

**CPC****COOPERATIVE PATENT CLASSIFICATION****G06M****COUNTING MECHANISMS; COUNTING OF OBJECTS NOT OTHERWISE PROVIDED FOR**

(counting by measuring volume or weight of articles to be counted [G01F](#), [G01G](#); computers [G06C](#) to [G06J](#); counting electric pulses [H03K](#); counting characters, words or messages in switching networks for transmission of digital information [H04L 12/08](#))

**NOTE**

This subclass covers:

- stepping or continuously-moving mechanical counters operated through one or more inputs applied to the lowest order mechanically or electrically;
- counting systems involving applications of either mechanical, electrical, or electronic counters.

**G06M 1/00****Design features of general application**

- G06M 1/02 . Housing (for measuring instruments in general [G01D](#))
- G06M 1/022 .. { Plates }
- G06M 1/024 ... { Bearings }
- G06M 1/026 .. { Connecting or supporting parts }
- G06M 1/028 .. { Arbors, drum fixing and adjusting means (arbor-fixing means [F16C 17/08](#))}
  
- G06M 1/04 . for driving the stage of lowest order (with variable ratio of drive [G06M 1/38](#))
- G06M 1/041 .. { for drum-type indicating means }
- G06M 1/042 ... { with click devices (electromagnetic driving means [G06M 1/102](#))}
- G06M 1/044 ... { with escapements (electromagnetic driving means [G06M 1/102](#))}
- G06M 1/045 .. { for dial, pointer, or similar type indicating means }
- G06M 1/047 .. { for arithmetical operations }
- G06M 1/048 .. { with switching means between two or more counting devices }
- G06M 1/06 .. producing continuous revolution of the stage, e.g. with gear train
- G06M 1/062 ... { for drum type indicating means }
- G06M 1/064 ... { for dial, pointer, or similar type indicating means }
- G06M 1/066 ... { for arithmetical operations }
- G06M 1/068 ... { with switching means between two or more counting devices }
  
- G06M 1/08 . for actuating the drive
- G06M 1/083 .. { by mechanical means (counting of stacked objects [G06M 9/00](#))}

- G06M 1/086      ...      { including barriers (counting of conveyed objects [G06M 7/00](#)) }
- G06M 1/10      ..      by electric or magnetic means
- G06M 1/101      ...      { by electro-optical means }
- G06M 1/102      ...      { by magnetic or electromagnetic means }
- G06M 1/104      ....      { electromagnets, clicks }
- G06M 1/105      .....      { electronic circuits for actuating the electromagnets }
- G06M 1/107      ....      { electromotors }
- G06M 1/108      ...      { by electronic means }
- G06M 1/12      ..      by fluid means
- G06M 1/123      ...      { by pneumatic means }
- G06M 1/126      ...      { by hydraulic means }
  
- G06M 1/14      .      for transferring a condition from one stage to a higher stage (with variable ratio of transfer [G06M 1/38](#))
  
- G06M 1/143      ..      { with drums }
- G06M 1/146      ..      { with dials, pointers, or similar type indicating means }
- G06M 1/16      ..      self-operating, e.g. by Geneva mechanism
- G06M 1/163      ...      { with drums }
- G06M 1/166      ...      { with dials, pointers or similar type indicating means }
- G06M 1/18      ..      requiring external operation, e.g. by electromagnetic force
- G06M 1/183      ...      { with drums }
- G06M 1/186      ...      { with dials, pointers, or similar type indicating means }
- G06M 1/20      ..      specially adapted for denominations with unequal numbers in each stage, e.g. degrees and minutes of angle
  
- G06M 1/22      .      for visual indication of the result of count on counting mechanisms, e.g. by window with magnifying lens
  
- G06M 1/24      ..      Drums; Dials; Pointers (for measuring instruments in general [G01D](#); { for time measuring instruments [G04B 19/00](#), including drums [G04B 19/21](#), [G04C 19/04](#); date indicating [G04B 19/24](#) })
- G06M 1/241      ...      { Drums }
- G06M 1/243      ....      { Drums with presetting means }
- G06M 1/245      ...      { Dials; Pointers }
- G06M 1/246      ...      { Bands; Sheets }
- G06M 1/248      ...      { Discs }
- G06M 1/26      ..      Aligning means
  
- G06M 1/27      .      for representing the result of count in the form of electric signals, e.g. by sensing markings on the counter drum
- G06M 1/272      ..      using photoelectric means
- G06M 1/274      ..      using magnetic means; using Hall-effect devices
- G06M 1/276      ..      using mechanically-actuated contacts

- G06M 1/28 . for zeroising or setting to a particular value
- G06M 1/283 .. { with drums }
- G06M 1/286 .. { with dials, pointers, or similar type indicating means }
- G06M 1/30 .. using heart-shaped or similar cams; using levers
- G06M 1/303 ... { with drums }
- G06M 1/306 ... { with dials, pointers, or similar type indicating means }
- G06M 1/32 ... Actuating means, e.g. magnet, spring, weight
- G06M 1/323 .... { with drums }
- G06M 1/326 .... { with dials, pointers, or similar type indicating means }
- G06M 1/34 .. using reset shafts
- G06M 1/343 ... { with drums }
- G06M 1/346 ... { with dials, pointers, or similar type indicating means }
- G06M 1/36 ... Actuating means, e.g. magnet, spring, weight
- G06M 1/363 .... { with drums }
- G06M 1/366 .... { with dials, pointers, or similar type indicating means }
  
- G06M 1/38 . for varying ratio of drive or transfer mechanism, e.g. by using alternative counting trains
- G06M 1/385 .. { differentials }
  
- G06M 3/00** **Counters with additional facilities** (generating electric pulses at random intervals [H03K 3/84](#))
  
- G06M 3/02 . for performing an operation at a predetermined value of the count, e.g. arresting a machine {(G06M 3/04 takes precedence)}
- G06M 3/021 .. { with drums type indicating means }
- G06M 3/022 ... { by subtracting }
- G06M 3/024 ... { by adding }
- G06M 3/025 .. { with dial, pointer, or similar type indicating means }
- G06M 3/027 ... { by subtracting }
- G06M 3/028 ... { by adding }
- G06M 3/04 .. with an additional counter train operating in the reverse direction
- G06M 3/043 ... { with drums }
- G06M 3/046 ... { with dials, pointers, or similar type indicating means }
  
- G06M 3/06 . for printing or separately displaying result of count (display systems [G09](#))
- G06M 3/062 .. { for printing }
- G06M 3/065 ... { with drums }
- G06M 3/067 ... { with dials, pointers, or similar type indicating means }
  
- G06M 3/08 . for counting the input from several sources; for counting inputs of different amounts

- G06M 3/10 . for counting denominations with unequal numbers in each stage, e.g. degrees and minutes of angle ([transfer mechanism therefor G06M 1/20](#))
- G06M 3/12 . for preventing incorrect actuation, e.g. for preventing falsification
- G06M 3/14 . for registering difference of positive and negative actuations

**Guidance heading:** **Counting of objects** (in machines for shaping metal without removing material [B21C 51/00](#); in printing machines or presses [B41F 33/02](#); in office copying machines [B41L 39/02](#); of axles of rail vehicles [B61L 1/16](#); in packaging machines [B65B 65/08](#); of objects conveyed through a pipe or tube [B65G 51/36](#); entry or exit registers [G07C 9/00](#))

#### **G06M 7/00      Counting of objects carried by a conveyer**

- G06M 7/02 . wherein objects ahead of the sensing element are separated to produce a distinct gap between successive objects
- G06M 7/04 . . Counting of piece goods, e.g. of boxes
- G06M 7/06 . . Counting of flat articles, e.g. of sheets of paper
- G06M 7/08 . wherein the direction of movement of the objects is changed at the station where they are sensed
- G06M 7/10 . . Counting of flat overlapped articles, e.g. of cards

#### **G06M 9/00      Counting of objects in a stack thereof**

- G06M 9/02 . by using a rotating separator incorporating pneumatic suction nozzles
- G06M 9/025 . . { the rotation axis being substantially parallel to the stacking direction }

#### **G06M 11/00      Counting of objects distributed at random, e.g. on a surface**

- G06M 11/02 . using an electron beam scanning a surface line by line, e.g. of blood cells on a substrate
- G06M 11/04 . . with provision for distinguishing between different sizes of objects ([investigating particle size in general G01N 15/00](#))

#### **G06M 2207/00      Indexing scheme relating to counting of objects carried by a conveyer**

- G06M 2207/02 . Counting of generally flat and overlapped articles, e.g. cards, newspapers