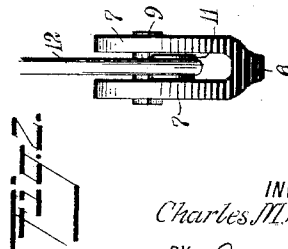
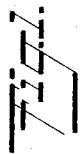
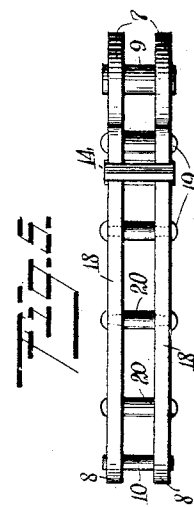
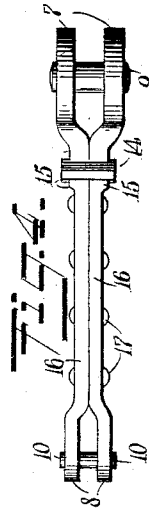
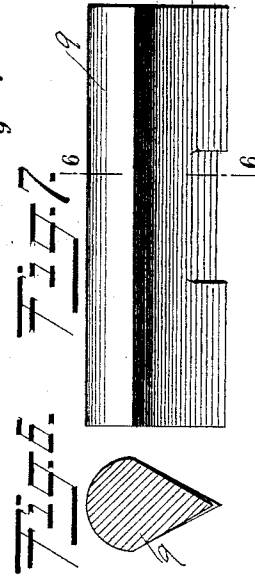
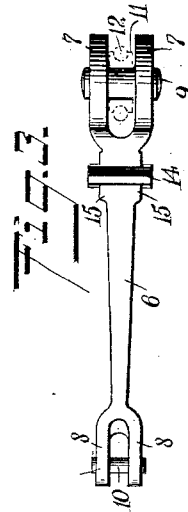
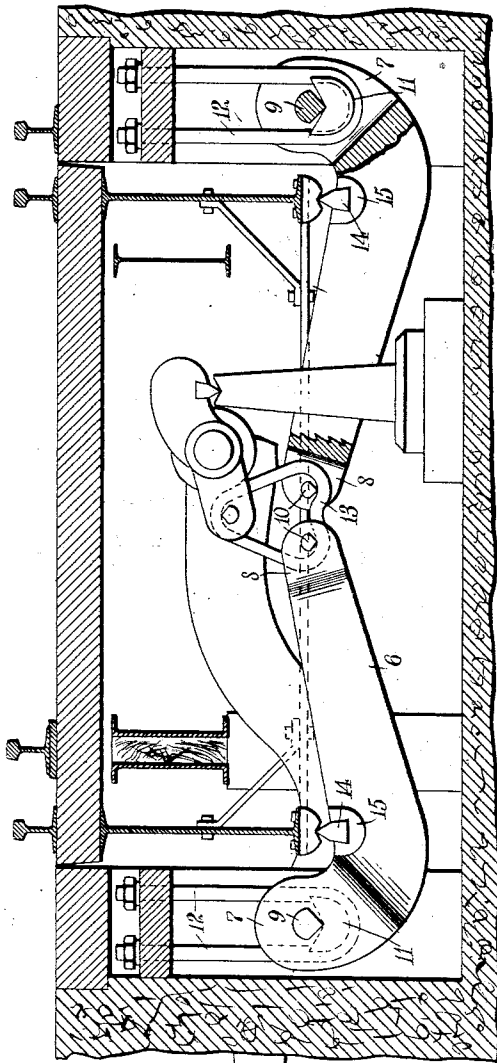


C. M. STURGIS.
WEIGHING SCALE BALANCING LEVER.
APPLICATION FILED APR. 19, 1910.

1,057,987.

Patented Apr. 1, 1913.



WITNESSES:
Ben J. [Signature]
C. M. Sturgis

INVENTOR
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ATTORNEYS

UNITED STATES PATENT OFFICE.

CHARLES MERCER STURGIS, OF BIRMINGHAM, ALABAMA.

WEIGHING-SCALE BALANCING-LEVER.

1,057,987.

Specification of Letters Patent.

Patented Apr. 1, 1913.

Application filed April 19, 1910. Serial No. 556,369.

To all whom it may concern:

Be it known, that I, CHARLES M. STURGIS, a citizen of the United States, and a resident of Birmingham, in the county of Jefferson and State of Alabama, have invented a new and Improved Weighing-Scale Balancing-Lever, of which the following is a full, clear, and exact description.

Among the principal objects which the present invention has in view are: to provide a lever of a construction adapted to receive the balancing edges and links therefor in guided relation; to provide a simplified construction for said lever without diminishing the strength thereof; and to provide an economical form of construction for the said lever.

One embodiment of the present invention is disclosed in the structure illustrated in the accompanying drawings, in which like characters of reference denote corresponding parts in all the views, and in which—

Figure 1 is a vertical cross section of a railway track platform scale and pit therefor, having levers constructed and arranged in conformity with the present invention; Fig. 2 is a detail view, fragmentary in form and in elevation, of the bifurcated short fulcrumed end of the improved lever, showing in conjunction therewith a supporting link and saddle; Fig. 3 is a plan view in detail of the preferred form of the lever; Fig. 4 is a plan view in detail of a modified form of the lever; and Fig. 5 is a plan view in detail of a further modified form of the lever. Fig. 6 is a detail view on enlarged scale and in section, taken on the line 6—6 in Fig. 7, showing the cross sectional shape of the pivots used by me; and Fig. 7 is a detail view on enlarged scale and in side elevation showing a knife edge pivot.

The invention relates primarily to and consists in an improvement upon the scale construction for which a patent was granted to me November 23, 1909, said patent bearing No. 941,208. In the present construction the levers 6, 6 are provided with bifurcated ends, the wings 7, 7 and 8, 8 whereof are separated, and support in fixed relation thereto balancing knife edges 9 and 10, the former being provided to form the fulcrum for the support of the lever and the entire dead weight of the loaded platform of the scales. The wings 7, 7 are arranged to form a guide

for the rock of a shoe 11 at the fulcrum end

of the said lever, which shoe is carried in a link 12 forming the support for the lever 6. By means of this construction a rest for the edge of the knife edge 9 is maintained in straight line arrangement, the said knife being thus prevented from twisting in the shoe 11 when the shock of the oncoming and retiring load is received on the platform of the scales. The wings 8, 8 are limited in their separated arrangement to form guides for a link 13, which passes under the knife edges 10, 10 of the paired levers 6, 6 where the same are juxtaposed at the center meeting line of the scales body. The weight of the scales platform is immediately supported upon the upturned knife edges 14, 14, which are preferably elongated, to support the ends of which bosses 15, 15 are extended from the sides of the forms of the lever shown in Figs. 1, 3 and 4. When using levers of the character and form described, the bosses 15 may be extended to any desired length to permit the use of elongated knife edges 14.

In the modified form of the lever shown in Fig. 4 of the drawings, the lever is formed from two plates, the metal whereof is bent to abut the body sides 16, 16, where they are united by rivets 17, 17. The sides of the lever thus formed are preferably constructed from light plate steel, swaged or forged to the shape shown in the drawings.

In Fig. 5 the modification consists in using straight side plates 18, and uniting the same by means of headed bolts 19, 19 and spacing thimbles 20, 20. This form of construction lends itself to the utilization of thin steel plates, which may be made rigid to prevent distortion by reason of bending strains.

In both the modified forms, the knife edges 9, 10 and 14 are disposed as shown and described with reference to the form shown in Fig. 3. When the form shown in Fig. 4 is used, the bosses 15, 15 may be constructed by swaging the metal plates 16, or by welding the said bosses thereon. In the form shown in Fig. 5, the bosses 15 are dispensed with, being rendered unnecessary by the fact that the knife edge 14 is supported by the plates 18, 18 at or near the extreme ends thereof.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is:—

In weighing scales of the character de-

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scribed, a balancing lever comprising two structural parallel members rigidly united to form at the ends thereof a receptacle for suspension devices; and a plurality of knife-
5 edged pivot members, one disposed at each end of said lever, having recessed portions centrally disposed to form seats.

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

CHARLES MERCER STURGIS.

Witnesses:

M. W. PARSONS,
JOB GOING.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."