

#234X

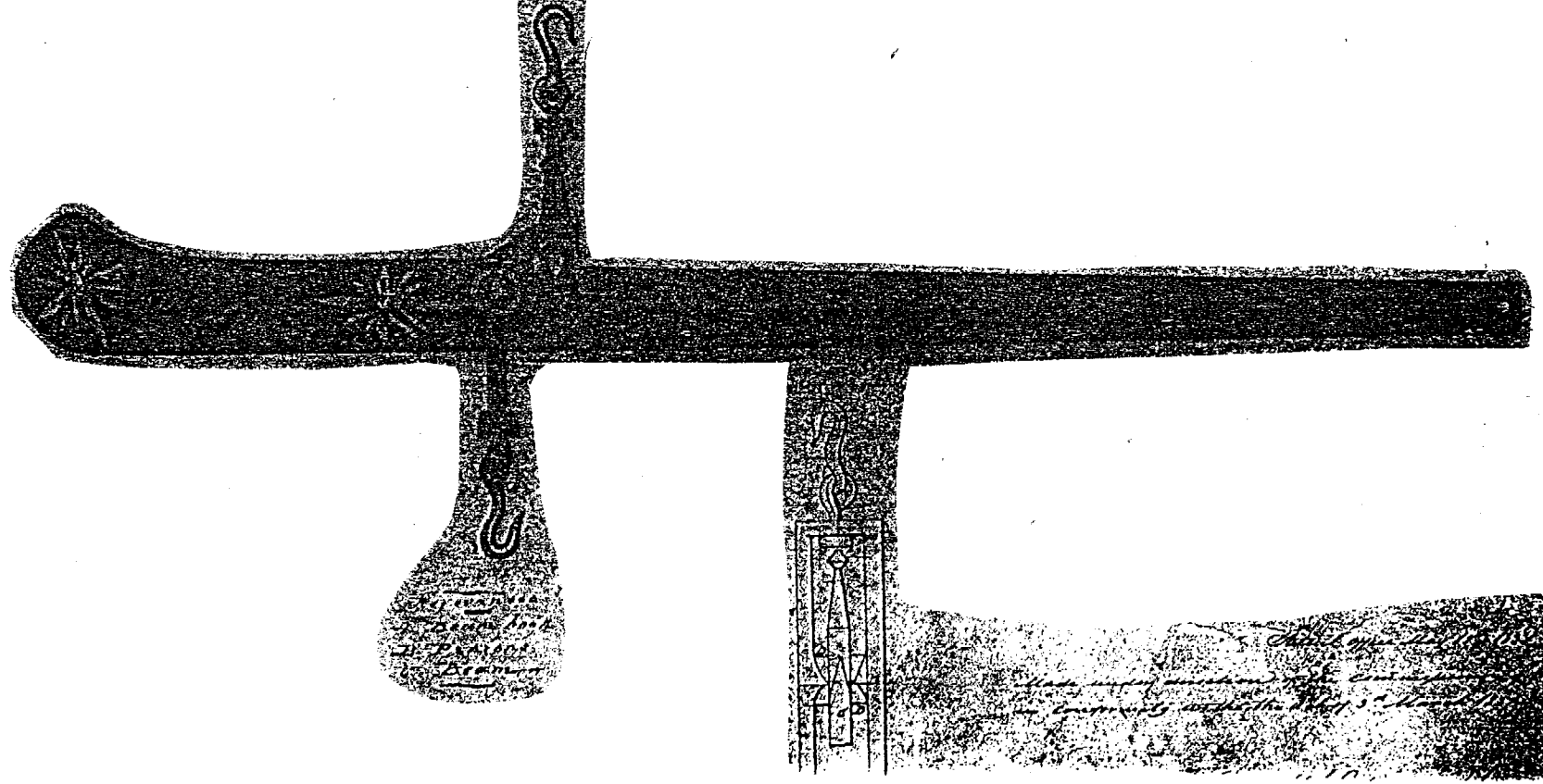
234X

B. Dearborn's

Vibrating Steelyard

Patented 17th Feb'y 1899

234X
2-19-1899



MADE IN GREAT BRITAIN BY
 THE PATENT STEELYARD CO. LTD.
 10, ABchurch Lane, LONDON, E.C. 4

2-14-1799

Benjamin Dearborn of Massachusetts

Sellers Patent dated Feb. 4. 1799.

The Schedule referred to in this Sellers Patent and making part of the same containing a description in the words of the said Benjamin Dearborn himself of an improvement being a vibrative Steel yard or just Balance.

The vibrative Steel yard or just Balance is made partly of iron & partly of Steel of any dimensions requisite for weighing the smallest or largest articles, from Gold coins to Kegs of sugar &c. The beam hooks, &c are of iron. The pointers or pointers and the circles in which they turn are of steel, well tempered. The Beam is graduated on one edge with notches on which two pieces are hung or are only as occasion may require. The pieces (or pieces as they are usually termed) may be made of lead, iron Brass or any other suitable metal, or even of stone. If made of lead they should be guarded by a brass or other durable case to prevent reduction of weight by wearing. By those who use the instrument all its parts should be preserved from corrosion. This Steel yard when constructed of the most convenient size for family use, will weigh from one pound, to two hundred and forty, and one of the pieces must weigh two pounds and the other one pound, every notch on the beam producing a variation of five ounces with the small piece and one pound with the large, or the hundred weight. The pieces might be made of other sizes but these are the most convenient. The length of the beam is made sloping upwards to nearly a sharp edge on which the notches are cut. On the two sloping sides are figures denoting the weight on each side being marked for the small piece and the other for the large which must be added together when both pieces are on.

A Steel yard of this construction to weigh five hundred weight needs only to have its parts made stronger and the large piece to weigh thirty two, instead of sixteen pounds. Scathing all the numbers on the large side of the beam. The notches, with the thirty two pound

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next position a variation of the pounds each, not to obtain single pieces
 or more. The small force must be added and the sum of those weights
 taken as before. Other variations might be produced by the addition
 of more weights, but the above is the simplest construction.
 The this best used a sufficient weight of iron is attached on one side of
 the center of motion to counterbalance the sum on which the power is
 to bring. The center of motion is placed above the center of gravity &
 on a line with the points of suspension. By this means the beam
 vibrates like a scale beam. During the process of weighing an arti-
 cle and when the weight is off the pan being as much as possible
 reduced by terminating the fixation part of the judicious with sharp
 edges and setting them in circles sufficiently large to prevent their knock-
 ing on either side on turning. A proof of the accuracy of this Balance
 is obtained by an experiment which can be made on no other beam with
 any invention. It is as follows. In weighing any article sufficiently
 heavy to balance both pans, say 100 lbs. the pieces may be put on
 one pan numbers, which added together will produce 100, for exam-
 ple one piece may be put at 40 and the other at 10, or one at 75 and
 the other at 5. Or one at 80 and the other at 20. Or one at 78 and
 the other at 22. and so on throughout the extent of the beam,
 and if the workmanship be accurate the numbers will perfectly cor-
 respond.

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(Drawing not to be made as there is 750 words
 and no signature)
 (Granted Feb. 14. 1799)