

UNITED STATES PATENT OFFICE.

C. ERNEST BUZBY, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO
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WEIGHING-BEAM FOR TESTING-MACHINES, SCALES, &c.

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To all whom it may concern:

Be it known that I, C. ERNEST BUZBY, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented a new and useful Improvement in Weighing-Beams for Testing-Machines, Scales, and the Like, of which the following is a full, clear, and exact description.

My invention relates to weighing-beams, and has for its object, first, to provide means for giving a continuous movement to the weighing-poise without disturbing the equilibrium of the beam, and, second, following up a rapid increase of the load by a correspondingly-rapid movement of the poise.

The invention consists in a weighing-beam formed as a yoke at its fulcral point, and provided at such point within the yoke with a pulley, and an axial operating device for such pulley, combined with a second pulley arranged at the other end of the beam, a cord arranged upon such pulleys, and a weighing-poise and carriage therefor connected to said cord and operated thereby, all as I will now proceed to particularly set forth and claim.

In the accompanying drawings, in the several figures of which like parts are similarly designated, Figure 1 is a plan view, with the beam-bearings, however, in section; Fig. 2, a side elevation showing the hand-wheel of the pulley-operating device detached, Figs. 1 and 2 showing the beam broken out between its ends to come within the sheet of drawing-paper. Fig. 3 is a rear end elevation, and Fig. 4 a front end elevation.

The beam A may be of any usual or suitable construction and graduated in any approved manner; but at its fulcral point said beam is made with a box or yoke, A'. The pivots B B' for the beam are secured to the sides of the yoke A'; but otherwise said pivots may be of the usual construction. The pivots B B' are bored longitudinally to receive a shaft, E, having a hand-wheel, E'. Within the yoke or box A' and on the shaft E is arranged a pulley, C, said pulley being fast to the shaft E, so that it may be rotated by ro-

tation of the hand-wheel E'. It is to be noted that the pulley C is arranged in the plane of the pivots of the beam. A second pulley, G, is arranged at the other end of the beam, and is provided with a tension-screw, G', passed longitudinally through the end of the beam and having a thumb-nut, G², for adjusting it. An endless cord, H, is supported upon the pulleys C and G. A carriage, F, supported on rollers F' F', (see dotted lines, Fig. 2,) traveling on the edge of the beam, is connected to the cord H. From this carriage is suspended the weighing-poise D.

It will be observed that by rotating the hand-wheel E', which, as stated, operates the pulley C, and through it the endless band H, the weighing-poise may be rapidly moved to any point along the beam, and by reason of the location of the said pulley and its operating device at the pivotal point, where there is little or no vibration caused by such movement of the pulley, the said weighing-poise may be thus moved without disturbing the equilibrium of the beam.

The beam may be graduated in, say, one hundred or two hundred pound-marks, and the vernier on the poise-carriage may be arranged to give readings to ten pounds; but the graduations shown in the drawings are merely conventional. The cord for operating the poise-carriage may be arranged either on the front or back of the beam, as found convenient.

Two or more poises may be used, and they may be arranged on the main or an auxiliary weighing-beam of either a testing-machine or weighing-scales.

Instead of a cord, a chain or any other suitable transmitting device or belt may be used.

What I claim is—

1. The combination, with a weighing-beam and a weighing-poise, of a poise-carriage, a cord connected to such carriage and arranged upon pulleys on the beam, one of which pulleys is arranged in the pivotal plane of the beam and serves as the operating or driving medium for the cord, and a hand-wheel for said pulley, substantially as described.

2. A weighing-beam provided with a box

or yoke, A', pivots projecting laterally from
said box or yoke and bored longitudinally, a
shaft, E, arranged in said longitudinally-bored
pivots and crossing the box or yoke, and a
5 pulley on said shaft within the box or yoke,
combined with a second pulley at the oppo-
site end of the beam, an endless cord connect-
ing the said pulleys, and a poise and poise-
carriage propelled by said cord, substantially
as described.

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Witnesses:

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