with the fork-shaped jaws 23 and 24. In this form of device, the surface 5 is made to contact as in Figure 1. It is obvious that surfaces out of contact as shown in Figure 5 might be used by inserting a coil like 18 instead of the straight portion 7 of the spring, but if this were done the surfaces 5 would not stay out of contact, since the spring would bring the right hand edges of them into contact. This is because the tips of the jaws do not in this case form a stop; for, instead of contacting with each other, the tines of one fork pass between the tines of the other fork, as shown at 25. This may also be seen in Figure 8, where one set of tines is marked 26 and the other set 27.

In the operation of this device, when the handles 1 and 2 are pressed toward one another, the parts will pivot about the wire 7 or the coil 18. When the handles are released, the elasticity of the spring will bring the parts back to the illustrated position, in which, in the form shown in Figures 1 and 7, the members are stopped by the contact of the surfaces 5. In the forms shown in Figures 1 and 5, they are stopped by the contact of the ends of the jaws. It will thus be noticed that in the form shown in Figure 1, both provisions for a stop are used.

The tool shown in Figure 1 is intended for handling clothes in the hot water of a clothes boiler. The tool shown in Figure 5 is intended for handling spaghetti or a similar substance in removing it from the vessel in which it is cooked. The tool shown in Figure 7 may be used in a similar way for handling spinach or like materials. It is, however, obvious that the invention is not confined to the tools illustrated, but may be applied to a very great variety of tools for a very great variety of objects of materials to be handled.

I am aware that numerous details of my invention may be varied through a wide range without departing from the principle of my invention, and I therefore do not purpose limiting the patent granted otherwise than necessitated by the prior art.

I claim as my invention:

1. In a device of the class described, two members, a spring fastener holding said members together and comprising a coiled portion and two portions at right angles to and contacting with said members, the axis of said coil being parallel to said last named portions.

2. In a device of the class described, a wire spring, two members pivotally held together by said spring, said spring comprising a coiled portion and two holding portions, the connections between said holding portions and said coiled portion being oblique to the length of the tool.

3. In a device of the class described, a wire spring, two members pivotally held together by said spring, said spring comprising a coiled portion and two holding portions, said holding portions each comprising two lengths at right angles to each other and to the length of the tool, one of said lengths in each holding portion being parallel to the axis of said coiled portion.

4. In a tool of the class described, two halves, a spring pivotally connecting said halves, each half comprising a handle and a jaw, the jaws each being the shape of a filled spoon, the flat sides being towards each other, and the junction of each handle and its jaw being at an angle to the length of the tool and projecting toward the other half, the pivotal axis being on the handle side of said junctions.

In testimony whereof I have hereunto subscribed my name in the presence of two subscribing witnesses.

STANLEY GASPARAITIS.

Witnesses:

CARLTON HILL,

JAMES M. O'BRIEN.