

TITLE: PULVERIZER

BACKGROUND OF THE INVENTION

The present invention relates to a pulverizer. More particularly, the invention relates to a pulverizer
05 which can pulverize solid materials efficiently.

Most conventional pulverizers belong to the closed systems. However, the rotating blades bear the brunt of the solid materials and the whirling force of the turbulent flow. Thus the rotating blades are easily
10 broken. Since the turbulent flow will influence the bumping speed between the blades and the solid particles, the sizes of the powders are not homogeneous.

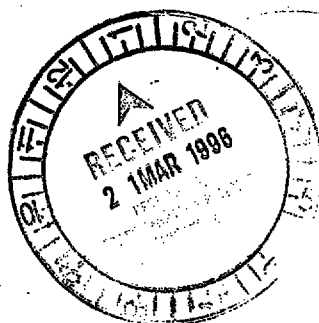
SUMMARY OF THE INVENTION

An object of the invention is to provide a pulverizer
15 which can pulverize solid materials efficiently.

Another object of the invention is to provide a pulverizer which can avoid the accumulation of powders in the under-pan.

Another object of the invention is to provide a
20 pulverizer which can combine different types of blades for various solid materials.

Accordingly, a pulverizer has a generally U-shaped mount to receive a bottom cover, a base ring, and a cylindrical casing. The base ring is fastened to the
25 cylindrical casing. A motor is disposed on the cylindrical



casing. A shaft protrudes upward from the motor. A cushion device which includes a plurality of cushion rings and gaskets is disposed on the shaft. A blade device which comprises a wing-shaped blade, a rotating blade or a flat blade is disposed on the cushion device. A nut fastens the blade device on the cushion device. A seat is disposed on the motor. The seat has a hollow disk and a semicircular hood. A large number of through holes are formed on the disk. The disk and the motor are fastened together. The semicircular hood is disposed on the disk. A contact switch is disposed on the hood. Two rotatable lugs are disposed on top of the hood. A flow-guiding ring is disposed on the seat. An under-pan is disposed on the flow-guiding ring. A plurality of bolts fasten the under-pan, the flow-guiding ring and the disk on the motor. A tank is disposed on the under-pan. The tank has a grip and a flow outlet on the outer periphery of the tank. A lip flange which is formed at the bottom of the tank defines a round hole therein. A circular camber connects the lip flange and the bottom rim of the tank. A rubber ring is disposed on the bottom surface of the circular camber. A pressure-adjusting ring is disposed in the lip flange. A pipe passes through the pressure-adjusting ring and the round hole. An adjusting bolt passes through a

periphery of the pressure-adjusting ring to adjust the position of the pipe. A padding ring and a cover disk are disposed on top of the tank. An inner threaded ring receives the upper end of the pipe. A lower end of a
05 funnel passes through a circular hole of the cover disk. The inner threaded ring fastens the funnel on top of the pipe.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a perspective exploded view of a
10 pulverizer of a preferred embodiment in accordance with the invention;

FIG. 2 is a perspective assembly view of FIG. 1;

FIG. 3 is a cross-sectional view of FIG. 2; and

FIG. 4 is a perspective view of various blades.

15 DETAILED DESCRIPTION OF THE INVENTION

Referring to FIGS. 1 to 3, a pulverizer has a generally U-shaped mount 6 to receive a bottom cover 52, a base ring 51, and a cylindrical casing 5. The base ring 51 is fastened to the cylindrical casing 5 by a plurality
20 of screws 511. A plurality of screws 521 fasten the bottom cover 52 under the base ring 51. A motor 4 is disposed on the cylindrical casing 5. Two screw bolts 62 fasten the mount 6 and the casing 5 together. A shaft 41 protrudes upward from the motor 4. A cushion device which
25 includes a plurality of cushion rings 14 and gaskets 15

is disposed on the shaft 41. A blade device which comprises a wing-shaped blade 16, a rotating blade 17 or a flat blade 18 is disposed on the cushion device. A nut 171 fastens the blade device on the cushion device.

05 A seat 1 is disposed on the motor 4. The seat 1 has a hollow disk 11 and a semicircular hood 12. A large number of through holes 111 are formed on the disk 11. The disk 11 and the motor 4 are fastened together by the bolts 112. The semicircular hood 12 is disposed on the disk 11. A

10 contact switch 122 is disposed on the hood 12. Two rotatable lugs 121 are disposed on top of the hood 12. A flow-guiding ring 13 is disposed on the seat 1. An under-pan 2 is disposed on the flow-guiding ring 13. A plurality of bolts fasten the under-pan 2, the flow-

15 guiding ring 13 and the disk 11 on the motor 4. A tank 3 is disposed on the under-pan 2. The tank 3 has a grip 31 and a flow outlet 32 on the outer periphery of the tank 3. A lip flange 331 which is formed at the bottom of the tank 3 defines a round hole 33 therein. A

20 circular camber 36 connects the lip flange 331 and the bottom rim of the tank 3. A rubber ring 37 is disposed on the bottom surface of the circular camber 36. A pressure-adjusting ring 35 is disposed in the lip flange 331. A pipe 34 passes through the pressure-

25 adjusting ring 35 and the round hole 33. An adjusting

bolt 351 passes through a periphery of the pressure-adjusting ring 35 to adjust the position of the pipe 34. A padding ring 381 and a cover disk 38 are disposed on top of the tank 3. An inner threaded ring 341
05 receives the upper end of the pipe 34. A lower end of a funnel 39 passes through a circular hole 382 of the cover disk 38. The inner threaded ring 341 fastens the funnel 39 on top of the pipe 34.

Referring to FIGS. 1 to 3 again, a solid material A
10 enters the funnel 39 and the pipe 34. The solid material A is pulverized by the blade device. A chamber B is formed between the under-pan 2 and the circular camber 36. A spacing C is formed between the pipe 34 and the lip flange 331. A passage D is formed between the motor 4
15 and the casing 5. The powders will be collected in the tank 3. The heat flow will flow outward via the passage D. The combination of the rotating blade 17 and the wing-shaped blade 16 can cut viscous material. The combination of the flat blade 18 and the wing-shaped
20 blade 16 can cut dry material.

The invention is not limited to the above embodiment but various modification thereof may be made. Further, various changes in form and detail may be made without departing from the scope of the invention.

I CLAIM:



1. A pulverizer comprising:
 - a generally U-shaped mount to receive a bottom cover, a base ring, and a cylindrical casing;
 - 05 said base ring fastened to said cylindrical casing;
 - a motor disposed on said cylindrical casing;
 - a shaft protruding upward from said motor;
 - a cushion device disposed on said shaft;
 - a blade device disposed on said cushion device;
 - 10 a nut fastening said blade device on said cushion device;
 - a seat disposed on said motor;
 - said seat having a hollow disk and a semicircular hood;
 - 15 a large number of through holes formed on said disk;
 - said disk and said motor fastened together;
 - said semicircular hood disposed on said disk;
 - a contact switch disposed on said hood;
 - a plurality of rotatable lugs disposed on top of
 - 20 said hood;
 - a flow-guiding ring disposed on said seat;
 - an under-pan disposed on said flow-guiding ring;
 - a plurality of bolts fastening said under-pan, said
 - flow-guiding ring and said disk on said motor;
 - 25 a tank disposed on said under-pan;



said tank having a grip and a flow outlet on an outer periphery of said tank;

a lip flange which is formed at a bottom of said tank defining a round hole therein;

05 a circular camber connecting said lip flange and a bottom rim of said tank;

a rubber ring disposed on a bottom surface of said circular camber;

a pressure-adjusting ring disposed in said lip
10 flange;

a pipe passing through said pressure-adjusting ring and said round hole;

an adjusting bolt passing through a periphery of said pressure-adjusting ring to adjust a position of said
15 pipe;

a padding ring and a cover disk disposed on top of said tank;

an inner threaded ring receiving an upper end of said pipe;

20 a lower end of a funnel passing through a circular hole of said cover disk; and

said inner threaded ring fastening said funnel on top of said pipe.

2. A pulverizer as claimed in claim 1, wherein said
25 cushion device includes a plurality of cushion rings and



gaskets.

3. A pulverizer as claimed in claim 1, wherein said blade device comprises a wing-shaped blade.

4. A pulverizer as claimed in claim 1, wherein said
05 blade device comprises a rotating blade.

5. A pulverizer as claimed in claim 1, wherein said blade device comprises a flat blade.