G01G

WEIGHING (sorting by weighing B07C 5/16)

NOTE

Attention is drawn to the Notes following the title of class G01.

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

1/00 Weighing apparatus involving the use of a counterweight or other counterbalancing mass
1/02 . . Pendulum-weight apparatus
1/025 . . . { with variable cam radius or variable counterpoise pendulum }
1/04 . . the pendulum having a fixed pivot axis
1/06 . . . with a plurality of pendulums
1/08 . . the pendulum having a moving pivot axis, e.g. a floating pendulum
1/10 . . . with a plurality of pendulums
1/12 . . . Constructional arrangements for obtaining equal indicative divisions
1/14 . . . Temperature compensating arrangements
1/16 . . . Means for correcting for obliquity of mounting
1/18 . . . Balances involving the use of a pivoted beam, i.e. beam balances
1/185 . . . { Two draft weighing apparatus, e.g. tandem scales systems }
1/20 . . . Beam balances having the pans carried below the beam, and for use with separate counterweights
1/22 . . . . . for precision weighing
1/24 . . . Platform-type scales, i.e. having the pans carried above the beam
1/243 . . . . . { having pans carried above the beam }
1/246 . . . . . { of the parallelogram type }
1/26 . . . . with associated counterweight or set of counterweights
1/28 . . . . involving means for automatically lifting counterweights corresponding to the load
1/29 . . . . . with electrical or electromechanical control means
1/30 . . . wherein the counterweight is in the form of a chain
1/32 . . . wherein the counterweights are in the form of rider-weights
1/34 . . . involving a fixed counterweight, with poise-weights selectively added to the load side
1/36 . . . wherein the counterweights are slideable along the beam, e.g. steelyards
1/38 . . . . with automatically-driven counterweight
1/40 . . . specially adapted for weighing by substitution

1/42 . . . Temperature compensating arrangements

3/00 Weighing apparatus characterised by the use of elastically-deformable members, e.g. spring balances
3/02 . . . wherein the weighing element is in the form of a helical spring
3/04 . . . using a plurality of springs
3/06 . . . wherein the weighing element is in the form of a spiral spring
3/08 . . . wherein the weighing element is in the form of a leaf spring
3/10 . . . wherein the torsional deformation of a weighing element is measured
3/12 . . . wherein the weighing element is in the form of a solid body stressed by pressure or tension during weighing
3/125 . . . . . { wherein the weighing element is an optical member }
3/13 . . . . . having piezo-electric or piezo-resistive properties
3/14 . . . . . measuring variations of electrical resistance
3/1402 . . . . . { Special supports with preselected places to mount the resistance strain gauges; Mounting of supports }
3/1404 . . . . . { combined with means to connect the strain gauges on electrical bridges }
3/1406 . . . . . { combined with special measuring circuits }
3/1408 . . . . . { the supports being of the column type, e.g. cylindrical }
3/141 . . . . . . { the supports being disc or ring shaped }
3/1412 . . . . . . { the supports being parallelogram shaped }
3/1414 . . . . . . { Arrangements for correcting or for compensating for unwanted effects }
3/1416 . . . . . . { for non-linearity }
3/1418 . . . . . . { for temperature variations }
3/142 . . . . . . Circuits specially adapted therefor
3/145 . . . . . . involving comparison with a reference value
3/147 . . . . . . { using comparison with a reference value (G01G 3/147 takes precedence) }
3/15 . . . . measuring variations of magnetic properties
Weighing apparatus wherein the balancing is effected by fluid action

- [load-cell construction or mountings]
- [with pneumatic means]
- with a float or other member variably immersed in liquid
- with means for measuring the pressure imposed by the load on a liquid (pressure gauges per se G01L)
- [combined with means for totalising the pressure imposed by several load-cells]
- with electrostatic indicating means

Methods or apparatus for the determination of weight not otherwise provided for

- [using radiations, e.g. radioactive (analysing materials by the use of wave or particle radiation G01N 23/00)]

Apparatus for weighing a continuous stream of material during flow; Conveyor belt weighers

- [Details; specially adapted accessories (details of weighing apparatus in general G01G 21/00; auxiliary devices for weighing apparatus in general G01G 23/00)]
- [Special taring or checking devices therefor (devices for determining tare weight in general G01G 23/14)]
- having mechanical weight-sensitive devices
- having electrical weight-sensitive devices
- [combined with totalising or integrating devices]
- [combined with totalising or integrating devices]
- [involving digital counting]
- having fluid weight-sensitive devices
- [combined with totalising or integrating devices]
- having means for controlling the rate of feed or discharge (regulation of flow of fluent material G05D)
- [of the weight-belt or weigh-auger type (G01G 11/10, G01G 11/12 take precedence)]
- [of the loss-in-weight feeding type]
- by controlling the height of the material on the belt
- by controlling the speed of the belt
- using totalising or integrating devices (G01G 11/025, G01G 11/043, G01G 11/046 and G01G 11/065 take precedence; totalising or integrating devices per se G06)
- being electrical or electronic means
- using digital counting
- being mechanical means

Weighing apparatus with automatic feed or discharge for weighing-out batches of material (for weighing a continuous stream G01G 11/00; check-weighing G01G 15/00; for fluids G01G 17/04; apportioning by weight materials to be mixed G01G 19/22; combinatorial weighing G01G 19/387)

- [Details; specially adapted accessories (details of weighing apparatus in general G01G 21/00; auxiliary devices for weighing apparatus in general G01G 23/00)]
- [Container supply or discharge mechanism (means for automatic loading or discharging G01G 13/02, G01G 13/16, G01G 13/24)]
- Means for automatically loading weigh pans or other receptacles, e.g. disposable containers, under control of the weighing mechanism

- [Material feeding devices (G01G 13/04 - G01G 13/14 take precedence)]
- [by gravity]
- [by mechanical conveying means, e.g. belt or vibratory conveyor]
- [by pneumatic carrying means]
- involving dribble-feed means controlled by the weighing mechanism to top up the receptacle to the target weight
- wherein the main feed is effected by gravity from a hopper or chute
- wherein the main feed is effected by mechanical conveying means, e.g. by belt conveyors, by vibratory conveyors
- wherein the main feed is effected by pneumatic conveying means, e.g. by fluidised feed of granular material
- Arrangements for compensating for material suspended at cut-off, i.e. for material which is still falling from the feeder when the weigher stops the feeder
- Arrangements for determination of, or compensation for, the tare weight of an unloaded container, e.g. of a disposable container
- Means for automatically discharging weigh receptacles under control of the weighing mechanism
- by valves or flaps in the container bottom
- by screw conveyors in the weigh receptacle
- by tilting or rotating the weigh receptacle
- Weighing mechanism control arrangements for automatic feed or discharge
- [Bulk-final weighing apparatus, e.g. rough weighing balance combined with separate fine weighing balance]
- [Twin weighing apparatus; weighing apparatus using single load carrier and a plurality of weigh pans coupled alternately with the load carrier; weighing apparatus with two or more alternatively used weigh devices]
- [using a single load carrier]
- [with a single weighing receptacle divided into two or more alternatively used sections]
- [the weighing receptacles being rockable or oscillating]
- [the weighing apparatus being rotatable]
receptacle is used to control loading or discharge of the material involving variation of an electrical variable which is still falling from the feeder when the weigher stops the feeder. A predetermined quantity is present.}

Arrangements for compensating for material suspended at cut-off, i.e. for the weight of an unloaded container, e.g. a disposable container (G01G 13/2957)

Arrangements for the determination of, or compensation for, the weight of material which is still falling from the feeder when the weigher stops the feeder (G01G 13/2958)

Involving limit switches or position-sensing switches (G01G 13/30)

Involving photoelectric devices (G01G 13/32)

Involving mechanical linkage motivated by the weighing mechanism (G01G 13/34)

Arrangements for check-weighing of materials dispensed into removable containers (packaging aspects B65B: (electric measuring arrangements involving comparison with a reference value G01R 17/00)) (G01G 15/00)

Volumetric pre-dispensing to an estimated weight; Gravimetric make-up device for target device (G01G 15/001)

Using electrical, electromechanical, or electronic means (G01G 15/002)

Involving digital counting (G01G 15/003)

Involving comparison with reference value G01G 15/005

Using electrical, electromechanical, or electronic means not covered by G01G 15/001, G01G 15/02, G01G 15/04 (G01G 15/006)

Involving digital counting (G01G 15/007)

Involving comparison with a reference value (G01G 15/008)

With provision for adding or removing a make-up quantity of material to obtain the desired net weight (dribble-feed means for automatic batch-weighers G01G 13/04) (G01G 15/02)

Using electrical, electromechanical, or electronic means (G01G 15/022)

Involving digital counting (G01G 15/025)

Involving comparison with a reference value (G01G 15/027)

With provision for adding or removing a make-up quantity of material to obtain the desired gross weight (dribble-feed means for automatic batch-weighers G01G 13/04) (G01G 15/04)

Using electrical, electromechanical, or electronic means (G01G 15/042)

Involving digital counting (G01G 15/045)

Involving comparison with a reference value (G01G 15/047)

Apparatus for or methods of weighing material of special form or property (determining weight by measuring volume G01F) (G01G 17/00)

For weighing material of filamentary or sheet form (G01G 17/02)

For weighing fluids, e.g. gases, pastes (G01G 17/04)

Having means for controlling the supply or discharge (G01G 17/06)

For weighing livestock (G01G 17/08)
Weighing apparatus or methods adapted for special purposes not provided for in the preceding groups (electric measuring arrangements involving comparison with a reference value G01R 17/00)

- for weighing wheeled or rolling bodies, e.g. vehicles
- having electrical weight-sensitive devices (G01G 19/04 - G01G 19/07 take precedence)
- [combined with shock-absorbing devices for weighing vehicles in motion (G01G 19/04 - G01G 19/07 take precedence)]
- [having electrical weight-sensitive devices]
- [using electrical weight-sensitive devices]
- [having shock-absorbing arrangements for bearings (G01G 21/02; means for damping oscillations G01G 23/06; shock-absorbers per se F16F)]
- for weighing during motion (G01G 19/04, G01G 19/07 take precedence) [check weighing of materials dispensed into removable containers G01G 15/00; weighing a continuous stream of material during flow G01G 11/00; G01G 19/02, e.g. G01G 19/045 take precedence]
- [using electrical weight-sensitive devices]
- [having fluid weight-sensitive devices]
- [having electrical weight-sensitive devices]
- [for weighing suspended loads (G01G 3/00 takes precedence; incorporation of weighing devices in cranes B66C 1/40; B66C 13/16)]
- [having fluid weight-sensitive devices]
- [having electrical weight-sensitive devices]
- [for weighing unbalanced loads]
- [for apportioning materials by weighing prior to mixing them (ratio regulation G05D 11/00)]
- [using a single weighing apparatus]
- [associated with two or more counterweighted beams]
- [having fluid weight-sensitive devices]
- [having electrical weight-sensitive devices]
- [involving digital counting]
- [involving comparison with a reference value]
- [using two or more weighing apparatus]
- [with electrical control means]
- [involving digital counting]
- [involving comparison with a reference value]
- [with mechanical control means]
- programme controlled, e.g. by perforated tape (programme control in general G05B 19/00)

Details of weighing apparatus

- Arrangements of bearings (bearings per se F16C)
- [of tapes or ribbons]
- [using a combination of knife-edge and ball or roller bearings]
- [Hydraulic or pneumatic bearings]
- [of knife-edge bearings]
- [of ball or roller bearings]
- [of flexure-plate bearings]
- Bearing mountings or adjusting means therefor
Auxiliary devices for weighing apparatus

21/10 Floating suspensions; Arrangements of shock absorbers (shock absorbers per se) F16F

21/12 Devices for preventing derangement

21/14 Beams

21/16 of composite construction; Connections between different beams

21/161 Connections between different beams

21/162 (using knife-edge bearings G01G 21/04)

21/163 (using ball or roller bearings (ball or roller bearings G01G 21/04))

21/165 (using tapes or ribbons (tapes or ribbons G01G 21/022))

21/166 (using flexure plate fulcrums (flexure plate fulcrums G01G 21/07))

21/167 (combined with different kinds of bearings)

21/168 (combined with knife-edge and ball or roller bearings)

21/18 Link connections between the beam and the weigh pan

21/182 (using knife-edge bearings (knife-edge bearings G01G 21/04))

21/184 (using ball or roller bearings (ball or roller bearings G01G 21/06))

21/186 (using tapes or ribbons (tapes or ribbons G01G 21/022))

21/188 (using flexure plate fulcrums (flexure plate fulcrums G01G 21/07))

21/20 for precision weighing apparatus

21/22 Weigh pans or other weighing receptacles; Weighing platforms

21/23 Support or suspension of weighing platforms (G01G 21/24 takes precedence)

21/235 (using knife-edge bearings (knife-edge bearings G01G 21/04))

21/24 Guides or linkages for ensuring parallel motion of the weigh-pan

21/241 (combined with knife-edge bearings (knife-edge bearings G01G 21/04))

21/242 (combined with ball or roller bearings (ball or roller bearings G01G 21/06))

21/243 (combined with tapes or ribbons (tapes or ribbons G01G 21/022))

21/244 (combined with flexure-plate fulcrums (flexure-plate fulcrums G01G 21/07))

21/245 (combined with different kinds of bearings)

21/246 (combined with knife-edge and ball or roller bearings)

21/247 (combined with knife-edge bearings and tapes or ribbons)

21/248 (combined with knife-edge and flexure-plate fulcrums)

21/26 Counterweights; Poise-weights; Sets of weights; Holders for the reception of weights

21/28 Frames, Housings

21/283 (Details related to a user interface)

21/286 (with windshields)

21/30 Means for preventing contamination by dust

23/00 Auxiliary devices for weighing apparatus

23/002 (Means for correcting for obliquity of mounting (for pendulum-weight apparatus G01G 1/16))

23/005 (Means for preventing overload)

23/007 (Integrated arrangements for generating electrical power, e.g. solar cells)

23/01 Testing or calibrating of weighing apparatus

23/012 (with load cells comprising in-build calibration weights)

23/015 (by adjusting to the local gravitational acceleration)

23/017 (Securing calibration against fraud)

23/02 Relieving mechanisms; Arrestment mechanisms

23/04 for precision weighing apparatus

23/06 Means for damping oscillations, e.g. of weigh beams

23/08 by fluid means

23/10 by electric or magnetic means

23/12 specially adapted for preventing oscillations due to movement of the load

23/14 Devices for determining tare weight or for cancelling out the tare by zeroising, e.g. mechanically operated (in connection with automatic loading G01G 13/14)

23/16 electrically or magnetically operated

23/163 (involving digital counting)

23/166 (involving comparison with a reference value)

23/18 Indicating devices, e.g. for remote indication; Recording devices; Scales, e.g. graduated

23/19 Indicating weight by mechanical means

23/203 (with wheel-type counters)

23/206 (special graduated scales therefor (G01G 23/24 takes precedence))

23/22 combined with price indicators

23/24 involving logarithmic scales

23/26 Drive for the indicating member, e.g. mechanical amplifiers

23/28 involving auxiliary or memory marks

23/30 with means for illuminating the scale

23/32 Indicating the weight by optical projection means

23/34 combined with price indicators

23/35 Indicating the weight by photographic recording

23/36 Indicating the weight by electrical means, e.g. using photoelectric cells

23/361 (using photoelectric cells)

23/362 (using electric contacts)

23/363 (using magnetic or capacitive contacts)

23/365 (involving comparison with a reference value (G01G 23/37 takes precedence))

23/37 involving digital counting

23/3707 (using a microprocessor)

23/3714 (with feedback means)

23/3721 (with particular representation of the result, e.g. graphic)

23/3728 (with wireless means)

23/3735 (using a digital network)

23/3742 (using a mobile telephone network)

23/3755 during the movement of a coded element

23/38 Recording and/or coding devices specially adapted for weighing apparatus (computers per se G06; disc converters in general G08C)

23/40 mechanically operated

23/42 electrically operated

23/44 Coding devices therefor
. . . Devices preventing recording until the weighing mechanism has come to rest.

Temperature-compensating arrangements (G01G 1/14, G01G 1/42, G01G 3/18 take precedence)