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P. H. RAUN

CONVEYER PIPE

Filed Jan. 10, 1923

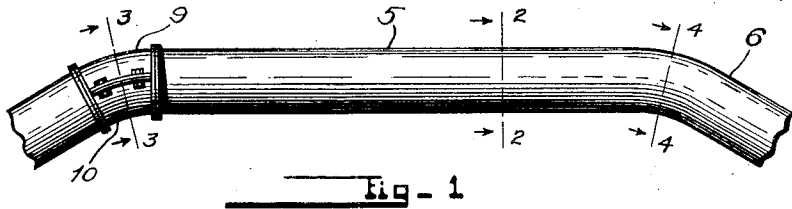


Fig - 1

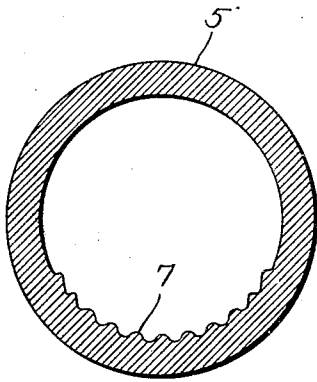


Fig - 2

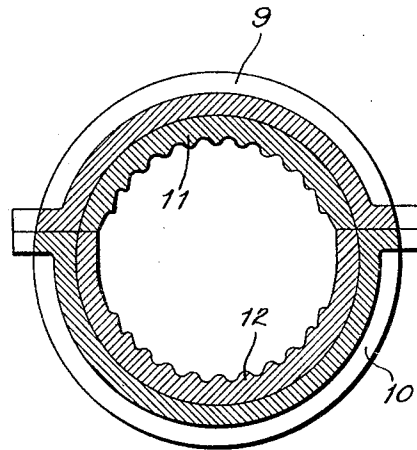


Fig - 3

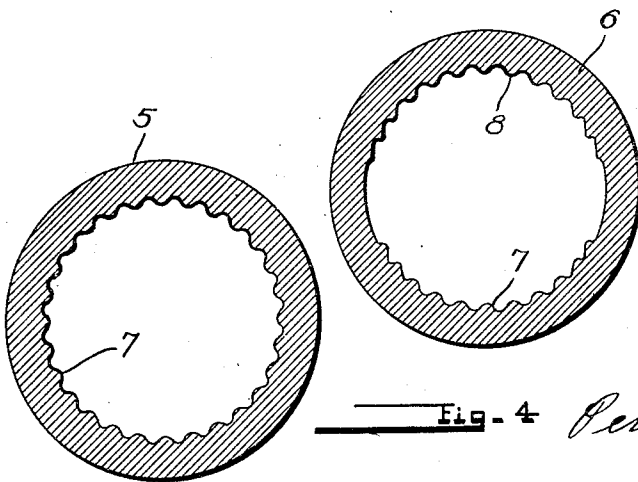


Fig - 4

Fig - 5

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CONVEYER PIPE.

Application filed January 10, 1923. Serial No. 611,767.

To all whom it may concern:

Be it known that I, PETER H. RAUN, a citizen of the United States, residing at Frederick, in the county of Frederick and State of Maryland, have invented certain new and useful Improvements in Conveyer Pipes; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to conductors or pipe such as may be used in the conveying of pieces of materials by a current of fluid.

Among the objects of my invention are:—

To provide a pipe and elbow therefor, provided on the interior with corrugations wherever said interior is subject to the pressure of said pieces of material, whether said pressure is due to gravity or centrifugal force.

In carrying out my invention I construct the pipe and elbow as shown in the accompanying drawings in which—

Figure 1 is an elevation of a portion of pipe having one elbow formed integral therewith and another elbow secured thereto.

Figure 2 is the section along the line 2—2 in Figure 1 looking in the direction of the arrows.

Figure 3 is the section along the line 3—3 in Figure 1 looking in the direction of the arrows.

Figure 4 is a section along the line 4—4 in Figure 1 looking in the direction of the arrows, and Fig. 5 shows a section similar to that shown in Fig. 2, but having corrugations completely around the interior thereof.

In the drawings: 5 represents a section of straight pipe provided with an elbow 6 formed integrally therewith. The straight section 5 is provided on the interior thereof with corrugations 7, said corrugations being located at the bottom of the interior of said pipe in order to provide a wearing surface for the pieces of material to ride upon. In Figure 4 the corrugations are shown upon the bottom 7 and upon the inner side of the outer curve of the elbow 6. In these locations the corruga-

tions are subject not only to the pressure of said pieces due to gravity, but also to pressure of said pieces due to centrifugal force.

The elbow shown at the left of Figure 1 is formed of two sections, 9 and 10, bolted together and secured to the straight section of the pipe in any approved manner. Liners such as 11 and 12 are mounted within the sections 9 and 10.

These liners are provided with corrugations upon the interior thereof which serve the purposes before stated.

My improved pipe may be formed in a number of ways. For instance, the corrugations for the straight pipe and elbow may be continuous around the interior thereof as shown in Fig. 5, instead of only upon the bottom and sides as is shown in Figure 4. But however formed it is desirable to chill the corrugations upon the interior thereof and the corrugations upon the interior of the liners 11 and 12. By the use of these corrugations I provide a smaller wearing surface for the material to ride upon and by chilling them I greatly increase their life. Also by reason of the corrugations, the fluid, either air, steam or water, is enabled to pass through the corrugations and by its buoyancy, or expansive force, prevent undue pressure of the material upon the corrugation.

While I have shown one form of carrying out my invention, yet it is to be understood that various changes may be made therein without departing from the spirit thereof.

I claim:—

A conductor for an agglomerate of pieces of material and a stream of fluid adapted to extend in a substantially horizontal plane, comprising a pipe having a plurality of corrugations cast integral with the interior walls of said pipe, said corrugations being positioned within an angle less than 180 degrees in the upper and lower portions of said pipe, one group of said corrugations being separated from the other group of said corrugations by substantially plane interior walls of said pipe, said corrugations extending parallel one to the other

in the direction of the length of said pipe and each of said corrugations being spaced from an adjacent corrugation for a distance proportioned to the size of the pieces of material to be conveyed, whereby fluid pressure may be passed in the lower portions of said corrugations for buoying up material to be conveyed upon the upper portions of said corrugations for reducing the pressure of the material upon the interior walls of the pipe. 10

In testimony whereof, I affix my signature.

PETER H. RAUN.