C. DOWNER.

Weighing Frame.

No. 7,183. Patented March 19, 1850.

Fig. 2.

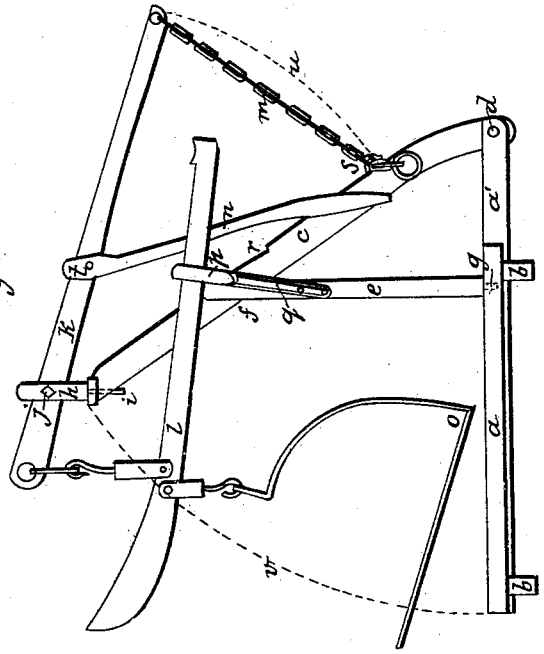
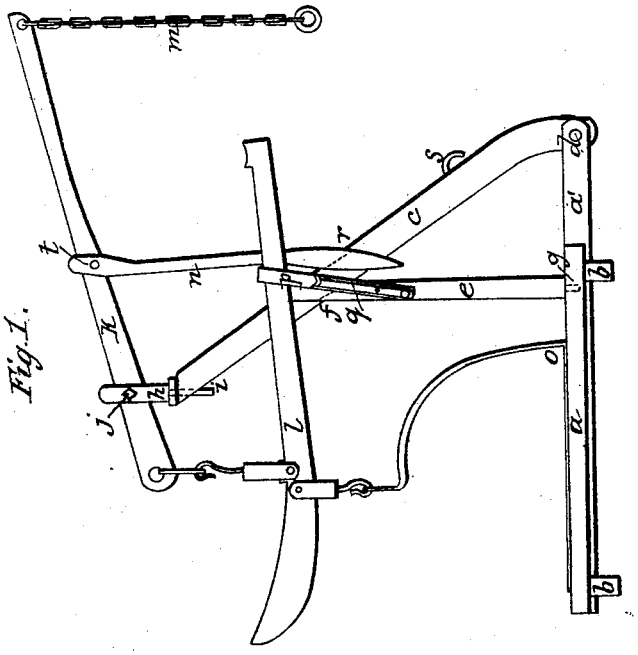


Fig. 1.



# UNITED STATES PATENT OFFICE.

CHAS. DOWNER, OF PHILADELPHIA, PENNSYLVANIA.

## WEIGHING-FRAME.

Specification of Letters Patent No. 7,183, dated March 19, 1850.

*To all whom it may concern:*

Be it known that I, CHARLES DOWNER, of the city and county of Philadelphia, in the State of Pennsylvania, have invented a new and Improved Weighing-Frame; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a geometrical elevation of the complete frame, ready for receiving the articles to be weighed, and Fig. 2 is another elevation thereof with the dish (and the articles supposed thereon) raised, and ready to be weighed.

The said weighing-frame consists of a movable platform or floor *a*, resting on and fastened to the sleepers *b*, its width in proportion to its length being as 2 to 3, or thereabout. The middle-plank *a'* of said platform is somewhat thicker than the outer planks *a*, and its length extends beyond the latter about one third thereof, for the purpose of receiving in a slot, and sustaining, the lower extremity or foot of the inclined standard *c*, which is secured in said slot by means of the pin *d*. This standard is supported about its middle by the vertical standard *e*, which for that purpose is provided with a slot on its top, in which said inclined standard *c* rests, and is held in its proper position by means of the notch *f* on its underside. The standard *e* is furnished at its bottom with one, two, or more dowels or tenons *g*, which enter corresponding holes or mortises in the platform (as shown by dots on drawings), fitting in such a manner, as that the said standard may readily be removed, when required. On the top of the inclined standard *c* is placed vertically the fulcrum standard *h* in such a manner as that it will readily turn, which is accomplished by means of its cylindrical tenon *i* passing through a corresponding hole in the head of said inclined standard. In a slot at the top of the fulcrum-lever is placed, and fastened by means of the fulcrum-pin or bolt *j*, the lever *k*, to the extremity of the shorter or front end whereof is hung the scale-beam *l* with its usual known appurtenances, and to the opposite end is attached the chain *m*. About midway of said lever is attached, by means of a pin, the upper end of the prop-rod *n*, the lower extremity whereof straddles the inclined standard *c*. *o* represents a dish for weighing pig-iron, &c., and *p* is the beam-stay with its spring *q*, as found on the common weighing-frame in daily use. If preferred, the fulcrum-standard *h* may be dispensed with, the inclined standard that much lengthened, and the lever be placed in a slot at the top of the latter.

The operation of this weighing-frame is extremely simple, and may be described in the following few words: The whole apparatus being in the position as represented in Figure 1, and the dish *o* having received the articles to be weighed thereon, the prop-rod *n* is raised out of the notch *r* on the back of the inclined standard, and that end of the lever *k* to which the chain *m* is attached, is drawn down by means of said chain, until the opposite or front-end of the lever (and with it the scale-beam and dish) is sufficiently raised, when the chain is hitched on to the hook *s*, whereby the dish is kept swinging. Then the back-end of the scale-beam is disengaged from the beam-stay *p*, and the weight taken in the usual manner. It must here be observed that, the prop-rod *n* is not required when the dish *o* (represented in the drawings), or any other dish heavy enough to counterbalance the back-end of the lever *k*, is used; the object of said prop-rod being, as its name indicates, to prop up or support that end of the lever, when can-hooks or cotton-hooks for weighing hogsheads or bales are used, said hooks not being heavy enough to effect that object. When not required, said prop-rod may easily be removed by withdrawing the pin *t*.

The advantages of this weighing-frame over the old one, are as follows:

Firstly, there are no legs or other obstacles to obstruct or hinder the easy-moving of goods to and under the scale-beam, or loading the dish, which, in many instances, is of great importance.

Secondly, a greater leverage than can be had in the old frame, is here obtained, which frequently is very desirable.

Thirdly, its ready adaptation for store-use, instead of the usual, costly and ponderous, platform-scale. This is accomplished by dispensing with the movable platform (represented in drawings) and placing the foot of the inclined standard on the permanent store floor at its junction with the wall, in such a manner as that it may be strapped

back against said wall, when not in use; or the whole may be swung around against it, describing horizontally a quarto-circle; or it may be placed in any central part of the store.

Fourthly, the facility of its removal from place to place, which is done by detaching the dish and scale-beam; then by displacing the prop-rod from the notch *r* (see Fig. 2) and letting the back-end of the lever entirely down (see dotted line *u*, Fig. 2); next by removing the vertical standard *e*, and allowing the inclined standard to lay down on the platform (see dotted line *v*, Fig. 2) whereon the detached parts may also be placed, and the whole be carried off on said platform.

Fifthly, the simplicity and comparative cheapness of its construction; the weighing-frame proper embracing only the three standards *c*, *e*, and *h*, lever *k*, chain *m*, and prop-rod *n*, since the movable platform may in very many instances be dispensed with, and the frame used wherever there is an opportunity of suitably fastening the foot of the inclined standard, be there a floor, or not.

What I claim as my invention, and desire to secure by Letters Patent, is—

The manner of constructing the portable frame for the scale beam as set forth. Said frame consisting essentially of the hinged beam *c*, movable standard *e*, and platform *a*, these parts being arranged and combined substantially as set forth.

CHARLES DOWNER.

Witnesses:
NATHL. EDMONDS,
J. MITCHELL.