

CPC COOPERATIVE PATENT CLASSIFICATION

G PHYSICS (NOTES omitted)

INSTRUMENTS

G01 MEASURING (counting [G06M](#)); TESTING (NOTES omitted)

G01G WEIGHING (sorting by weighing [B07C 5/16](#))

NOTE

Attention is drawn to the Notes following the title of class [G01](#).

1/00	Weighing apparatus involving the use of a counterweight or other counterbalancing mass	3/00	Weighing apparatus characterised by the use of elastically-deformable members, e.g. spring balances
1/02	. Pendulum-weight apparatus		
1/025	. . {with variable cam radius or variable counterpoise pendulum}	3/02	. wherein the weighing element is in the form of a helical spring
1/04	. . the pendulum having a fixed pivot axis	3/04	. . using a plurality of springs
1/06	. . . with a plurality of pendulums	3/06	. wherein the weighing element is in the form of a spiral spring
1/08	. . the pendulum having a moving pivot axis, e.g. a floating pendulum	3/08	. wherein the weighing element is in the form of a leaf spring
1/10	. . . with a plurality of pendulums	3/10	. wherein the torsional deformation of a weighing element is measured
1/12	. . Constructional arrangements for obtaining equal indicative divisions	3/12	. wherein the weighing element is in the form of a solid body stressed by pressure or tension during weighing
1/14	. . Temperature compensating arrangements	3/125	. . {wherein the weighing element is an optical member}
1/16	. . Means for correcting for obliquity of mounting	3/13	. . having piezo-electric or piezo-resistive properties
1/18	. Balances involving the use of a pivoted beam, i.e. beam balances	3/14	. . measuring variations of electrical resistance (G01G 3/13 takes precedence)
1/185	. . {Two draft weighing apparatus, e.g. tandem scales systems}	3/1402	. . . {Special supports with preselected places to mount the resistance strain gauges; Mounting of supports}
1/20	. . Beam balances having the pans carried below the beam, and for use with separate counterweights	3/1404	. . . . {combined with means to connect the strain gauges on electrical bridges}
1/22	. . . for precision weighing	3/1406	. . . . {combined with special measuring circuits}
1/24	. . Platform-type scales, i.e. having the pans carried above the beam	3/1408	. . . . {the supports being of the column type, e.g. cylindric}
1/243	. . . {having pans carried above the beam}	3/141	. . . . {the supports being disc or ring shaped}
1/246	. . . . {of the parallelogram type}	3/1412	. . . . {the supports being parallelogram shaped}
1/26	. . with associated counterweight or set of counterweights	3/1414	. . . {Arrangements for correcting or for compensating for unwanted effects}
1/28	. . . involving means for automatically lifting counterweights corresponding to the load	3/1416	. . . . {for non-linearity}
1/29	. . . . with electrical or electromechanical control means	3/1418	. . . . {for temperature variations}
1/30	. . . wherein the counterweight is in the form of a chain	3/142	. . . Circuits specially adapted therefor
1/32	. . . wherein the counterweights are in the form of rider-weights	3/145	. . . . involving comparison with a reference value (G01G 3/147 takes precedence)
1/34	. . . involving a fixed counterweight, with poise-weights selectively added to the load side	3/147	. . . . involving digital counting
1/36	. . . wherein the counterweights are slideable along the beam, e.g. steelyards	3/15	. . measuring variations of magnetic properties
1/38	. . . . with automatically-driven counterweight	3/16	. . measuring variations of frequency of oscillations of the body
1/40	. . specially adapted for weighing by substitution	3/165	. . . {Constructional details}
1/42	. . Temperature compensating arrangements	3/18	. Temperature-compensating arrangements

5/00	Weighing apparatus wherein the balancing is effected by fluid action	13/003	• {Details; specially adapted accessories (details of weighing apparatus in general G01G 21/00 ; auxiliary devices for weighing apparatus in general G01G 23/00)}
5/003	• {load-cell construction or mountings}		
5/006	• {with pneumatic means}		
5/02	• with a float or other member variably immersed in liquid	13/006	• • {Container supply or discharge mechanism (means for automatic loading or discharging G01G 13/02 , G01G 13/16 , G01G 13/24)}
5/04	• with means for measuring the pressure imposed by the load on a liquid (pressure gauges per se G01L)	13/02	• Means for automatically loading weigh pans or other receptacles, e.g. disposable containers, under control of the weighing mechanism
5/045	• • {combined with means for totalising the pressure imposed by several load-cells}	13/022	• • {Material feeding devices (G01G 13/04 - G01G 13/14 take precedence)}
5/06	• • with electrical indicating means		
7/00	Weighing apparatus wherein the balancing is effected by magnetic, electromagnetic, or electrostatic action, or by means not provided for in the preceding groups	13/024	• • • {by gravity}
7/02	• by electromagnetic action	13/026	• • • {by mechanical conveying means, e.g. belt or vibratory conveyor}
7/04	• • with means for regulating the current to solenoids	13/028	• • • {by pneumatic carrying means}
7/045	• • • {having a PID control system}	13/04	• • involving dribble-feed means controlled by the weighing mechanism to top up the receptacle to the target weight
7/06	• by electrostatic action	13/06	• • • wherein the main feed is effected by gravity from a hopper or chute
9/00	Methods or apparatus for the determination of weight not otherwise provided for	13/08	• • • wherein the main feed is effected by mechanical conveying means, e.g. by belt conveyors, by vibratory conveyors
9/005	• {using radiations, e.g. radioactive (analysing materials by the use of wave or particle radiation G01N 23/00)}	13/10	• • • wherein the main feed is effected by pneumatic conveying means, e.g. by fluidised feed of granular material
11/00	Apparatus for weighing a continuous stream of material during flow; Conveyor belt weighers	13/12	• • 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
11/003	• {Details; specially adapted accessories (details of weighing apparatus in general G01G 21/00 ; auxiliary devices for weighing apparatus in general G01G 23/00)}	13/14	• • Arrangements for determination of, or compensation for, the tare weight of an unloaded container, e.g. of a disposable container
11/006	• {Special taring or checking devices therefor (devices for determining tare weight in general G01G 23/14)}	13/16	• Means for automatically discharging weigh receptacles under control of the weighing mechanism
11/02	• having mechanical weight-sensitive devices	13/18	• • by valves or flaps in the container bottom
11/025	• • {combined with totalising or integrating devices}	13/20	• • by screw conveyors in the weigh receptacle
11/04	• having electrical weight-sensitive devices	13/22	• • by tilting or rotating the weigh receptacle
11/043	• • {combined with totalising or integrating devices}	13/24	• Weighing mechanism control arrangements for automatic feed or discharge
11/046	• • • {involving digital counting}	13/241	• • {Bulk-final weighing apparatus, e.g. rough weighing balance combined with separate fine weighing balance}
11/06	• having fluid weight-sensitive devices	13/242	• • {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}
11/065	• • {combined with totalising or integrating devices}	13/243	• • • {using a single load carrier}
11/08	• having means for controlling the rate of feed or discharge (regulation of flow of fluent material G05D)	13/244	• • • • {with a single weighing receptacle divided into two or more alternatively used sections}
11/083	• • {of the weight-belt or weigh-auger type (G01G 11/10 , G01G 11/12 take precedence)}	13/245	• • • • • {the weighing receptacles being rockable or oscillating}
11/086	• • {of the loss-in-weight feeding type}	13/246	• • • • • {the weighing apparatus being rotatable}
11/10	• • by controlling the height of the material on the belt	13/247	• • {Checking quantity of material in the feeding arrangement, e.g. discharge material only if a predetermined quantity is present}
11/12	• • by controlling the speed of the belt	13/248	• • {Continuous control of flow of material (control of flow G05D 7/00)}
11/14	• 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)	13/26	• • involving fluid-pressure systems
11/16	• • being electrical or electronic means		
11/18	• • • using digital counting		
11/20	• • 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; combinatorial weighing G01G 19/387)		

- 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}
- 13/2954 {wherein the main feed is effected by mechanical conveying means, e.g. by belt conveyors, by vibratory conveyors}
- 13/2955 {wherein the main feed is effected by pneumatic conveying means, e.g. by fluidised feed of granular material}
- 13/2957 {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}
- 13/2958 {Arrangements for the determination of, or compensation for, the tare weight of an unloaded container, e.g. a disposable container}
- 13/30 . . involving limit switches or position-sensing switches
- 13/32 . . . involving photoelectric devices
- 13/34 . . involving mechanical linkage motivated by weighing mechanism
- 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}
- 2015/002 . . {using electrical, electromechanical or electronic means}
- 2015/003 . . . {involving digital counting}
- 2015/005 . . . {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](#)}
- 2015/007 . . {involving digital counting}
- 2015/008 . . {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](#))
- 2015/022 . . {using electrical, electromechanical or electronic means}
- 2015/025 . . . {involving digital counting}
- 2015/027 . . . {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](#))
- 2015/042 . . {using electrical, electromechanical or electronic means}
- 2015/045 . . . {involving digital counting}
- 2015/047 . . . {involving comparison with a reference value}
- 17/00 Apparatus for or methods of weighing material of special form or property (determining weight by measuring volume [G01F](#))**
- 17/02 . 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
- 19/00 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](#)})**
- 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,
P.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
- 21/085 . . . {of knife-edge bearings (knife-edge bearings
[G01G 21/04](#))}
- 21/10 . . Floating suspensions; Arrangements of shock
absorbers (shock absorbers per se [F16F](#))
- 21/12 . . Devices for preventing derangement
- 21/125 . . . {of knife-edge bearings (knife-edge bearings
[G01G 21/04](#))}

- 21/14 . Beams
- 21/16 . . of composite construction; Connections between different beams
- 21/161 . . . {Connections between different beams}
- 21/162 {using knife-edge bearings (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-pans
- 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
- 23/20 . . 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}
- 23/375 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
- 23/46 Devices preventing recording until the weighing mechanism has come to rest
- 23/48 . Temperature-compensating arrangements ([G01G 1/14](#), [G01G 1/42](#), [G01G 3/18 take precedence](#))