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COLD MOLLASSES FEEDER

Filed Oct. 14, 1929

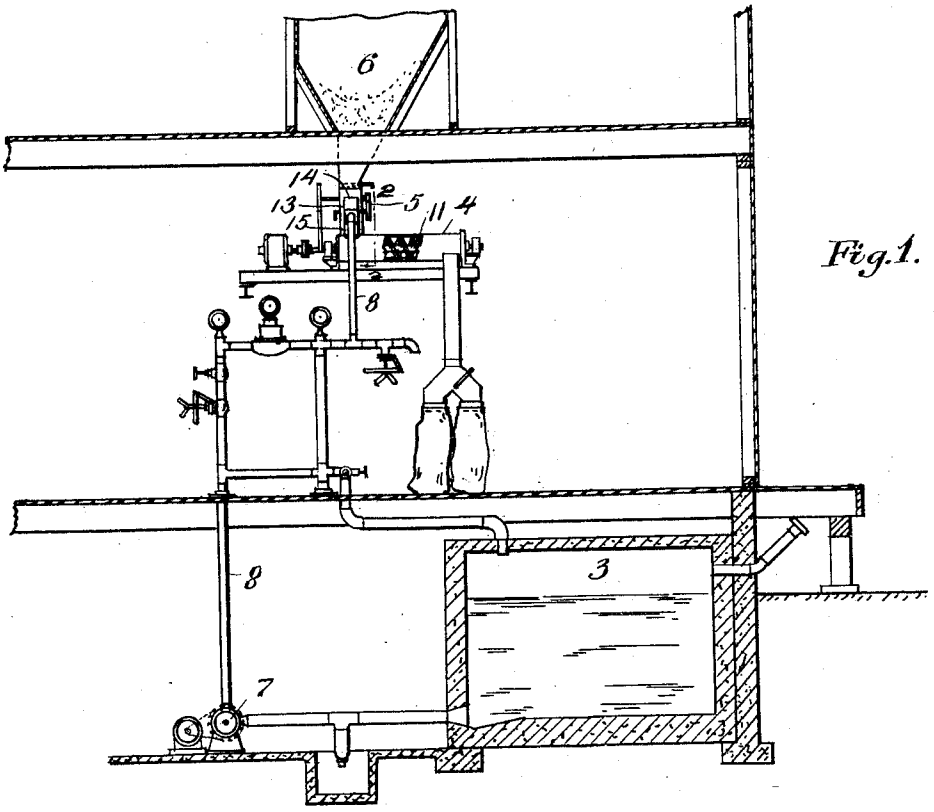


Fig. 1.

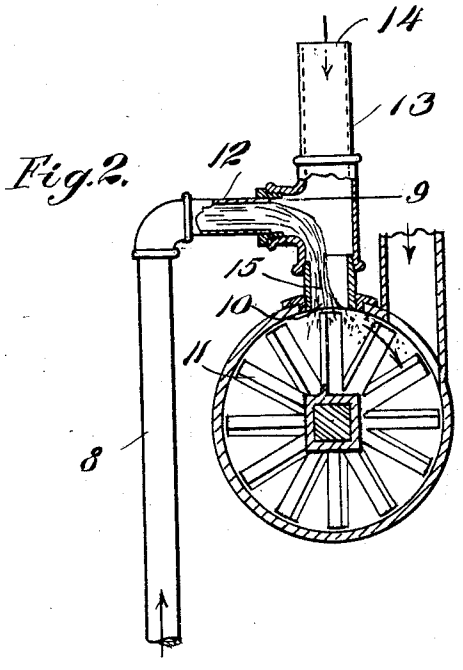


Fig. 2.

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COLD MOLASSES FEEDER

Application filed October 14, 1929. Serial No. 399,616.

This invention relates to certain new and useful improvements in cold molasses feeders, the peculiarities of which will be hereinafter fully described and claimed.

The main objects of my invention are to provide gravitating flow of a regulated stream of cold molasses into a feed mixer from a storage tank in the cellar or other location lower than said mixer; secondly, to provide an interposed device measuring the percentages of molasses thus delivered to the mixer; thirdly, to provide atmospheric pressure to said stream at a point above its entrance to said mixer and thus relieve said stream from the pressure thereon due to pumping it to said elevated point from which it will gravitate to the entrance of the mixer; and fourthly, to break up said stream into small portions or drops that will more readily mix with the material being agitated below the entering stream.

In the accompanying drawings, in which like reference numerals indicate corresponding parts,

Fig. 1 illustrates a cold molasses equipment exemplifying my invention;

Fig. 2, an enlarged sectional view on the line 2—2 of Fig. 1.

Referring to the drawings, the numeral 3 designates a molasses storage chamber in the basement or other location below a feed mixer 4 directly connected to a motor or otherwise driven, and having a feeder 5 adapted to deliver to the mixer a continuous regulated stream of feed material from a supply bin 6.

A molasses pump 7 or other suitable pressure means connected to said storage chamber, forces the molasses up through a pipe 8 to an elevated point or horizontal plane 9 from which I cause it to flow by gravity to an inlet 10 at the top or other point above the bottom of the mixer.

Usually such a forced stream of molasses is introduced under pressure to the mixer, and is subject to continuous pressure from the pump or other pressure means to the inlet of the mixer, and must be carefully regulated to avoid flooding the mixer by an excess of molasses due to sudden opening of its valve or otherwise.

My construction provides for forcing a stream of cold molasses to an elevated point or horizontal plane above the mixer, relieving said stream of the lifting pressure thereon and supplying air at atmospheric pressure to said stream before it reaches the inlet to allow gravitating flow of said stream from said elevated point or plane to the inlet of the mixer, preferably located at the top so that the entering stream will be quickly intercepted by rotary spiral beaters 11, broken up into small portions or drops and thoroughly mixed with the feed material to make the desired mixture.

The vertical pipe 8 is connected to an expansion chamber preferably by horizontally disposed pipe 12 leading thereto. This expansion chamber is preferably formed by a larger pipe 13 vertically disposed, having its upper end 14 open to the atmosphere and communicating by its lower end 15 with said inlet 10 of the mixer. The open end 14 supplies air to the stream at said elevated point or plane at which the pressure is relieved, allows the molasses to flow by gravitating tendency to said outlet, and does away with pressure on said stream prior to its arrival at said inlet 10.

Regulating and measuring means are preferably interposed in said pipe 8 between the pump and the mixer, as fully described in my prior application thereon Ser. No. 379,691, filed July 20, 1929.

In starting such a pump an irregular discharge occurs due to air drawn in to the pump which causes the molasses to spurt as the air rises and expands after reaching the horizontal pipe or the expansion chamber. The pump soon operates with regularity, but this air included with the molasses in starting the pump finds exit through said upper end 14 which thus serves an additional function of air discharge as stated above.

I claim:

1. A device of the character described comprising a feed mixer supplied with a regulated stream of feed material, a molasses storage chamber located below said mixer, means to force a regulated stream of molasses to a point above its entrance to said mixer, an

interposed measuring device for said forced molasses stream, and an expansion chamber adjacent said point and subject to atmospheric pressure and communicating with said mixer, substantially as described.

2. A device of the character described comprising a feed mixer, a pipe communicating therewith above the bottom thereof, means to force molasses up through said pipe, and an expansion chamber interposed in said pipe above the bottom of the mixer and communicating therewith and open to the atmosphere and providing gravitating flow of molasses into the said mixer, substantially as described.

3. A device of the character described comprising a feed mixer, a vertically disposed pipe communicating by its lower end with said mixer above the bottom thereof and forming an expansion chamber open to the atmosphere at its upper end, a smaller pipe communicating with the larger pipe at a point intermediate of its ends, and means to force molasses through said smaller pipe to the larger pipe from which it will gravitate to said mixer, substantially as described.

4. A device of the character described comprising a feed mixer, means to supply a continuous stream of feed material thereto, a vertically disposed relief pipe communicating by its lower end with the top of said mixer and open to the atmosphere at its upper end, a horizontally disposed pipe communicating with said vertical disposed pipe above its lower end, a supply pipe connected to said horizontally disposed pipe, means to force cold molasses up through said supply pipe, and spirally arranged beaters rotatably mounted in said mixer adapted to break up the gravitating stream of cold molasses as it enters the mixer and to mix it with the feed, substantially as described.

In testimony whereof I have affixed my signature.

HARRY J. SHELTON.