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US5909829	Vibratory filler for powders XEROX
US6347648	Powder filling utilizing vibrofluidization XEROX
US5947169	Oscillating valve for powders XEROX
US5685348	Electromagnetic filler for developer material XEROX
EP-928743	Pneumatic valve for toner filing systems XEROX

Vibratory filler for powders
US5909829

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- **International Patent Classification**
  B65B-001/08 B65B-037/04 G01F-013/00
- **US Patent Classification**
  PCLO=222232000 PCLO=141065000 PCLX=141256000
  PCLX=141286000 PCLX=222232000 PCLX=222241000
- **CPC Code**
  B65B-001/08; B65B-037/04 G01F-013/00/6;

- **Publication Information**
  US5909829 A 1999-06-08 [US5909829]
- **Priority Details**
  1997US-08823034 1997-04-01
  1999US-09272545 1999-03-19

- **Fampat family**

US5909829	A	1999-06-08	[US5909829]
US6196278	B1	2001-03-06	[US6196278]

- **Abstract:**
  (US5909829)
  A method for filling a powder container is provided. The method includes the steps of placing a first powder container to be filled in filling relationship to a supply of powder in a vessel, mechanically exciting the powder in the vessel to improve its flow properties, dispensing powder from the vessel into the first container, removing the first container from the vessel, and placing a second container to be filled in filling relationship to the vessel.

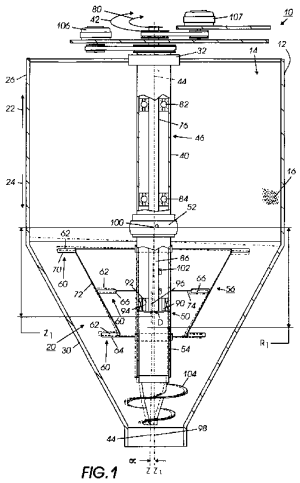

FIG.1

Powder filling utilizing vibrofluidization
US6347648

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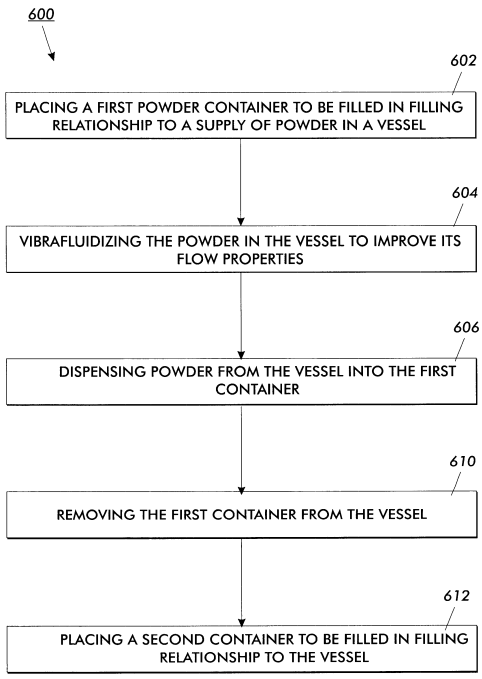
- **International Patent Classification**
  B65B-001/08 B65B-037/04 G01F-013/00
- **US Patent Classification**
  PCLO=141001000 PCLX=141002000 PCLX=141172000
- **CPC Code**
  B65B-001/08; B65B-037/04 G01F-013/00/6;

- **Publication Information**
  US6347648 B1 2002-02-19 [US6347648]
- **Priority Details**
  1997US-08823034 1997-04-01
  1999US-09272545 1999-03-19
  2000US-09713899 2000-11-16

- **Fampat family**

US6347648	B1	2002-02-19	[US6347648]

- **Abstract:**
  (US6347648)
  A method for filling a powder container, including the steps of placing a first powder container to be filled in filling relationship to a supply of powder in a vessel, vibrofluidizing the powder in the vessel to improve its flow properties, dispensing powder from the vessel into the first container, removing the first container from the vessel, and placing a second container to be filled in filling relationship to the vessel.



Oscillating valve for powders
US5947169

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- **International Patent Classification**
  B65B-001/10 B65B-039/00
- **US Patent Classification**
  PCLO=141071000 PCLX=141002000 PCLX=141129000 PCLX=141172000 PCLX=141275000 PCLX=222185100 PCLX=222196000 PCLX=222220000 PCLX=222226000 PCLX=366196000
- **CPC Code**
  B65B-001/10 B65B-039/00/3;

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  US5947169 A 1999-09-07 [US5947169]
- **Priority Details**
  1997US-08829925 1997-04-01

- **Fampat family**

US5947169	A	1999-09-07	[US5947169]

- **Abstract:**
(US5947169)
A method for filling a powder container is provided. The method includes the steps of placing a first powder container to be filled in filling relationship to a discharge feature in the vessel, directing the powder in the vessel toward a member located at least partially within the vessel, the member defining a restriction therein such that the powder clogs within the restriction, mechanically exciting the powder at least adjacent the restriction to improve the flow properties of the powder so as to unclog the powder within the restriction, dispensing powder through the restriction, through the discharge feature and into the first container, stopping the mechanical excitation of the powder so as to clog the restriction with the powder, removing the first container from the vessel, and placing a second container to be filled in filling relationship to the vessel.

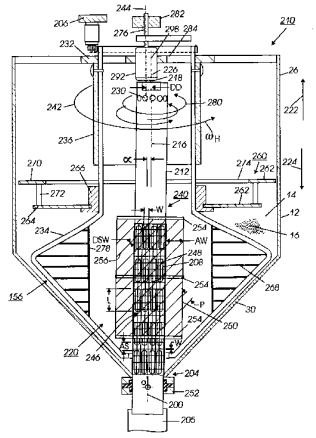

FIG.1

Electromagnetic filler for developer material
US5685348

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  KASHKAROV ALEXANDER G
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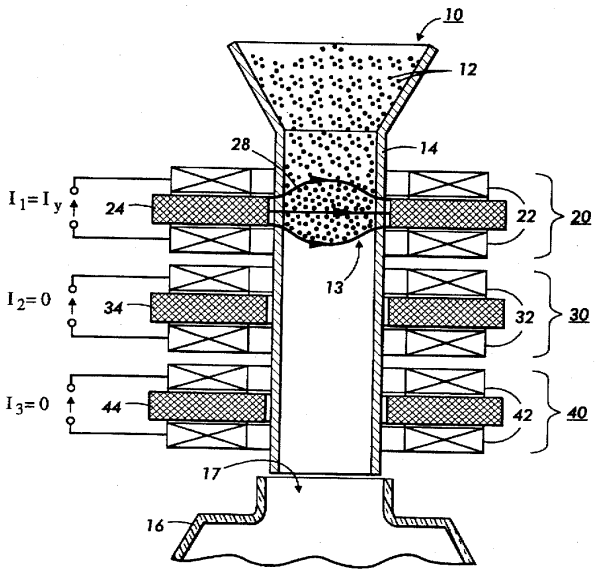
- **International Patent Classification**
  B65B-001/04 G03G-015/08
- **US Patent Classification**
  PCLO=141002000 PCLX=053503000 PCLX=137909000
  PCLX=141018000 PCLX=141129000
- **CPC Code**
  B65B-001/04; Y10S-137/909

- **Publication Information**
  US5685348 A 1997-11-11 [US5685348]
- **Priority Details**
  1996US-08690412 1996-07-25

- **Fampat family**

US5685348	A	1997-11-11	[US5685348]
JPH1073989	A	1998-03-17	[JP10073989]

- **Abstract:**
  (US5685348)
  A method and apparatus for filling a container with toner using a series of traveling magnetic fields to control the flow of toner from a supply of toner to the container. Initially, an empty container is placed under a fill tube through which the toner will be supplied to the container. In the filling process the traveling magnetic fields, which are supplied by turning on and off a series of solenoids, and gravity cause toner from the toner supply to move through the fill tube. When a solenoid is turned on toner particles are attracted to its magnetic field where a plug of toner is formed. The solenoids are controlled so that a discrete amount of toner is supplied in each on/off cycle of the solenoids. The solenoid on/off cycle is repeated until the container is filled with toner. When the container is filled, the appropriate solenoid is activated so that a plug of toner stops the flow of toner in the fill tube. The filled container is removed from the fill tube and an empty container is put in its place so that the solenoid on/off cycle may begin again.



Pneumatic valve for toner filing systems
EP-928743

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- **International Patent Classification**
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- **CPC Code**
  B65B-039/00/1

- **Publication Information**
  EP0928743 A1 1999-07-14 [EP-928743]
- **Priority Details**
  1998US-09004457 1998-01-08

- **Fampat family**

EP0928743	A1	1999-07-14	[EP-928743]
JPH11245901	A	1999-09-14	[JP11245901]

- **Abstract:**
  (EP-928743)
  An apparatus for controlling filling of a container (116) from a hopper containing a supply of powder is provided. The apparatus includes a conduit (212) for guiding the powder from the hopper toward the container. The conduit is operably associated with the hopper. The apparatus further includes a pliable member (204) positioned at least partially within the conduit. The pliable member is positionable into a first position wherein a passageway is formed within the conduit and into a second position wherein the pliable member serves to block flow of powder through the conduit, whereby said pliable member may controllably permit and block the flow of powder thorough said conduit. <IMAGE>

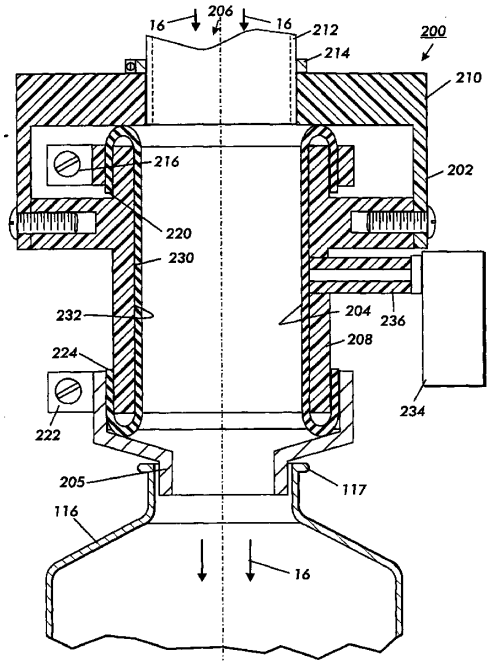

FIG. 1