

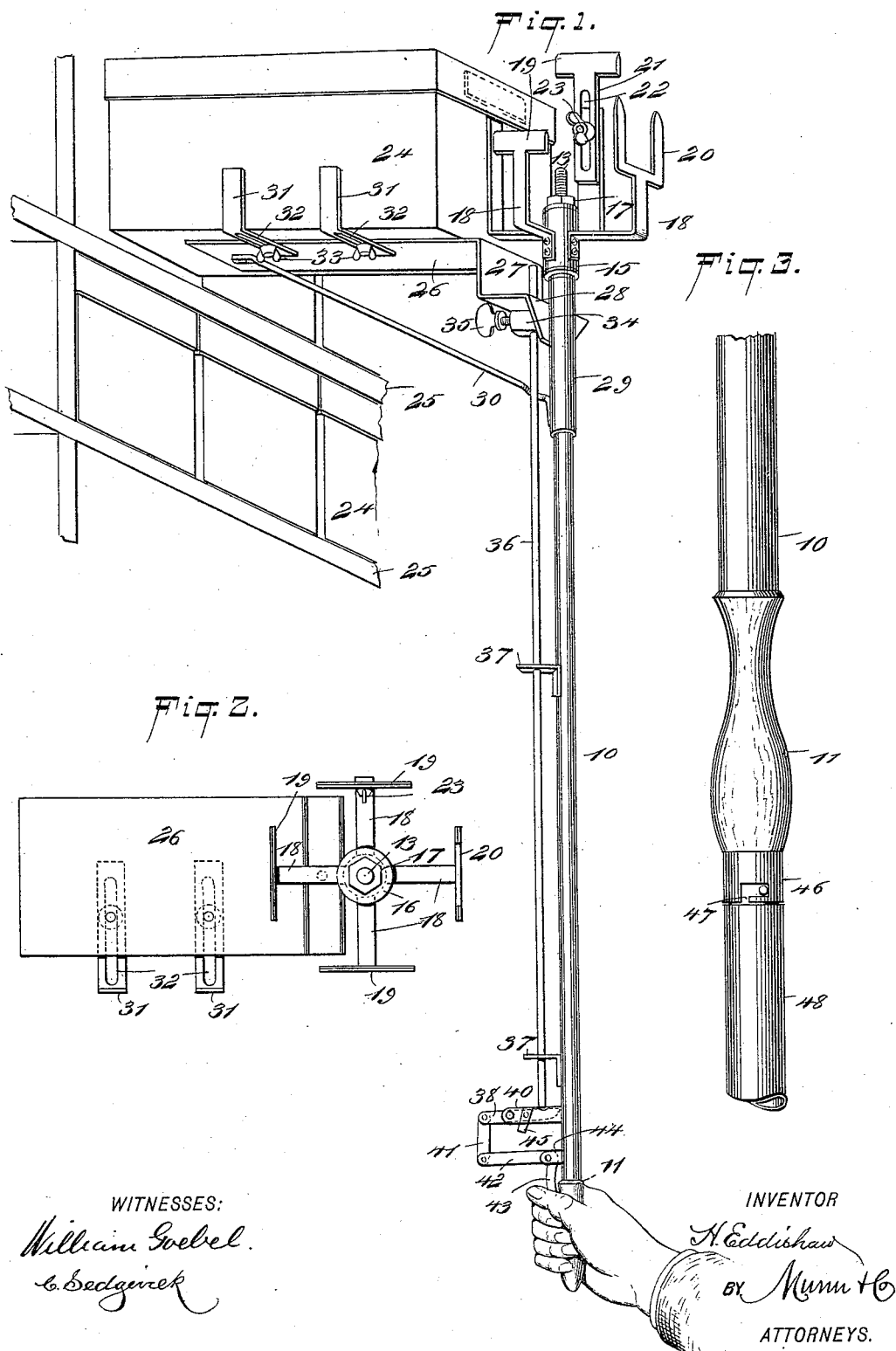
(No Model.)

2 Sheets—Sheet 1.

H. EDDISHAW.  
BOX LIFTER.

No. 525,949.

Patented Sept. 11, 1894.



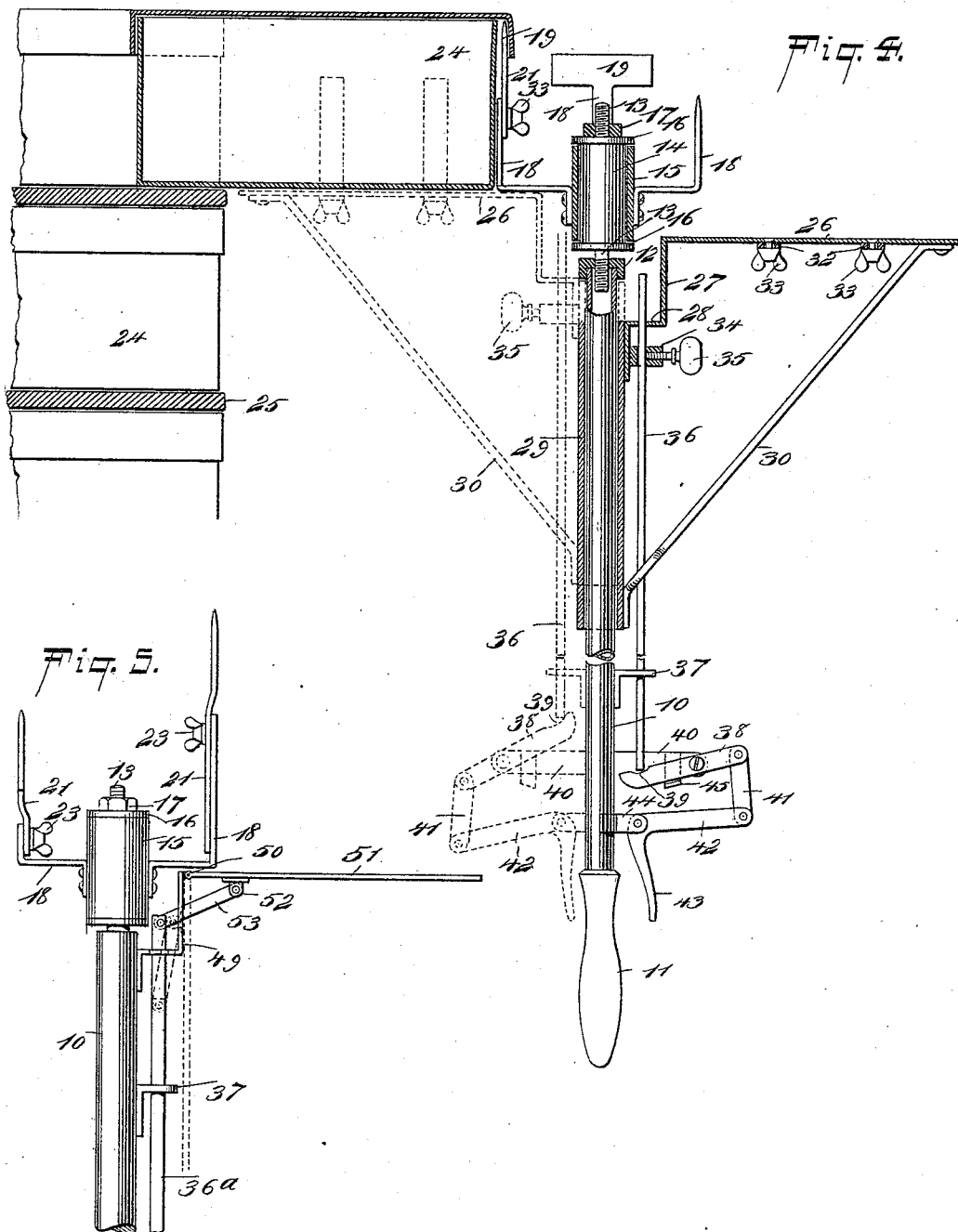
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WITNESSES:  
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# UNITED STATES PATENT OFFICE.

HENRY EDDISHAW, OF PHILADELPHIA, PENNSYLVANIA.

## BOX-LIFTER.

SPECIFICATION forming part of Letters Patent No. 525,949, dated September 11, 1894.

Application filed December 5, 1893. Serial No. 492,869. (No model.)

*To all whom it may concern:*

Be it known that I, HENRY EDDISHAW, of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented a new and Improved Box-Lifter, of which the following is a full, clear, and exact description.

My invention relates to improvements in devices which are adapted for use in handling boxes, particularly where such boxes are arranged overhead and out of ordinary reach. In stores it is customary to arrange boxes containing goods upon high shelves and to pile them one above another, so that when the boxes are to be taken down it is necessary to use a ladder of some sort. This is an inconvenient way of reaching the box; and the object of my invention is to produce a light and easily operated device which may be used instead of a ladder and by which an overhead box may be conveniently reached and taken down from its place of support.

A further object of my invention is to make a device of this kind, which is very light and easy to handle, which also has the necessary strength, and which is provided with means for first pulling out the box and then swinging a supporting shelf beneath it, so that the box may be handled with safety and without fear of dropping.

To these ends my invention consists of certain features of construction and combinations of parts, which will be hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures of reference indicate corresponding parts in all the views.

Figure 1 is a perspective view of the device, showing it in the position to take a box from the shelf. Fig. 2 is a plan view of the device. Fig. 3 is a detail side elevation of a means for increasing the length of a main support, so that the device may be adapted for taking boxes from very high shelves. Fig. 4 is a vertical longitudinal section of the device; and Fig. 5 is a broken side elevation of a modified form of the device.

The device is provided with a standard or pole 10 which, for the sake of lightness, is made hollow and which, at its lower end, terminates in a handle 11. The upper end of the tubular standard or pole is closed by a screw cap 12, or equivalent closure, into which is screwed the vertical spindle 13, having its

middle portion enlarged to form a drum 14 on which turns freely the cylindrical head 15, this being held between washers 16, the lower one being formed integral with the drum and the upper one being held in place by a nut 17. This form of a revolving head is preferably employed, but it is understood that a revolving head may be supported on the top of the standard 10 in many other ways if desired, without affecting the principle of my invention.

Fastened to the sides of the head 15 are angular arms 18, which project outward and upward and terminate at their upper ends in heads 19 which are solid, or heads 20 which are forked, so as to conveniently grasp the pull of a drawer which may then be handled like a box, the arms being of dissimilar heights, so that their heads may be conveniently made to engage the cover of a box. If desired, the arms may be made adjustable like one of those shown in Fig. 1, so as to make their height correspond to the height of a box, and in this case a slide plate 21, which is provided with a longitudinal slot 22, is held to one of the upright portions of an arm by means of a thumb screw 23, or equivalent fastening, the slide plate having at its upper end a head 19 like those heads already described. The heads 19 and 20 are made wider than the arms, so that they may get a good grip on the cover of a box 24, as illustrated in Fig. 1, or may rest firmly against the box to steady the same. The boxes 24 are arranged upon shelves 26, but they may be piled one upon another, if desired, and my lifter still be used in connection with the same. The arms 18 are adapted to be raised so as to bring the head of one of them into engagement with the cover of a box, as illustrated in Fig. 1, and then the box may be pulled outward and a shelf 26 swung beneath it to support it, as hereinafter described. The shelf 26 is bent downward near its inner end, as shown at 27, and then inward as shown at 28, its inner end being fastened firmly to a sleeve 29 which slides on the standard or pole 10; and a brace 30 extends from the lower portion of the sleeve to the outer portion of the shelf to support the latter. It is not essential that the shelf be shaped and supported as described, so long as means are provided for swinging it beneath the box and maintaining it on the pole 10.

The shelf 26 may be used as a plain shelf, but it is preferably provided with angular guides 31, which extend outward and upward so as to engage a box on the side and bring the shelf beneath the center of the box. These guides are adjustable in and out to enable the shelf to be properly centered beneath boxes of different sizes, and to this end the lower members of the guides are slotted longitudinally, as shown at 32, and fastened to the underside of the shelf by means of thumb screws 33 which project through the slots and into the shelf. The shelf is carried by the sleeve 29 in order that it may have a limited movement up and down, so that the box may first be pulled partially off its support and the shelf then raised to lift and release the box.

To move the sleeve and shelf, the following mechanism is provided: On the under side of the shelf near the sleeve 29 is a lug 34, which is provided with a set screw 35 adapted to impinge on the rod 36 which slides in the lug and is held also to slide in guide keepers 37 on the pole 10. The lower end of the rod 36 comes in contact with one end of a short lever 38 which is preferably concaved, as shown at 39, to form a shallow socket to receive the lower end of the rod, and the lever is fulcrumed near the center on a lug 40, as best shown in Fig. 4, and has its outer end connected by a link 41 with one arm of a tilting bell crank 42, the lower arm 43 extending downward parallel with the handle 11, so that it may be conveniently grasped by the person manipulating the lifter. The bell crank 42 is pivoted at its elbow on a lug 44, which projects from the pole 10. It will be seen that by pressing the lower arm of the bell crank, the outer end of the lever 38 is pulled down, the inner end raised and the rod 36 moved upward so as to lift the shelf 26. The rest 45 on the lug 40 prevents the lever 38 from tipping down too far. The weight of the shelf is sufficient to move the parts back to normal position when the bell crank is released.

If desired the pole or standard 10 may be made extensible, so that the device may be used in connection with very high shelves, and when thus made the handle 11 has, at its lower end, a coupling 46 adapted to connect by a bayonet joint 47 or an equivalent detachable fastening with a second pole 48, which may be of any necessary length. When the pole is extended in this way, any approved means may be employed for lengthening the rod 36 and operating it in the manner specified. In using the device the pole 10 is raised in a vertical position, one of the arms 18 brought into engagement with the cover of the box 24, as illustrated, the box 24 is pulled outward from its support, and the pole is then turned, the head 15 and its arm of course remaining stationary, so that the shelf is brought beneath the box, after which the bell crank 43 is pressed so as to raise the shelf and bring it in engagement with the

box bottom and the box may then be lifted from its support and conveniently lowered.

Instead of having the shelf 26 moved bodily up and down, as described, it may be made to swing, as illustrated in Fig. 5, in which case an angular bracket 49 is secured to the upper end of the pole 10, and, hinged to the top of the bracket, as shown at 50, is a shelf 51 which has lugs 52 on the under side to which is pivoted a connecting rod 53, this being also pivoted to the upper end of a rod 36<sup>a</sup> which is actuated like the rod 36 described above, and which also slides in guide keepers 37 on the pole. It will thus be seen that by moving the rod up and down, the shelf may be simultaneously moved so as to bring it in the proper position in relation to the box.

I do not limit my invention to the means illustrated for making the shelf adjustable vertically, and any suitable means may be employed without affecting the invention.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. A box lifter, comprising a supporting pole, a head on the pole provided with upwardly extending arms, and a shelf supported beneath the head, one of the two last named parts being revoluble with respect to the other, substantially as described.

2. In a box lifter, the combination with a pole, of a head fitted to revolve on the upper end of the pole and provided with upwardly extending arms, a laterally extending shelf fitted to slide on the pole, and means for raising the shelf from the lower end of the pole, substantially as described.

3. In a box lifter, the combination with a pole provided with arms at its upper end, and a shelf fitted to slide on the pole and provided with a downwardly projecting rod, of a lever mechanism at the lower end of the pole for operating the shelf, comprising a pivoted bell crank lever, a pivoted lever for engaging the end of the rod projecting from the shelf, and a link connecting the said levers, substantially as described.

4. In a box lifter, the combination with a pole, of a head fitted to revolve on the pole and provided with adjustable arms, a sleeve fitted to slide on the pole, a shelf carried by the sleeve and provided with a downwardly projecting rod, and a lever mechanism at the lower end of the pole and engaging the said rod, substantially as described.

5. In a box lifter the combination with a pole, of a head mounted to revolve on the pole and provided with adjustable arms, a shelf fitted to slide on the pole and provided with adjustable guides, and means for raising the shelf from the lower end of the pole, substantially as described.

HENRY EDDISHAW.

Witnesses:

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