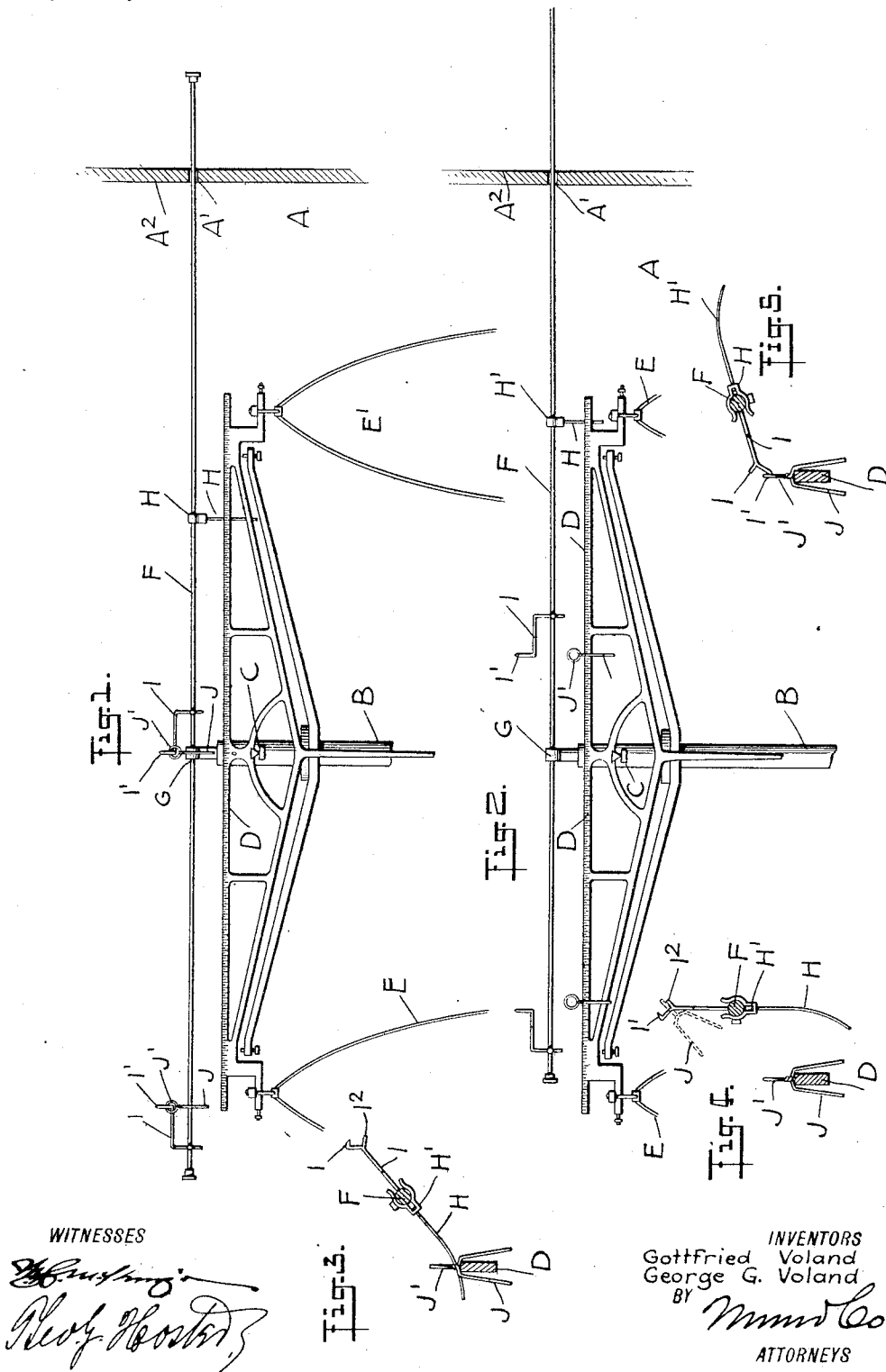


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BALANCE.
APPLICATION FILED APR. 17, 1912.

1,041,383.

Patented Oct. 15, 1912.



UNITED STATES PATENT OFFICE.

GOTTFRIED VOLAND AND GEORGE G. VOLAND, OF NEW ROCHELLE, NEW YORK.

BALANCE.

1,041,383.

Specification of Letters Patent.

Patented Oct. 15, 1912.

Application filed April 17, 1912. Serial No. 691,298.

To all whom it may concern:

Be it known that we, GOTTFRIED VOLAND and GEORGE G. VOLAND, both citizens of the United States, and residents of New Rochelle, in the county of Westchester and State of New York, have invented new and useful Improvements in Balances, of which the following is a full, clear, and exact description.

10 The object of the invention is to provide certain new and useful improvements in balances, whereby the user can readily impart a swinging motion to the beam to test the sensitiveness of the balance and without
15 opening the casing door, and whereby the rider is prevented from sliding back on the rider arm on rough handling of the rider rod.

For the purpose mentioned use is made
20 of a rider rod provided with a resilient finger adapted to engage the beam on turning the rod with a view to impart a swinging motion to the beam to test the sensitiveness thereof. Use is also made of a rider supporting arm held on the rider rod and provided with a hook for supporting the rider,
25 and a stop lug in the rear of the hook to prevent the rider from sliding back on the arm.

A practical embodiment of the invention
30 is represented in the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a side elevation of the rider
35 carrier, as applied to a balance in dormant position; Fig. 2 is a like view of the same with the rider carrier in position after a rider has been placed on the balance beam; Fig. 3 is an enlarged cross section of the
40 beam and rider carrier with a rider in position on the beam and the flexible arm in position for imparting a swinging motion to the beam; Fig. 4 is a similar view of the same with the rider carrier in inactive position; and Fig. 5 is a like view of the same
45 with the rider carrier in position for depositing a rider on the beam.

The balance is mounted in the usual manner within a casing A provided with a front
50 door, and within the casing is arranged a post B supporting a knife edge C on which the graduated beam D is mounted to swing, the beam supporting the usual pans E and E'. A rider rod F extends parallel to the beam D slightly above and in the rear thereof, as plainly indicated in Figs. 3, 4 and 5,

and the said rider rod F is mounted to turn and to slide in a bearing G supported by the post B and in a bearing A' arranged in one side A² of the casing A, it being understood that the rider rod extends to the outside of the casing A to permit the operator to manipulate the said rider rod without opening the door of the casing. A finger H, of cat-gut or other suitable resilient material, is attached to a clip H' held on the rider rod F so that the finger H extends at a right angle to the rider rod F and to the beam D at the time the latter is in normal horizontal position, and the free end of the finger H is adapted to engage the top of the beam D on turning the rider rod F so that the finger H imparts a swinging motion to the beam D to permit of testing the sensitiveness of the balance without the operator opening the door and imparting a swinging motion to the beam with one finger of his hand, as is now commonly practised.

The rider rod F is provided with one or more rider arms I, each terminating in a hook I' adapted to be engaged by the eye J' of a rider J to be deposited on the beam D so as to straddle the same in the usual manner. The rider arm I is provided in the rear of the hook I' with a stop lug I² to prevent the eye J' from sliding back on the rider arm I on quickly turning the rider rod F.

It is understood that by the arrangement described the rider J is not liable to be displaced on the hook I' on roughly handling the rider F, as previously explained, so that the rider J is always held in proper position on the hook I' and can be readily deposited on the beam D at the desired point to balance the load and thus insure correct reading of the load weight at the time.

By reference to Figs. 3, 4 and 5, it will be noticed that the finger H and the rider arms I extend approximately from opposite sides of the rider rod so that the rider rod can be used for either placing a rider in position on the beam D by the use of the arm I or imparting a swinging motion to the beam by the use of the finger H.

Having thus described our invention, we claim as new and desire to secure by Letters Patent:

1. A balance provided with a beam-actuating device controlled from the outside of the balance casing and mounted to turn and to slide, the said device having a member

adapted to engage the balance wheel to impart a swinging motion thereto to test the sensitiveness of the balance.

2. A balance provided with a rider carrier, a clip held on the rider carrier, and a finger carried by said clip and adapted to engage the beam for imparting a swinging motion thereto to test the sensitiveness of the balance.

3. A balance provided with a rider carrier comprising a rod mounted to turn and to slide, a clip held on said rod, and a resilient finger carried by said clip and adapted to engage one end of the balance beam for imparting a swinging motion to the latter with a view to test the sensitiveness of the balance.

4. A balance, comprising a casing, a post within the said casing, a beam mounted to swing on the said post and carrying the pans, a rider rod mounted to turn and to slide in bearings on the said post and one side of the casing, the rod extending to the outside of the casing, and a resilient finger attached to the said rod and extending at a right angle thereto and at a point opposite

one end of the beam to engage the latter on turning the rod to impart a swinging motion to the beam.

5. A balance provided with a rider rod provided with an arm having a hook for supporting a rider and having a stop lug in the rear of the hook to prevent the rider from sliding rearward on the arm.

6. A balance provided with a rider carrier comprising a rod mounted to turn, and to slide and carrying rider arms extending from one side of the rod, and a resilient finger attached to the said rod and extending from the opposite side of the rod, the said finger extending at a point opposite one end of the beam to engage the latter to impart a swinging motion to the beam.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

GOTTFRIED VOLAND.
GEORGE G. VOLAND.

Witnesses:

FREDERICK H. SEACORD,
WM. S. BEERS.

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