

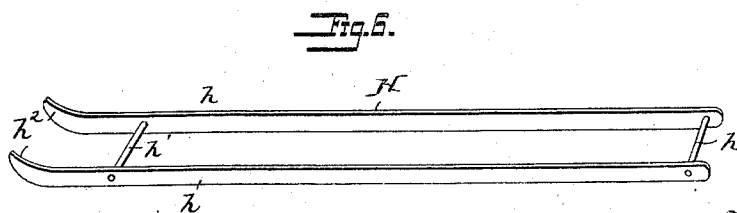
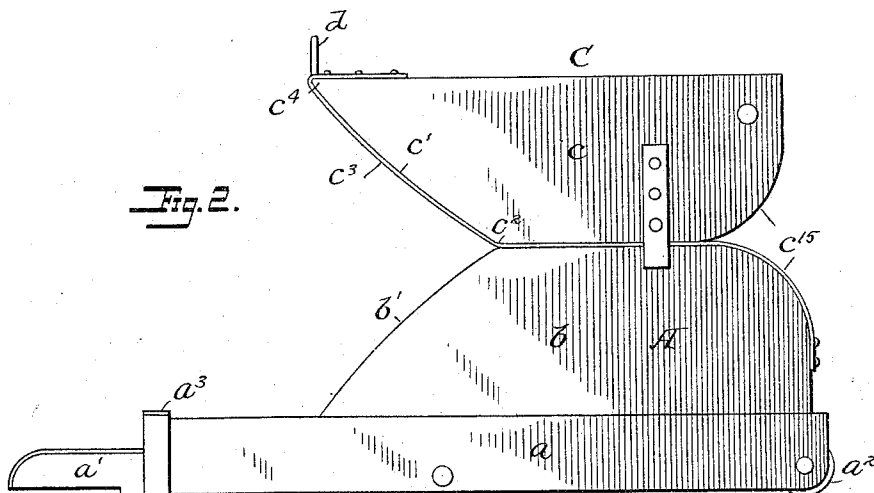
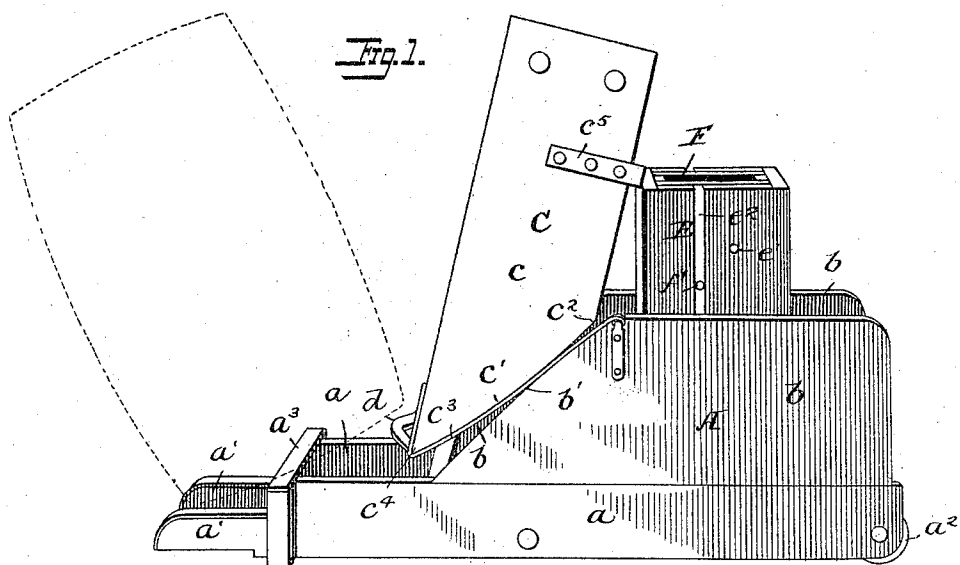
(No Model.)

2 Sheets—Sheet 1.

G. H. SPENCER.
DEVICE FOR HANDLING BARRELS.

No. 533,202.

Patented Jan. 29, 1895.



Witnesses
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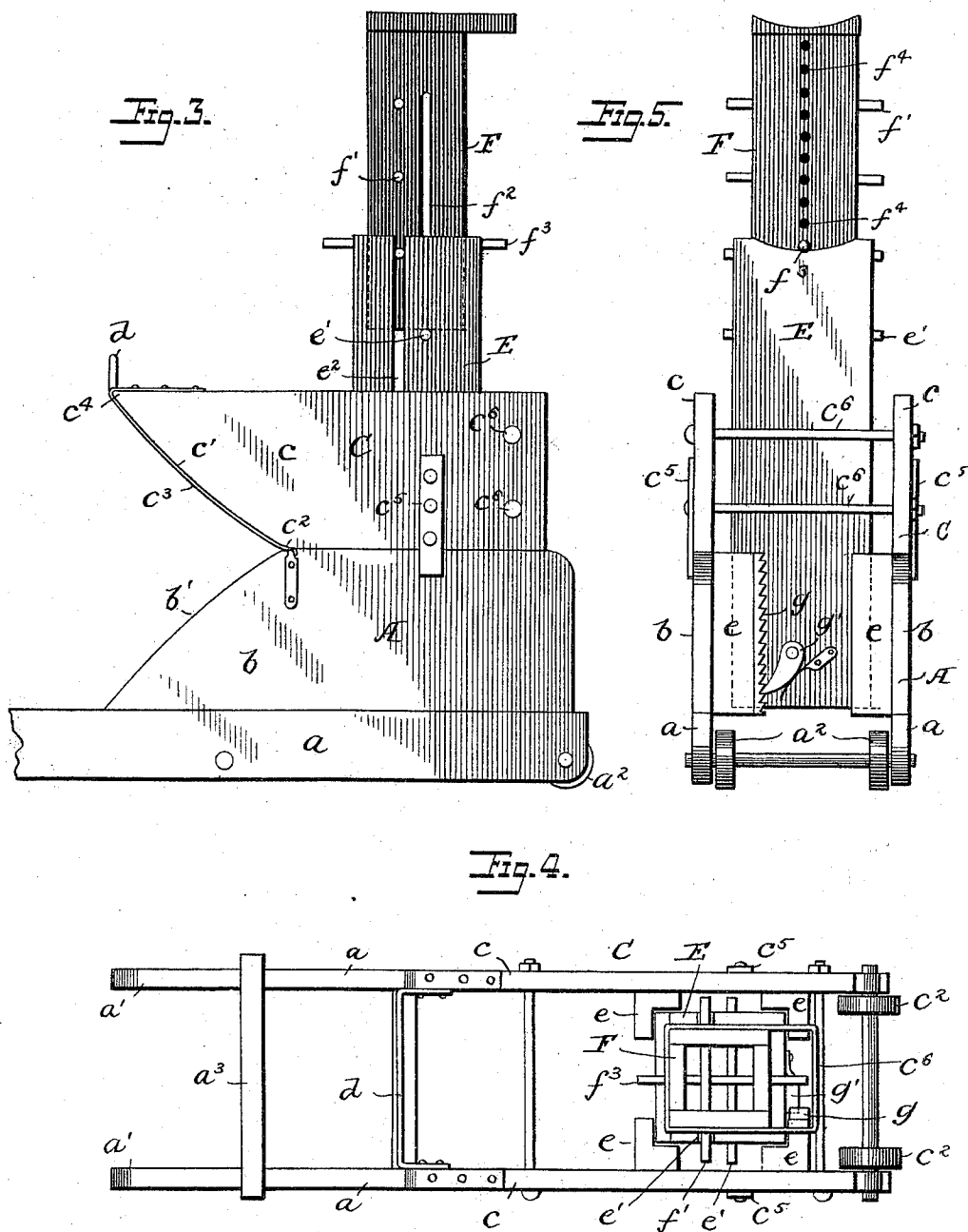
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UNITED STATES PATENT OFFICE.

GEORGE H. SPENCER, OF CHICAGO, ILLINOIS.

DEVICE FOR HANDLING BARRELS.

SPECIFICATION forming part of Letters Patent No. 533,202, dated January 29, 1895.

Application filed May 14, 1892. Serial No. 432,974. (No model.)

To all whom it may concern:

Be it known that I, GEORGE H. SPENCER, a citizen of the United States, residing in Chicago, Cook county, State of Illinois, have invented certain new and useful Improvements in Devices for Handling Barrels, &c., of which the following is a specification.

My invention relates to devices for elevating and handling barrels, boxes and other packages and it consists of a combined truck and elevator which I will now proceed to describe.

In the accompanying drawings which form a part of this specification, Figure 1, is a perspective view of my invention showing the cradle in upright position about to receive a barrel. Fig. 2, is a view showing a different form of cradle rocked to its horizontal position with the barrel on top. Fig. 3, is a view showing the elevator raised above the cradle. Fig. 4, is a plan view. Fig. 5, is a sectional view on the lines 5-5 of Fig. 4. Fig. 6, shows a convenient form of lever for operating the elevator.

The object of my invention is to produce a strong, compact and easily operated machine which is adapted for handling, moving and elevating barrels, boxes and other heavy packages in and about stores, depots and warehouses.

My invention is also designed to assist in storing barrels and boxes in warehouses where they are arranged in tiers one above another, and with it heavy packages, such as heretofore required several persons to handle them, may be readily transported, elevated and placed in position by a single person without much effort.

In the drawings, A, indicates the base or truck portion of the machine. It is preferably of wood and consists in a suitable frame *a*, having handles *a'*, at one end and wheels or rollers *a''*, at the opposite end. Near the forward end is a substantial cross piece *a'''*, forming a fulcrum for the packages to rest upon when it is tilted onto the cradle. The handles *a'*, the cross piece *a'''*, and other exposed portions of the machine are preferably shod with metal when they are made of wood. Above the frame *a*, at either side are side pieces *b*, which form rails upon which the cradle C, rocks. The cradle C, has two side

pieces or rockers *c*, *c*, which are united by suitable frame work. The lower edges of the rockers *c*, rest upon the upper edges of rails *b*, of the base. A single broad bearing having the same contour might of course be substituted for the rails and a similar bearing for the rockers.

The outline of the rockers and the rails may be varied to a considerable extent without departing from the spirit of my invention. They should, however, be tapered toward their forward ends. One object to be kept in mind in shaping them is to so form them that the load will remain stationary when it is elevated as shown in Fig. 2. Another object is to form the edges which come in contact so that as the load is elevated the fulcrum or point of contact between the rockers and the rails shall receive and keep approximately under the center of gravity of the load.

As shown in Figs. 1 and 3, the forward edges of the rails and rockers are curved at *b'*, *c'*, and the rear portions of the edges are straight. It will be evident that edges *b'*, may be made straight and the opposite edges *c'*, curved or vice versa. Fulcrum points *c''*, are provided upon the rails or the rockers or both so that when the center of gravity of the load is forward of such point the cradle will tend to rock into the position shown in Fig. 1, and when the center of gravity is back of such point the cradle will tend to rock in the position shown in Fig. 2.

In Fig. 2, the rear portions *c'''*, of the rockers and rails or bearings are rounded to permit the cradle to be tipped backward thus landing the barrel or box upside down upon a higher plane than the floor.

Various means may be employed for holding the cradle upon the rails while at the same time permitting it to rock. A simple, cheap and effective device which I prefer is shown in the drawings. It consists in a strip of metal *c''*, applied to each rocker, one end of the strip being attached to the rocker and the opposite end connected to the rails. The strips may extend from end to end of the rocker, as shown in Fig. 2, but with the form of rocker shown in Figs. 1 and 3, it is only necessary to carry the strip over the curved portion, that is, from the forward end *c'''*, to the fulcrum point *c''*. Guide pieces *c'''*, may

be attached either to the rockers or the rails to keep the cradle in position laterally. At the forward end of the cradle is a toe piece which extends between the rockers and projects upward from them. This toe piece is preferably formed from a malleable iron bar or plate, suitably bent.

From the level of the top of the cradle a barrel may be rolled directly on top of the first tier and the second tier thus formed.

When it is desired to elevate boxes or barrels higher than the second tier I make use of an independent elevator consisting of the following apparatus: A rectangular tube E, is arranged to slide vertically in suitable guides *e*, which are attached to the rails *b*. The tube E, is made about equal in length to the combined heights of the rails *b*, and the rockers *c*. Sliding telescopically within the tube E, is a smaller tube F, the upper edges of which are concaved to prevent barrels from rolling off. Means are provided for raising the tubes E, F, and retaining them in their raised positions. As shown, the tubes have pins *e'*, *f'*, extending laterally from their sides to form bearings for the ends of a lever by which they may be pried upward to raise the tubes. Slots *e*², *f*², are formed in the tubes through which the pins pass when the tube F, is lowered within the tube E. To retain the upper tube in its elevated position a rod *f*³, is inserted through one of a series of holes *f*⁴, the outer ends of the rod resting upon the tube E. The means shown for holding the tube E, in an elevated position consists of a rack *g*, upon one of the guides *e*, and a spring pressed pawl *g'*, mounted upon the tube. A convenient form of lever H, for raising the tube is shown in Fig. 6. This device consists of a pair of skids *h*, *h*, connected by cross pieces *h'*, and provided with toes *h*², which may be inserted under the ends of the pins *e'*, *f'*, one of the lateral brace rods *c*⁶, of the cradle being used as a fulcrum. After the barrel is raised to a sufficient height the skid may be used to run it off to its destination.

The operation of my invention will be readily understood from the above detailed detailed description and only needs to be briefly mentioned. The package, a barrel for instance, is first tipped to one side and the forward end of the truck inserted beneath it. It is then tipped backward either by hand or with a suitable cant hook, its bottom resting upon the fulcrum *a*³, and falls naturally into the bed of the cradle, the lower edge resting upon the toe piece *d*. The cradle is then rocked backward thus elevating the barrel to the position shown in Fig. 2. If it is desired to raise the barrel still higher the lever H, is brought into use and the telescopic tubes E, F,

are raised until it reaches the desired height. The cradle and the base may be used without the telescopic tubes as a convenient form of stand for supporting barrels from which the contents are to be tapped off such as molasses and oil barrels. In such cases the truck wheels may be dispensed with, although it is preferable to have them to facilitate moving the device from one place to another.

It will be evident that various changes in the details of the above described structure may be made without departing from the spirit of the invention. Therefore,

Without limiting myself to the precise construction and arrangement of parts shown and described, I claim—

1. The combination of the base having inclined end bearings, the cradle having rockers adapted to said bearings, and the straps arranged between and connecting the rockers and the base, substantially as described.

2. The combination with the base or truck having handles at one end, rollers at the other, and upwardly extending side rails tapered at their forward ends; the cradle having rockers tapered at their forward ends and resting upon the rails, and means for maintaining the rockers upon the rails, substantially as described.

3. The combination of the base having inclined end bearings, the cradle having rockers connected to said bearings, means for maintaining and guiding the cradle upon the base, and an independent elevator arranged within the cradle, substantially as described.

4. The combination with the base having side rails tapered at their forward ends, the cradle having rockers tapered at their forward ends, the telescopic tubes arranged within the base, and means for elevating the tubes, substantially as described.

5. The combination of the base having side rails, the cradle having rockers arranged to rest upon the rails, the guides *e*, attached to the rails, the tube E, sliding in said guides, the tube F, arranged to slide within the tube E, and means for elevating said tubes and maintaining them in elevated positions, substantially as described.

6. The combination with a base having guides *e*, of telescopic tubes E, F, having laterally projecting pins *e'*, *f'* and longitudinal slots *e*², *f*², substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

GEORGE H. SPENCER.

Witnesses:

E. BUTLER,

F. A. ROHKOFF.