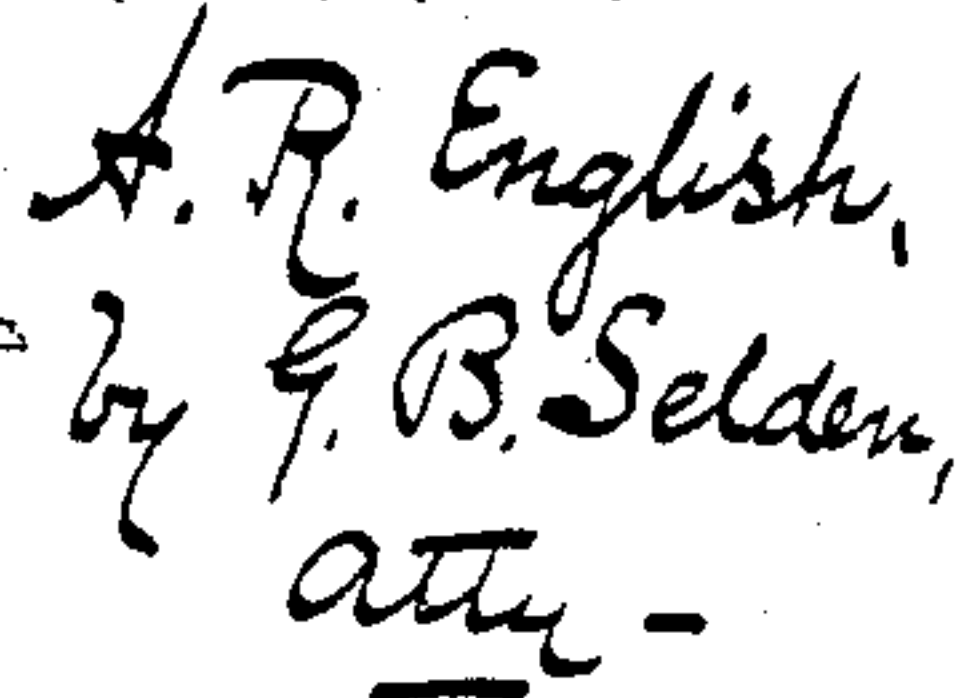


Patented June 19, 1883.



UNITED STATES PATENT OFFICE.

ALBERT R. ENGLISH, OF ROCHESTER, NEW YORK.

SCALE-BEAM.

SPECIFICATION forming part of Letters Patent No. 279,548, dated June 19, 1883.

Application filed May 8, 1882. (No model.)

To all whom it may concern:

Be it known that I, ALBERT R. ENGLISH, of Rochester, in the county of Monroe and State of New York, have invented certain Improvements in Scale-Beams, of which the following is a specification, reference being had to the accompanying drawings.

My improvements are designed to be used in connection with platform or other graduated beam-scales; and my invention consists in combining a graduated scale-beam with a removable bar attached to the edge of the beam, on which bar the weight or poise is fitted to slide, and in a particular construction of the rest, fork, and turret, all as hereinafter more fully described and specified.

My improved scale-beam is represented in the accompanying drawings, in which Figure 1 is a side elevation. Fig. 2 is a transverse section through the beam. Fig. 3 is a vertical section through the beam and poises, on the line *x x*, Fig. 1. Fig. 4 is a side elevation of the upper poise and the pound beam and weight. Fig. 5 is a section through the pound-beam. Fig. 6 is an elevation of one of the poises. Fig. 6 represents a modification of the balance-lever. Fig. 8 is an end view of the rest.

In the accompanying drawings, A represents a portion of the frame-work of the scales, which supports the rest B and scale-beam C. D D' are the sliding poises; E, the counterpoise, and F the balance-lever. G is the pound-weight, and H H' the removable bars applied to the edges of the beam C.

The rest B, which supports the scale-beam C, is cast in one piece, being provided with lugs *i i'*, by which it is secured to the bed or frame A by bolts or screws, and with a fork, *j*, at one end provided with openings to receive the fulcrum-pin *k*, which passes through the scale-beam. At its other end the rest is provided with a forked turret, *l*, provided with a swinging stop, *r*, which serves to limit the travel of the free end of the scale-beam.

The scale-beam C has applied to its upper and lower edges the bars H H', which are made wider than the thickness of the beam, so as to project over it, as shown in the sectional views, Figs. 2 and 3, and retain the sliding poises D D' in place thereon. The bars are secured to the upper and lower edges of the

beam by screws located at suitable distances apart along the length of the beam. The poises D D' are formed with T-shaped slots, as represented in the side view, Fig. 6, to adapt them to the beam C and bars H H'. Each sliding poise is provided with a pointer, *m m'*, Fig. 1, which indicates the weight placed on the platform by means of the graduated scales on the edges of the beam C. For small measurements the upper poise, D, has attached thereto an arm, *n*, Fig. 1, which is cast in one piece with the cap of the poise, and is provided with a graduated scale and a small sliding weight, G.

In Fig. 4 I have represented a modification of the arrangement of the arm and smaller weight, whereby a greater length in the graduated scale is secured; the weight G' being cast with a tapering or wedge-shaped slot, and the arm *n'* being made of a corresponding cross-section, as shown in Fig. 5.

F is the balance-lever, which is connected to the scale-beam by the usual clevises and connecting-rod O, Fig. 1. The balance-lever is fulcrumed in a yoke, P, fastened to the framework A, and sustains the platform by the rod Q. The balance-lever is provided with the sliding counterpoise E, which may be adjusted lengthwise on the lever until the weight of the platform, its levers, and connections, are exactly counterbalanced by the sliding poises standing at the zero-point of the scale-beam. The counterpoise E is fastened to the balance-lever by a set-screw when properly located. In Fig. 7 I have represented a modification in which the counterpoise E' is attached to the balance-lever F' between the connections O and Q. By combining the counterpoise with the balance-lever I am enabled to obtain a greater range of adjustment, and to relieve the connection O from any unnecessary strain.

I am aware that scale-beams have been heretofore provided with a projecting ledge or flange by which the sliding weight was secured to the beam, the weight being provided with a removable plate or cap, by which provision is made for applying or detaching it from the beam, as shown, for instance, in the Patent of Keeler, No. 57,921, September 11, 1866, and such arrangement I do not claim. By my improved construction I am enabled to form the weight in one piece without detach-

ble parts, while at the same time the arrangement permits of its removal from the beam by taking off the bar H, which receives all the wear caused by the movement of the weight, 5 and may be replaced at any time, if desired, without in any way disturbing or defacing the scale on the beam. The bar may be made of harder metal than the beam, for the purpose of affording greater resistance to wear.

10 I claim—

1. The combination, with the beam C, provided on one edge with a graduated scale, and having the projecting bar H removably se-

cured thereto, of the slotted poise D, fitted to slide on the bar, substantially as and for the 15 purposes set forth.

2. The combination, with the frame A, graduated beam C, weight D, connection O, and balance-lever F, of the rest B, provided with fork j and slotted turret l, all cast in one piece, 20 substantially as and for the purposes set forth.

A. R. ENGLISH.

Witnesses:

GEO. B. SELDEN,
H. G. PHILLIPS.