

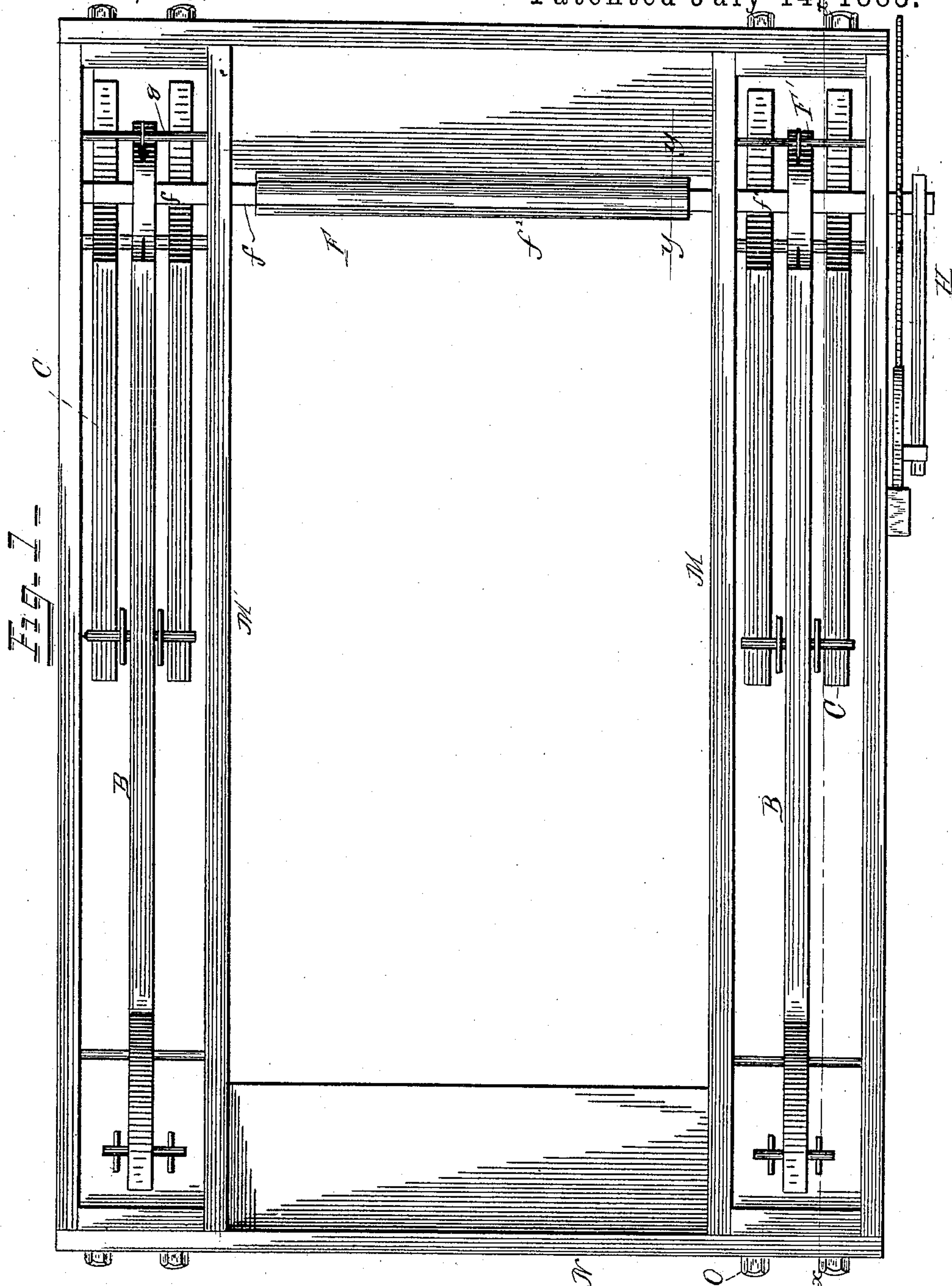
(No Model.)

2 Sheets—Sheet 1.

H. R. ALLEN.
PLATFORM SCALE.

No. 322,146.

Patented July 14, 1885.



WITNESSES:

Wm. J. Robertson.
W. C. Lay Smith

INVENTOR

Horace R. Allen

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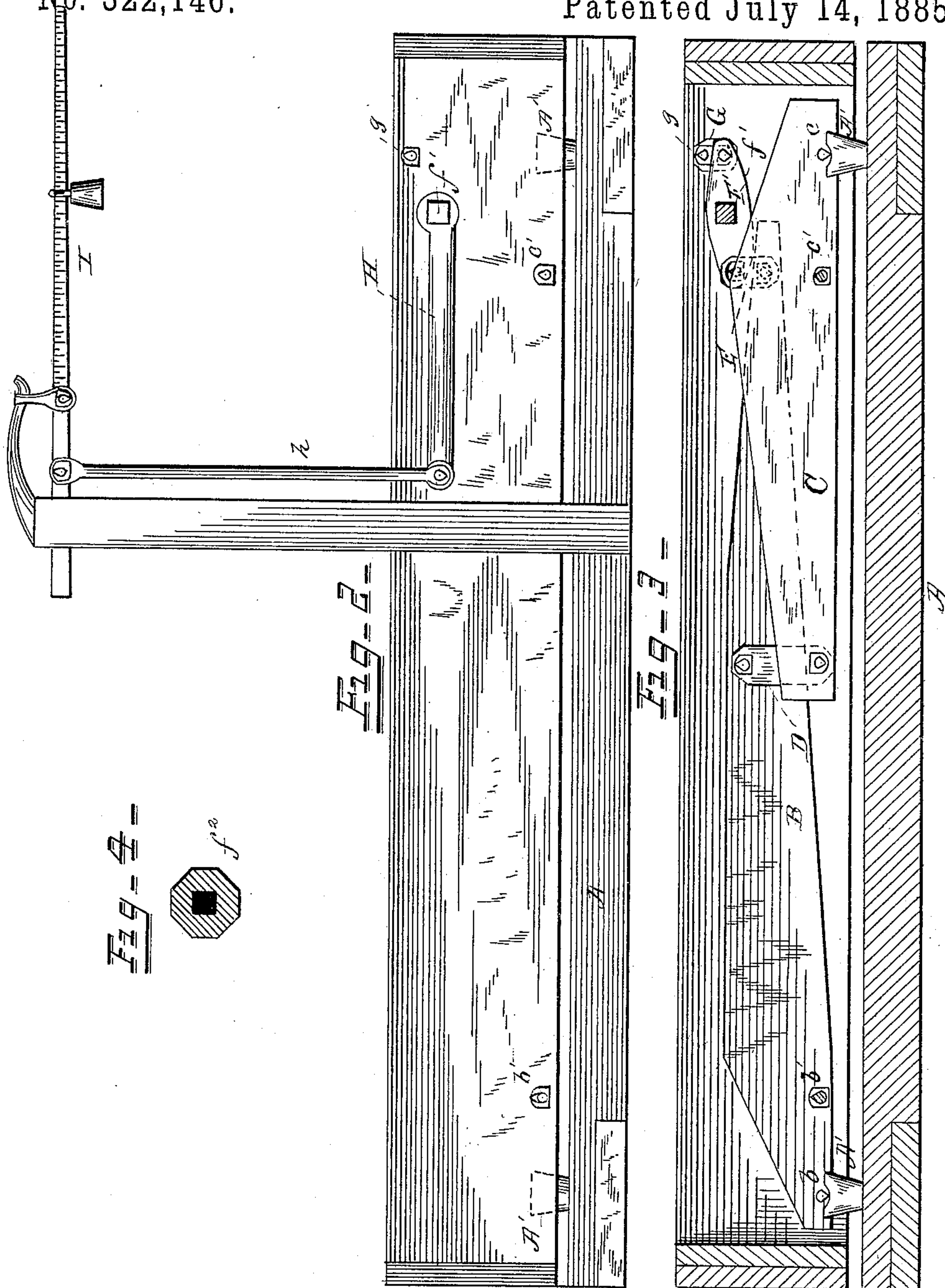
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UNITED STATES PATENT OFFICE.

HORACE R. ALLEN, OF INDIANAPOLIS, INDIANA.

PLATFORM-SCALE.

SPECIFICATION forming part of Letters Patent No. 322,146, dated July 14, 1885.

Application filed April 9, 1884. Renewed May 25, 1885. (No model.)

To all whom it may concern:

Be it known that I, HORACE R. ALLEN, a citizen of the United States, residing at Indianapolis, in the county of Marion and State of Indiana, have invented certain new and useful Improvements in Platform-Scales, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to platform-scales of the class known as "hay-scales;" and the novelty consists in the construction and arrangement of parts, as will be more fully hereinafter set forth, and specifically pointed out in the claims.

The essential object of the invention is to provide a scale which shall be inexpensive of manufacture, efficient and reliable in service, and simple in its operation, one which shall not be difficult to erect, and which will be capable of being readily taken apart and snugly packed for transportation.

With these general objects in view the invention consists, essentially, in the mechanisms illustrated in the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is a top plan view; Fig. 2, a side elevation; Fig. 3, a longitudinal section on the line $x x$ of Fig. 1; and Fig. 4 is a transverse section of the rock-shaft, taken on the line $y y$ of Fig. 1.

Referring to the drawings, in which similar letters of reference indicate like parts in all the figures, A designates the base, which is adapted to be readily taken apart, and it is provided with upwardly-projecting fulcrum-posts A' , as shown. These posts A' are arranged in pairs and singly, as the construction of the transmitting-levers, which will shortly be described, may require, those arranged in pairs serving as the fulcrum-bearings b for the knife-edges of the long levers B, and the single posts serving similarly at c for the duplex short levers C.

The long levers B have power-bearings at b' in lever-boxes M, which boxes form part of the frame of the platform being secured to end pieces, N, by bolts O, and which form perfect housings and bearings for the system of levers.

The short levers C, by links D, are connected with the central portion of the long levers B, and from this point the weight of the load up-

on the platform is transmitted to the short rectangular sections f and f' of the compound rock-shaft F by arms F' , to which the said long levers B are connected by links E. The arms F' are rigid with the rectangular parts f and f' of the compound rock-shaft F, and this rock-shaft is suspended by links G from bearings g rigid with the boxes M. The section f' projects beyond the outer edge of its box, and upon this projecting portion is rigidly carried an arm, H, which, by a link, h , is connected to the scale-beam I, as shown. The arm H is rigid with the rectangular section f' , and the arms F' are rigid with the sections f and f' , respectively. The points of connections made between the long levers B and the rock-shaft by the links E are arranged between the suspending points G h , and consequently throw the entire weight from the platform upon the rock-shaft arms, converting the same into levers, the links G being fulcrums, the links E the power, and the links h the object points.

It will be observed that it is absolutely necessary that the rock-shaft shall move as a unit—that is to say, that neither part shall move independently of the others—and I provide for this by making the sections f and f' fit snugly in rectangular sockets in the central section, f'' , as seen in Fig. 4. The parts f and f' have free movement in suitable openings made in the sides of their respective boxes, and a slight longitudinal movement to allow the disengagement of the central portion, f'' ; but these parts, as well as the long and short levers, will be understood to remain in and with the boxes both when in use and when packed for transportation.

All the points described—such as the links E G, &c.—have knife-edge bearings, and I deem it important that when in use the several levers and arms are in the parallel planes, thus requiring little depth and width of boxes.

I attach importance, first, to the arrangement by which the main operating and distributing levers have their power-points within the boxes, and by which they form part of the boxes, and need not be handled separately; second, to the construction by which the boxes form parts of the platform; third, to the arrangement of the parallel levers in their relation to the sectional rock-shaft and beam; fourth, to the construction of the rock-shaft in

sections with rectangular joints; and, fifth, to the general provisions for ready transportation, snug packing, and easy erection of the complete scale.

5 In details of construction modifications may be made without departing from the principle or sacrificing the advantages of the invention, the essential features of which have been fully explained, and will be readily understood in
10 connection with the drawings.

What I claim as new, and desire to secure by Letters Patent of the United States, is—

1. In a platform-scale, the platform-frame formed of boxes M and end pieces, N, bolted
15 together, the said boxes M furnishing permanent bearings and housing for the operating and distributing levers, as set forth.

2. In combination with the boxes M, as set forth, and having apertures, the rock-shaft
20 made in sections and secured together by rectangular joints, as set forth.

3. The boxes M, having knife-bearings for the distributing-levers, and bearings at *g* for the levers F', combined with the rock-shaft F
25 and distributing-levers and connecting devices, as set forth.

4. In a scale, substantially as described, the combination, with the fulcrum-posts, of the long levers B, the short double levers arranged to distribute the weight to the centers of said
30 long levers, the rock-shaft having levers F', and arm H, connecting with the scale-beam, the several levers and arm being upon the same parallel plane, as set forth.

5. In combination with the levers, the suspending-bearing G, and the scale-beam, the rock-shaft having rigid levers F', and rigid arm H, the levers C being shorter than the arm H to throw the weight from the operating-levers between the points of suspension upon the
35 links G *h*, as and for the purposes set forth. 4c

6. The combination of the fulcrum-posts A', the levers B and C, arranged, as described, the beam I, and the links E, G, and *h*, with the rock-shaft F, having levers F', and arm H, the
45 whole arranged and operating as and for the purposes set forth.

HORACE R. ALLEN.

Witnesses:

FRANK L. MINTURN,
LOUIE E. MILLEN.