

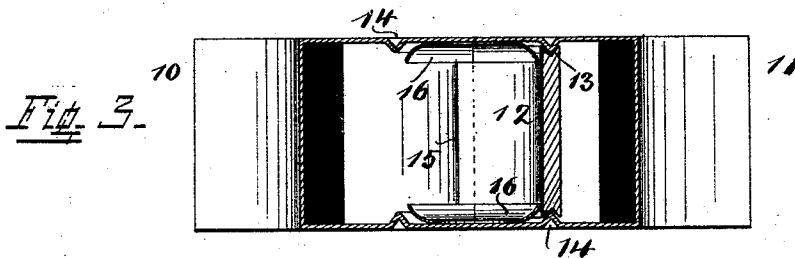
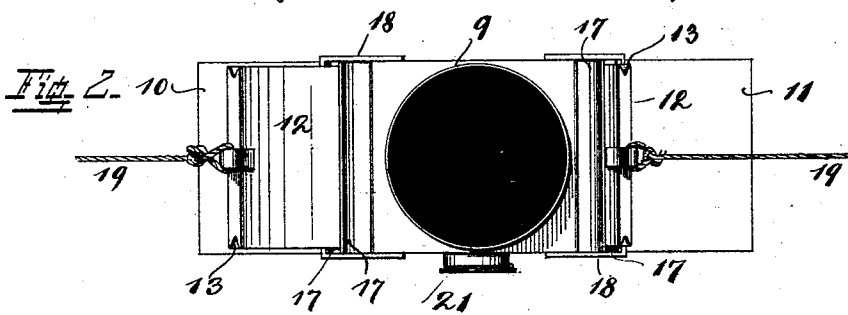
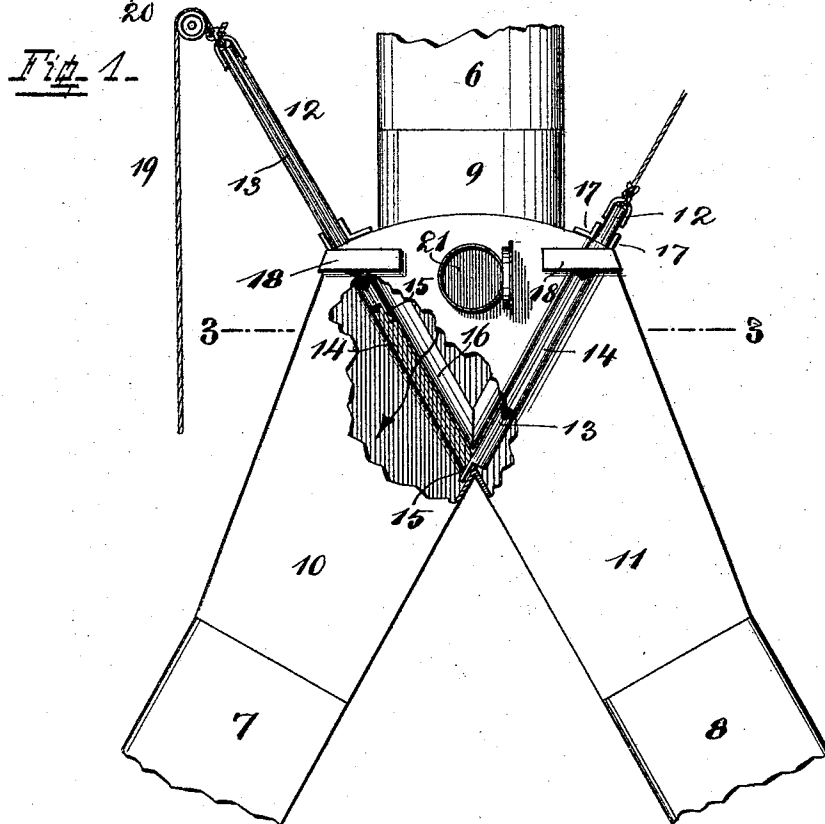
(No Model.)

T. LEE.

CONDUIT JOINT WITH SWITCH AND CUT-OFF VALVE.

No. 498,558.

Patented May 30, 1893.



Attest
R. M. Dill

Inventor
Thomas Lee
by Chas. Spengel Atty.

UNITED STATES PATENT OFFICE.

THOMAS LEE, OF HOME CITY, OHIO.

CONDUIT-JOINT WITH SWITCH AND CUT-OFF VALVE.

SPECIFICATION forming part of Letters Patent No. 498,558, dated May 30, 1893.

Application filed February 20, 1893. Serial No. 463,044. (No model.)

To all whom it may concern:

Be it known that I, THOMAS LEE, a citizen of the United States, residing at Home City, in the county of Hamilton and State of Ohio, have invented a certain new and useful Conduit-Joint with Switch and Cut-Off Valves; and I do 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, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

This invention relates to valves such as are used on the vertical or inclined portions of conveyers, conduits, elevators, chutes, spouts, &c., in mills, grain-elevators and similar establishments for the purpose of cutting off communication in one direction and turning the flow another way. It may also be used in connection with dust-separators where the discharge from them is used as fuel in boiler furnaces and when not so used is disposed of by being turned into a shaving or dust-chamber.

The novelty of my invention resides in the combination with such valves, of a chamber or joint within which they are located, the whole forming a complete adjunct so constructed that it may be readily inserted and fitted to existing conduit-systems, respectively connected thereto in a convenient manner.

Other features of novelty consist of the means whereby the valves are made dust-proof and of the general and specific features of the construction all of which will appear more fully hereinafter.

In the following specification is found a full description of my invention, the same being also particularly pointed out in the claims at the end thereof and its construction illustrated in the accompanying drawings, in which—

Figure 1, shows my newly invented valve-joint and the valves therein in connection with a conduit-system. Parts of the valve-joint are broken away, to show interior. Fig. 2, shows a top-view of the preceding figure, and Fig. 3, is a horizontal section on line 3—3, of Fig. 1.

6, may indicate a chute, conduit, &c., the discharge from which, for reasons not material here, is sometimes turned in one or in another direction whenever such is desirable to suit certain circumstances.

7 and 8, are the conduits connecting with the conduit first mentioned and leading off in different directions therefrom, change the location of its discharge. For the purpose of permitting all these conduits to be conveniently connected, I provide a joint at their junction, which combines in one body the three branches 9, 10, and 11, to which the conduits are readily connected and fitted, and which body also contains the valves whereby communication on one side is opened and cut off on the other. Such change of direction is accomplished by valves 12, which are grooved at their edges as shown at 13, and engage with valve-ways 14, on which they are capable of sliding and whereby they are held in position. While one valve is open to turn the flow into one conduit, 7, for instance, the other valve serves as a cut-off to conduit 8, and also completes the connection between conduits 6 and 7, making them practically one. For such purposes, the valve-ways are best so located as to bring the valves when closed, in line with the under side of the conduits 7 and 8.

In order to prevent leakage when the valve is closed, or to prevent dust from sifting through between it and the valve-chamber, I provide lips 15, which close the crevice between the lower end of the valve and the parts of the valve-chamber against which the former rests. These lips reach over said crevices and extend somewhat into the conduit below as most plainly shown in Fig. 1. To afford the same protection at the sides of the valves, flanges 16, are provided which close the crevices at those points. See Fig. 3. Sheet-iron being the proposed material for these structures, it is necessary that the same be strengthened and stiffened wherever such is required. For such purpose I provide flanges 17, to each side of the valves where the same pass through the valve-chamber. This latter is further strengthened by angle-irons 18, and by the valve-ways 14, which by reason of their configuration form ribs which stiffen the valve-chamber or body of the joint.

The valves may be conveniently adjusted,

that is opened and closed by operating ropes 19, attached to them and passing over rollers 30. For closing these ropes are merely loosened, which permits the valves to drop by gravitation.

21 is an inspection-opening.

Valves with a sliding adjustment as shown, are preferable for the purposes described, to valves which are hinged or otherwise connected, because dust to which they are exposed and which accumulates in every accessible place and corner, causes hinges and bearings to become clogged and work sluggishly and also interferes thereby with the complete closing of the valves. In my improved construction these latter keep themselves and their bearings clean by reason of the sliding movement of the valves which prevents all accumulations of dust. This refers particularly to the valve-ways and the place against which the lower ends of the valves rest when down. These latter places are kept clear by lips 15, the one on one valve keeping it clear for the other one, whereby the valves are enabled to come always fully to their seats, and completely close their openings.

Having described my invention, I claim as new—

1. A valve-joint, provided with three branches 9, 10, and 11, to enable it to be readily connected or inserted within a conduit-system, valve-ways and valves capable of sliding thereon, said valves having lips 15, and flanges 16, provided within the interior of the valve-joint to prevent the accumulation of dust between the latter and the valve.

2. A valve-joint, having the vertical branch 9, and the inclined branches 10, and 11, sliding valves adapted to close by gravity for controlling the passage through the inclined branches, a valve-seat common for the two valves, consisting of the ridge or pointed edge formed by the junction of the under sides of the inclined branches 10, and 11, and valve-ways so located as to guide the lower edges of the valves against this pointed edge.

In testimony whereof I affix my signature in presence of two witnesses.

THOMAS LEE.

Witnesses:

R. B. PULLAN, Jr.,
C. SPENGLER.