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. cylindric }
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 . . . . involving digital counting
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 electrical indicating means]

Weighing apparatus wherein the balancing is effected by magnetic, electromagnetic, or electrostatic action, or by means not provided for in the preceding groups

- by electromagnetic action
- with means for regulating the current to solenoids
- [having a PID control system]
- by electrostatic action

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
- [combined with totalising or integrating devices]
- having electrical weight-sensitive 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]

13/00 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; combinational 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 weighing 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
Apparatus for or methods of weighing material of special form or property (determining weight by measuring volume G01F)

17/00 . . . for weighing material of filamentary or sheet form
17/04 . . . for weighing fluids, e.g. gases, pastes
17/06 . . . having means for controlling the supply or discharge
17/08 . . . for weighing livestock

15/00 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))

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

15/002 . . . (using electrical, electromechanical or electronic means)
15/003 . . . (involving digital counting)
15/005 . . . (involving comparison with reference value)
15/006 . . . (using electrical, electromechanical, or electronic means not covered by G01G 15/001, G01G 15/02, G01G 15/04)

15/007 . . . (involving digital counting)
15/008 . . . (involving comparison with a reference value)
15/02 . . . 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)

15/022 . . . (using electrical, electromechanical or electronic means)
15/025 . . . (involving digital counting)
15/027 . . . (involving comparison with a reference value)
15/04 . . . 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)

15/042 . . . (using electrical, electromechanical or electronic means)
15/045 . . . (involving digital counting)
15/047 . . . (involving comparison with a reference value)

17/00 . . . for weighing material of filamentary or sheet form
17/04 . . . for weighing fluids, e.g. gases, pastes
17/06 . . . having means for controlling the supply or discharge
17/08 . . . for weighing livestock

13/247 . . . (Checking quantity of material in the feeding arrangement, e.g. discharge material only if a predetermined quantity is present)
13/248 . . . (Continuous control of flow of material (control of flow G05D 7/00))
13/26 . . . involving fluid-pressure systems
13/28 . . . involving variation of an electrical variable which is used to control loading or discharge of the receptacle
13/285 . . . involving comparison with a reference value (G01G 13/29 takes precedence ; electric measuring arrangements involving comparison with a reference value G01R 17/00))
13/2851 . . . (for controlling automatic loading of weigh-pans or other receptacles (G01G 13/29 takes precedence))
13/2852 . . . (involving dribble-feed means controlled by the weighing mechanism to top up the receptacle to the target weight)
13/2853 . . . (wherein the main feed is effected by gravity from a hopper or chute)
13/2855 . . . (wherein the main feed is effected by mechanical conveying means, e.g. by belt conveyors, by vibratory conveyors)
13/2856 . . . (wherein the main feed is effected by pneumatic conveying means, e.g. by fluidised feed of granular material)
13/2857 . . . (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)
13/2858 . . . (Arrangements for the determination of, or compensation for, the tare weight of an unloaded container, e.g. of a disposable container)
13/29 . . . involving digital counting
13/2906 . . . (for controlling automatic loading of weigh-pans or other receptacles)
13/2912 . . . (involving dribble-feed means controlled by the weighing mechanism to top up the receptacle to the target weight)
13/2918 . . . (wherein the main feed is effected by gravity from a hopper or chute)
13/2925 . . . (wherein the main feed is effected by mechanical means, e.g. by belt conveyors, by vibratory conveyors)
13/2931 . . . (wherein the main feed is effected by pneumatic conveying means, e.g. by fluidised feed of granular material)
13/2937 . . . (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)
13/2943 . . . (Arrangements for determination of, or compensation for, the tare weight of an unloaded container, e.g. of a disposable container)
13/295 . . . for controlling automatic loading of the receptacle [(G01G 13/285, G01G 13/29 take precedence)]
13/2951 . . . (involving dribble-feed means controlled by the weighing mechanism to top up the receptacle to the target weight)
13/2952 . . . (wherein the main feed is effected by gravity from a hopper or chute)
Weighing apparatus or methods adapted for special groups (electric measuring arrangements involving comparison with a reference value G01R 17/00)

19/00 . . . [electric measuring arrangements involving comparison with a reference value G01R 17/00]
19/002 . . . [for postal parcels and letters]
19/005 . . . [with electric or electronic computing means]
19/007 . . . [fractioning a determined weight of material in several equal parts]
19/02 . . . [for weighing wheeled or rolling bodies, e.g. vehicles]
19/021 . . . [having electrical weight-sensitive devices (G01G 19/04 - G01G 19/07): take precedence]
19/022 . . . [for weighing wheeled or rolling bodies in motion (G01G 19/045): takes precedence]
19/024 . . . [using electrical weight-sensitive devices]
19/025 . . . [wheel-load scales]
19/027 . . . [using electrical weight-sensitive devices]
19/028 . . . [combined with shock-absorbing devices (shock-absorbing arrangements for bearings G01G 21/02: means for damping oscillations G01G 23/06: shock-absorbers per se F16F)]
19/03 . . . [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 19/022, G01G 19/045: take precedence)]
19/035 . . . [using electrical weight-sensitive devices]
19/04 . . . [for weighing railway vehicles]
19/042 . . . [having electrical weight-sensitive devices]
19/045 . . . [for weighing railway vehicles in motion]
19/047 . . . [using electrical weight-sensitive devices]
19/06 . . . [on overhead rails]
19/07 . . . [for weighing aircraft]
19/08 . . . [for incorporation in vehicles]
19/083 . . . [lift truck scale]
19/086 . . . [wherein the vehicle mass is dynamically estimated]
19/10 . . . [having fluid weight-sensitive devices]
19/12 . . . [having electrical weight-sensitive devices]
19/14 . . . [for weighing suspended loads (G01G 3/00): takes precedence; incorporation of weighing devices in cranes B66C 1/40, B66C 13/16]
19/16 . . . [having fluid weight-sensitive devices]
19/18 . . . [having electrical weight-sensitive devices]
19/20 . . . [for weighing unbalanced loads]
19/22 . . . [for apportioning materials by weighing prior to mixing them (ratio regulation G05D 11/00)]
19/24 . . . [using a single weighing apparatus]
19/26 . . . [associated with two or more counterweighted beams]
19/28 . . . [having fluid weight-sensitive devices]
19/30 . . . [having electrical weight-sensitive devices]
19/303 . . . . . . [involving digital counting]
19/306 . . . . . . [involving comparison with a reference value]
19/32 . . . [using two or more weighing apparatus]
19/34 . . . [with electrical control means]
19/343 . . . [involving digital counting]
19/346 . . . [involving comparison with a reference value]
19/36 . . . [with mechanical control means]
19/38 . . . [programme controlled, e.g. by perforated tape (programme control in general G05B 19/00)]
19/382 . . . . . [involving digital counting]
19/384 . . . . . [involving comparison with a reference value]
19/387 . . . . . [for combinatorial weighing, i.e. selecting a combination of articles whose total weight or number is closest to a desired value]
19/393 . . . . . [using two or more weighing units]
19/40 . . . [with provisions for indicating, recording, or computing price or other quantities dependent on the weight (indicating means for weighing apparatus G01G 23/18: recording means for weighing apparatus G01G 23/18; computers in general G06)]
19/41 . . . [using mechanical computing means]
19/413 . . . [using electromechanical or electronic computing means]
19/414 . . . . . [using electronic computing means only]
19/4142 . . . . . [for controlling activation of safety devices, e.g. airbag systems (electrical circuits for triggering safety arrangements in case of vehicle accidents B60R 21/015)]
19/4144 . . . . . [for controlling weight of goods in commercial establishments, e.g. supermarket, F.O.S. systems]
19/4146 . . . . . [for controlling caloric intake, e.g. diet control]
19/4148 . . . . . [for controlling postal rate in articles to be mailed (franking apparatus with means for computing G07B 17/02)]
19/415 . . . . . [combined with recording means]
19/417 . . . . . [with provision for checking computing part of balance]
19/42 . . . . . [for counting by weighing (G01G 19/387): takes precedence]
19/44 . . . . . [for weighing persons]
19/445 . . . . . [in a horizontal position]
19/46 . . . . . [Spring balances specially adapted for this purpose]
19/48 . . . . . [Pendulum balances specially adapted for this purpose]
19/50 . . . . . [having additional measuring devices, e.g. for height]
19/52 . . . . . [Weighing apparatus combined with other objects, e.g. furniture (with walking sticks A45B 3/08)]
19/54 . . . . . [combined with writing implements or paper-knives]
19/56 . . . . . [combined with handles of tools or household implements]
19/58 . . . . . [combined with handles of suit-cases or trunks]
19/60 . . . . . [combined with fishing equipment, e.g. with fishing rods]
19/62 . . . . . [Over or under weighing apparatus]
19/64 . . . . . [Percentage-indicating weighing apparatus, i.e. for expressing the weight as a percentage of a predetermined or initial weight]

21/00 Details of weighing apparatus
21/02 . . . [Arrangements of bearings (bearings per se F16C)]
21/022 . . . [of tapes or ribbons]
21/025 . . . [using a combination of knife-edge and ball or roller bearings]
21/027 . . . [Hydraulic or pneumatic bearings]
21/04 . . . [of knife-edge bearings]
21/06 . . . [of ball or roller bearings]
21/07 . . . [of flexure-plate bearings]
21/08 . . . [Bearing mountings or adjusting means therefor]
Auxiliary devices for weighing apparatus

- Means for preventing contamination by dust
- Means for preventing overload
- Integrated arrangements for generating electrical power, e.g. solar cells
- Testing or calibrating of weighing apparatus
- with load cells comprising in-build calibration weights
- (by adjusting to the local gravitational acceleration)
- (Securing calibration against fraud)
- Relieving mechanisms; Arrestment mechanisms
- for precision weighing apparatus
- Means for damping oscillations, e.g. of weigh beams
- by fluid means
- by electric or magnetic means
- specially adapted for preventing oscillations due to movement of the load
- 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)
- electrically or magnetically operated
- (involving digital counting)
- (involving comparison with a reference value)
- Indicating devices, e.g. for remote indication; Recording devices; Scales, e.g. graduated
- Indicating weight by mechanical means
- with wheel-type counters
- (special graduated scales therefor (G01G 23/24 takes precedence))
- combined with price indicators
- involving logarithmic scales
- Drive for the indicating member, e.g. mechanical amplifiers
- involving auxiliary or memory marks
- with means for illuminating the scale
- Indicating the weight by optical projection means
- combined with price indicators
- Indicating the weight by photographic recording
- Indicating the weight by electrical means, e.g. using photoelectric cells
- using photoelectric cells
- using electric contacts
- using magnetic or capacitive contacts
- involving comparison with a reference value (G01G 23/37 takes precedence)
- involving digital counting
- using a microprocessor
- (with feedback means)
- (with particular representation of the result, e.g. graphic)
- (with wireless means)
- (using a digital network)
- (using a mobile telephone network)
- during the movement of a coded element
- Recording and/or coding devices specially adapted for weighing apparatus (computers per se G06; disc converters in general G08C)
- mechanically operated
- electrically operated
- 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)