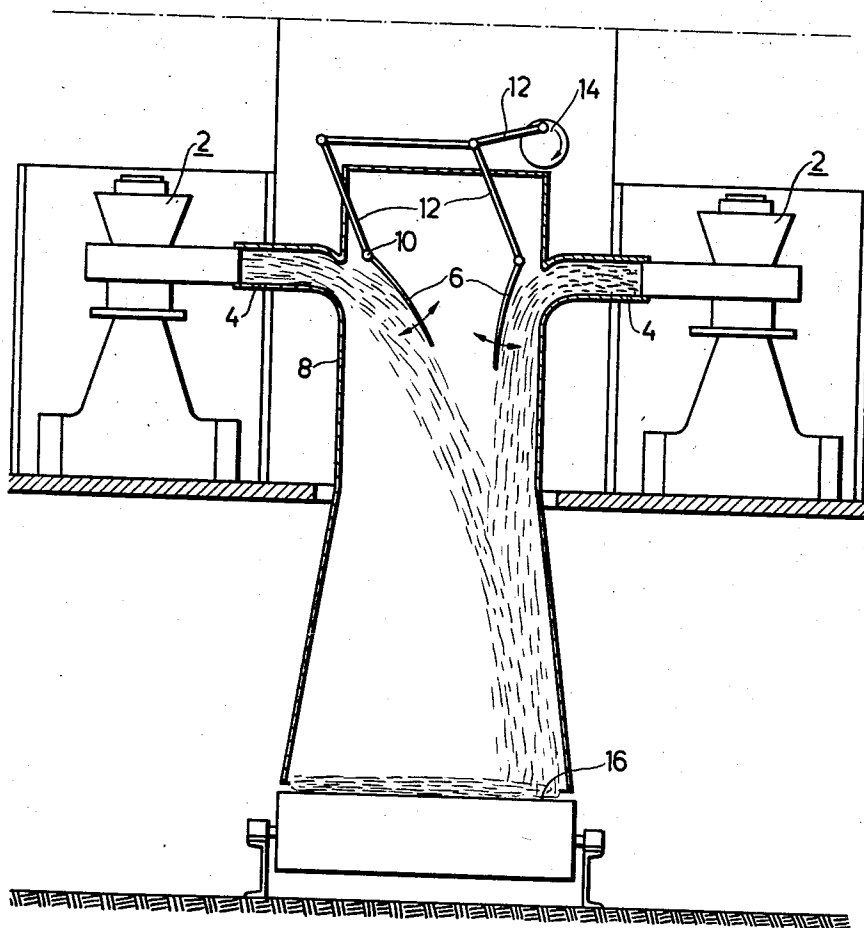


Aug. 5, 1958

ÅKE K. E. SVENDE ET AL.  
APPARATUS FOR A UNIFORM DISTRIBUTION OF A FIBROUS  
MATERIAL ON A CONVEYOR BELT  
Filed March 26, 1954

2,845,661



Inventors  
Åke Karl Erik Svende  
Karl Olaf Westerlund  
by Pierce, Scheffler & Parker  
attys

1

2,845,661

## APPARATUS FOR A UNIFORM DISTRIBUTION OF A FIBROUS MATERIAL ON A CONVEYOR BELT

Åke Karl Erik Svende and Karl Olof Westerlund, Billesholm, Sweden, assignors to Hoganas-Billesholms Aktiebolag, Hoganas, Sweden, a Swedish company

Application March 26, 1954, Serial No. 418,849

Claims priority, application Sweden March 31, 1953

2 Claims. (Cl. 19—155)

The invention relates to a method and an apparatus for a uniform distribution of fibres on a conveyor belt. More particularly, the invention relates to a method and apparatus for a uniform distribution of fibres of a thermoplastic, inorganic material such as glass, slag and the like upon a conveyor belt, in which the fibres are blown out as staple fibres by means of a stream of air from a fibre-producing apparatus.

The method according to the invention is mainly characterized in that the fibres, suspended in a stream of air, are brought into a vertical pit or shaft i. e. a vertically disposed conduit which is open at its lower end, where they are turned downwards by a vane, which is arranged to oscillate so as to distribute the stream of fibers uniformly upon a conveyor belt, situated at the bottom of the pit or shaft and moving transversely to the stream of fibres.

An apparatus for carrying out the method according to the invention comprises one or more fibre-producing machines in which the fibres are blown out together with a stream of air. The apparatus is mainly characterized in the discharge pipes for the stream of fibres being connected to a vertical pit or shaft, oscillating vanes being provided in said pit or shaft, said vanes being situated in front of the inlet openings for the stream of fibres and in the way of said fiber streams, and being arranged to direct the fiber streams downwards in an oscillating motion so as to distribute the fibres uniformly over the whole width of a conveyor belt, situated at the bottom of the pit or shaft.

The apparatus will be hereinafter described more fully with reference to the attached drawing, which illustrates the outlines of an apparatus according to the invention, connected to two fibre-producing machines.

In the drawing, 2 designates the fibre-producing machine. The fibrous material, suspended in a stream of air, is blown out through the pipe 4, connected to the shaft 8. Inside the opening of each pipe 4 in the shaft 8 there is provided a vane 6, being arranged to oscillate

2

round a spindle 10 and being connected to the lever 12, which is connected to a crank mechanism 14 or the like so as to oscillate the vane 6. Under the shaft 8 there is provided a conveyor belt 16, upon which the fibres are to be distributed. In the drawing I have illustrated two oppositely disposed fiber producing machines 2 with associated pipes 4 and vanes 6 connected by the levers 12 to the common crank mechanism 14, said two fiber producing machines discharging into the same shaft 8 but there may be only a single fiber producing machine.

The apparatus according to the invention works in the following manner. The fibre-producing machines are started. Simultaneously, the crank mechanism 14 is started, whereby the vanes 6 begin to oscillate. The stream of fibres enters the shaft 8, meeting the vanes 6 and being directed downwards. By means of the oscillation of the vanes, the downward direction of the streams of fibres is shifted continuously the fibre stream being uniformly distributed in zigzag over the whole width of the conveyor belt 16. By adapting the oscillation of the vanes 6 to the speed of the belt, a uniform layer of fibres with a determined thickness are obtainable.

The vanes 6 are preferably somewhat bent, in order to make possible a non-turbulent change of direction of the stream of fibres.

What we claim is:

1. An apparatus for the uniform distribution of a fibrous material on a conveyor belt comprising means for forming an air suspended fiber stream, a vertically disposed conduit which is open at its lower end, a discharge pipe connected between said means and the upper end of said conduit and positioned to deliver said stream from said means into said conduit in the horizontal direction, a conveyor belt extending across the lower end of said conduit, a vane mounted to oscillate in the upper end of said conduit, said vane extending transversely across the path of said stream and being positioned to direct said stream downwardly in said conduit toward said belt and means for oscillating said vane to distribute said stream across the width of said conveyor belt.

2. Apparatus as defined in claim 1 in which the surface of the vane opposed to said air stream is curved to streamline shape.

### References Cited in the file of this patent

#### UNITED STATES PATENTS

|           |                |                |
|-----------|----------------|----------------|
| 626,981   | Davies         | June 13, 1899  |
| 2,100,150 | Randolf        | Nov. 23, 1937  |
| 2,103,769 | Drill          | Dec. 28, 1937  |
| 2,317,895 | Drill          | Apr. 27, 1943  |
| 2,319,666 | Drill          | May 18, 1943   |
| 2,653,416 | Slayter        | Sept. 29, 1953 |
| 2,736,362 | Slayter et al. | Feb. 28, 1956  |