

(19)



(11) N° 10007

(51) Int. Cl. ⁶

B 65 D 88/52
B 29 C 47/00
B 65 D 88/28

(12) BREVET D'INVENTION

(21) Numéro de dépôt: 60 621

(22) Date de dépôt: 07.03.1995

(30) Priorité(s): JAPAN
07.09.1992 N° 4-279106

(24) Délivré le: 29.03.1996

(45) Publié le: 29.03.1996

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(54) Titre: Hoppers for machines with hoppers and processing method thereof.

(57) Abrégé:

Conventional machines with hoppers have such defects that the extruding operation is interrupted when the cleaning of the hopper is carried out and accordingly the working efficiency is reduced. In the present invention, a detachable hopper consisting of one or more thin membrane hoppers in the shape of a hopper is provided detachably along the inside of a hopper for machines with hoppers, and a membrane hopper located at the most inner side of the detachable hopper is used as an inside hopper from which materials are fed,

and is removed when the cleaning of the hopper is needed to form a removed hopper. According to the present invention, machines with hoppers of high working efficiency, from which the above defects are obviated, can be obtained.

DESCRIPTION

Hoppers for Machines with Hoppers and Processing
Method thereof

5 TECHNICAL FIELD

The present invention relates to a hopper for
general machines with hoppers and a processing method
thereof.

BACKGROUND ART

10 In general machines having a hopper for supplying
materials, such as, a plastic resin kneading and
extruding machine, the inside of the hopper is
cleaned directly when the cleaning of the hopper
is needed with time. Such a conventional manner
15 has such defects that much labor and time must be
necessary and accordingly the working efficiency
is reduced. The background of the present invention
is to realize a hopper and a processing method
thereof which reduce the labor and time for the
20 cleaning of the hopper without reducing the working
efficiency.

DISCLOSURE OF INVENTION

A detachable hopper consisting of one or more
thin membrane hoppers in the shape of a hopper is
25 provided detachably along the inside of a hopper

for machines with hoppers. A thin membrane hopper located at the most inner side of said detachable hopper is used as an inside hopper from which materials are fed, and removed when the cleaning of the hopper is needed to form a removed hopper.

BRIEF DESCRIPTION OF DRAWINGS

Fig. 1 is a side view of a plastic resin kneading and extruding machine which is an example of machines with hoppers. Fig. 2 is a side view of a membrane hopper, one part of which is cut out. Figs. 3 and 4 are a plan view and a bottom view of the membrane hopper, respectively. Fig. 5 is a side view of a detachable hopper, one portion of which is cut out. Fig. 6 shows an extruding material supply state with the detachable hopper. Fig. 7 is a side view of a removed hopper, one portion of which is cut out.

BEST MODE FOR CARRYING OUT THE INVENTION

The present invention will be explained more detailedly with reference to the accompanying drawings.

In the present invention, a thin membrane hopper 1 in the shape of a hopper is used. The thin membrane hopper is made of a synthetic resin, paper, wood, metal or the like. A detachable hopper 4

consisting of one or more membrane hoppers 1 is provided detachably along the inside of a hopper 3 of an extruding machine 2. Said detachable hopper is made previously. Said membrane hoppers 1 are
5 superposed one another detachably. The membrane hopper 1 located at the most inner side of the detachable hopper 4 is used as an inside hopper 5. Materials to be supplied are received into said inside hopper 5 and supplied to an extruding portion
10 7. The inside hopper 5 is removed when the cleaning of the hopper 3 is needed to form a removed hopper 8. The removed hopper 8 is abandoned as a rule. The removed hopper 8 may be recycled after cleaning. The removed hopper 8 may be supplied as materials to
15 be supplied to the extruding portion 7 and processed.

According to the present invention, the cleaning of the hopper can be attained by merely removing the hopper. Accordingly, the cleaning operation can be carried out simply within a
20 short time, so that it hardly affects on the extruding operation. In case that the removed hopper is recycled, the processing thereof can be carried out during the extruding operation. In case that the removed hopper is supplied to the extruding
25 portion, the action of the abandonment can be

simplified. The present invention is applied generally to the machines with hoppers, however, it can also be applied properly to the mixers, scramblers or the like.

5 As stated above, according to the present invention the hopper for machines with hoppers and the processing method thereof having no defects can be realized.

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CLAIMS

1. A hopper processing method for machines
with hoppers characterized by comprising the steps
of providing detachably along the inside of a hopper
5 a detachable hopper consisting of one or more thin
membrane hoppers in the shape of a hopper, supplying
materials from an inside hopper which is located
at the most inner side of said detachable hopper,
and removing said inside hopper when the cleaning
10 of the hopper is needed to form a removed hopper.

2. The hopper processing method for machines
with hoppers according to claim 1, wherein the
removed hopper is abandoned.

3. The hopper processing method for machines
15 with hoppers according to claim 1, wherein the
removed hopper is recycled.

4. The hopper processing method for machines
with hoppers according to claim 1, wherein the
removed hopper is supplied to the machines with
20 hoppers.

5. A hopper for machines with hoppers
characterized by comprising one or more membrane
hoppers.

FIG.1

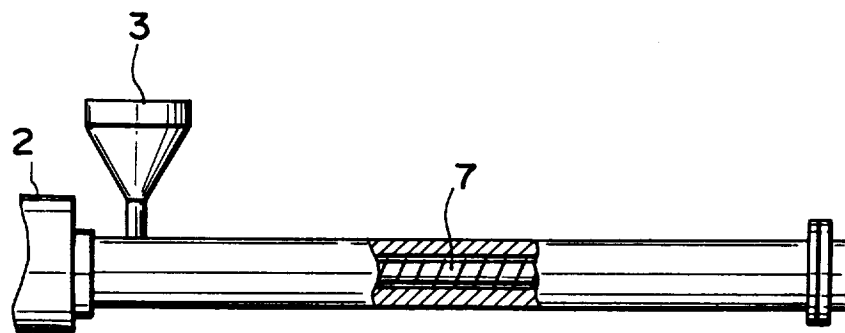


FIG. 2

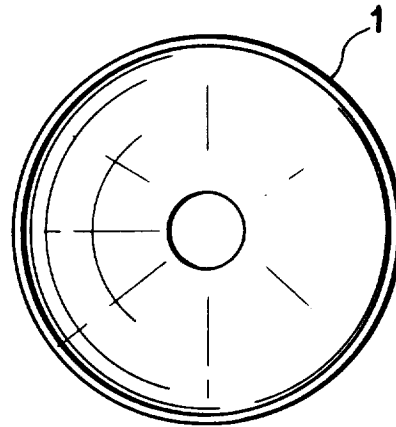


FIG. 3

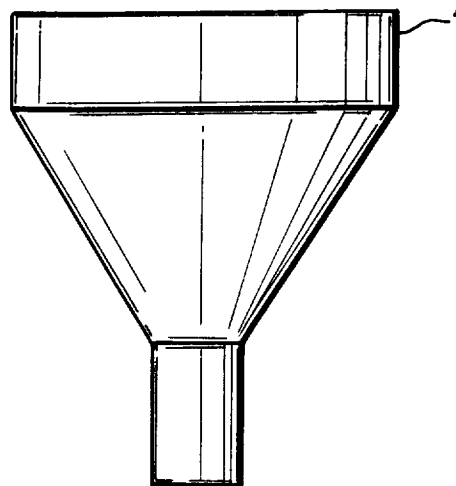


FIG. 4

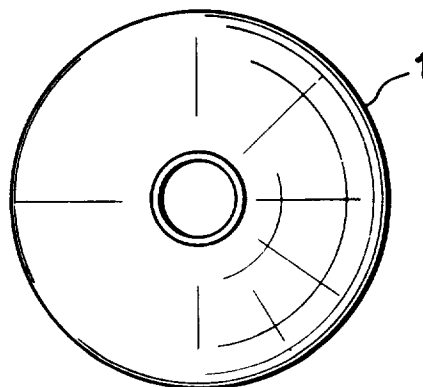


FIG.5

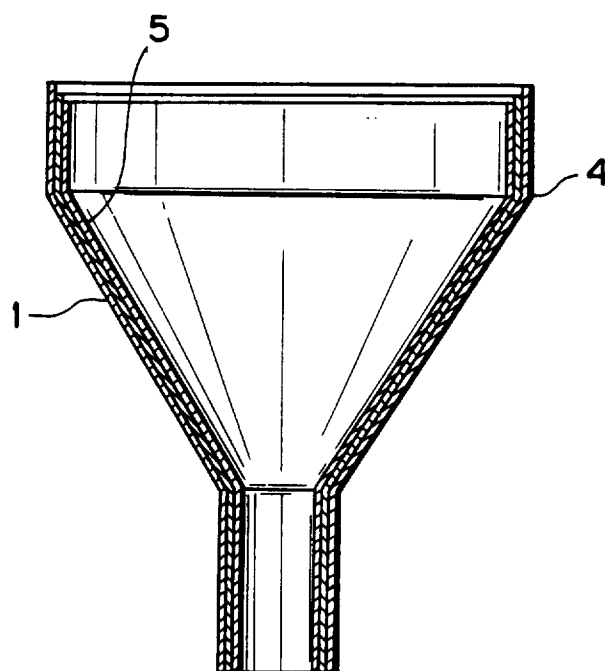


FIG.6

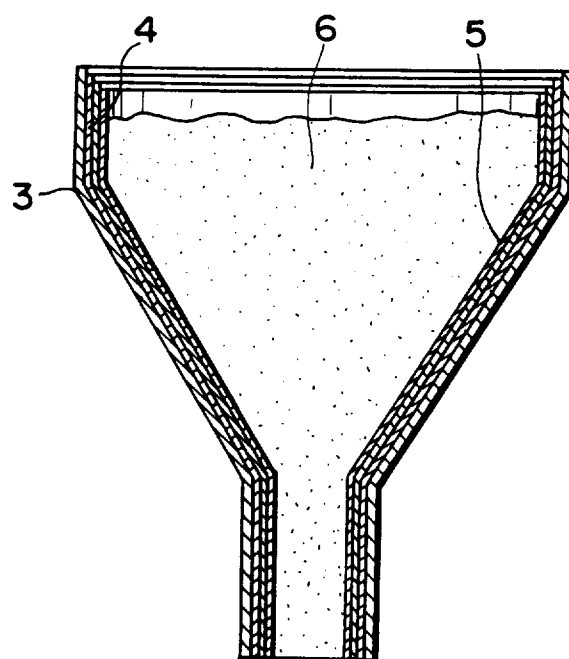


FIG. 7

