Nov. 24, 1931. M. NITZSCHE 1,833,120

DEVICE FOR TAKING DOWN ARTICLES FROM HIGH PLACES AND REPLACING SAME

Filed May 20, 1930

Fig. 2.

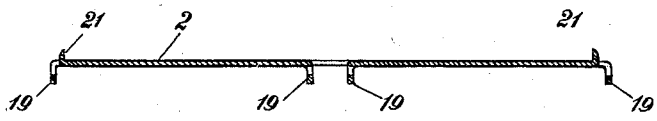


Fig. 3.

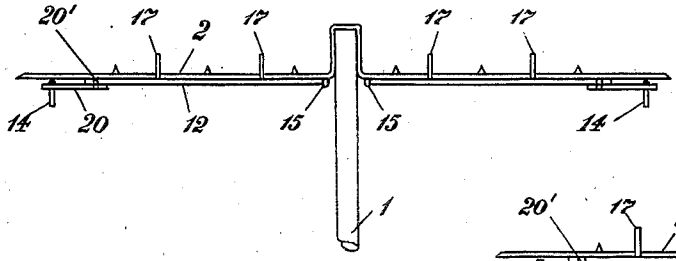


Fig. 4.

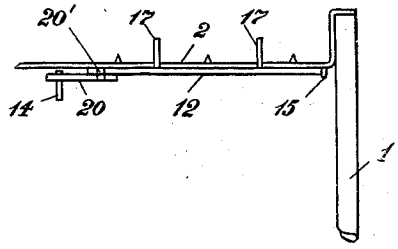


Fig. 5.

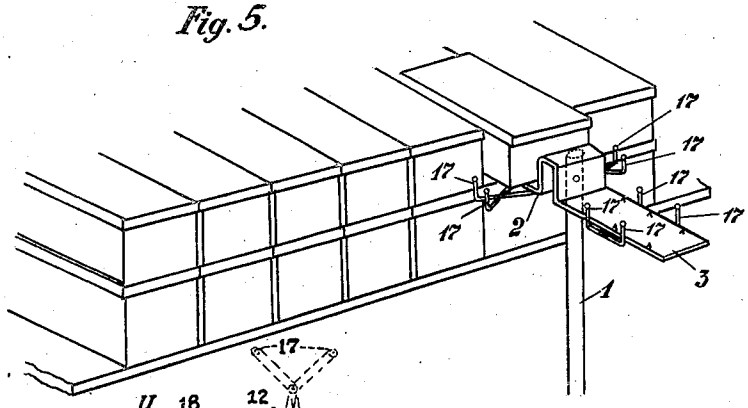
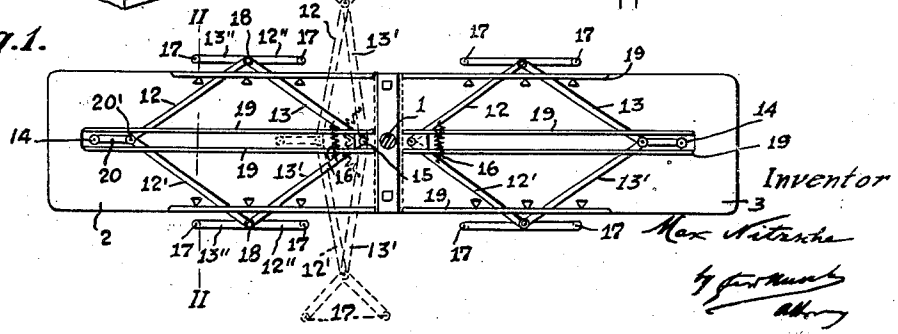


Fig. 1.



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by [illegible]

Atty

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UNITED STATES PATENT OFFICE

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DEVICE FOR TAKING DOWN ARTICLES FROM HIGH PLACES AND REPLACING SAME

Application filed May 20, 1930, Serial No. 454,146, and in Germany November 23, 1928.

This invention relates to a device composed of a rod with one or two lifting plates fixed on its upper end, by means of which articles, such as boxes can be taken down from and replaced on high places. The invention is characterized in that an automatically operating gripping and holding device is fitted on the lifting plate. This gripping device holds the box or the like securely on the plate.

An embodiment of the invention is illustrated by way of example in the accompanying drawings in which:

Fig. 1 shows the lifting device with gripping and holding device in bottom plan view.

Fig. 2 is a section on line II—II of Fig. 1.

Fig. 3 is a side elevation of the gripping device.

Fig. 4 shows the arrangement of a gripping device on a lifting device with only one lifting plate.

Fig. 5 shows in perspective the device in use.

According to the invention two pairs of levers 12, 12′ and 13, 13′ are arranged underneath each lifting plate 2, 3 linked together, and act like gripping tongs. A downwardly directed pin 14 is arranged in each of the pivot points of the levers 12, 12′ and 13, 13′, whereas the lever ends 12″ and 13″ laterally projecting over the lifting plates 2, 3 are provided with upwardly directed gripping pins 17. The gripping device has its stationary fulcrum on the lifting plates 2, 3 at 15. The levers 13 and 13′ are connected the one with the other by a pull spring 16. For guiding and holding these movable levers 12, 12′ and 13, 13′ on the lifting plates 2, 3 suitable means, such as guide bars 19, may be provided.

If the lifting plate is now inserted between two rows of boxes 6, 7 (Fig. 5), the pin 14 strikes against the lower box 16 so that the gripping device composed of levers is forced back, owing to its articulations and assumes the position shown in dotted lines in Fig. 1. Consequently the upper box is pushed onto the lifting plate. If this box is lifted out of the row by means of the device, the gripping mechanism, owing to the tension of spring 16, again assumes its initial position, the gripping pins 17 pressing against the side walls of the box and hold same in its position on the lifting plate.

If it is desired to put a box back into the corresponding gap in the row of boxes, the same operation is repeated. The pin 14 strikes against the box of the lower row, or against the edge of the shelf board when no lower row of boxes exists, and presses the gripper pins 17 away from the box and by inclining the lever plate, by means of the rod 1, the box is slipped into the gap.

I claim:

1. A device for taking down articles from high places and replacing same, comprising in combination a rod, a plate at the upper end of said rod, an automatically acting gripping and holding device arranged under said lifting plate composed of hingedly connected and shear-like acting levers, upwardly directed gripping and holding pins projecting laterally over said plate, a downwardly directed abutment pin adapted to move said gripping and holding device, and a spring adapted to oppose the movements of said abutment pin.

2. A device for taking down articles from high places and replacing same, comprising in combination a rod, two plates at the upper end of said rod, an automatically acting gripping and holding device arranged under said lifting plates composed of hingedly connected and shear-like acting levers, upwardly directed gripping and holding pins projecting laterally over said plates, a downwardly directed abutment pin adapted to move said gripping and holding device, and a spring adapted to oppose the movement of said abutment pin.

In testimony whereof I affix my signature.

MAX NITZSCHE.