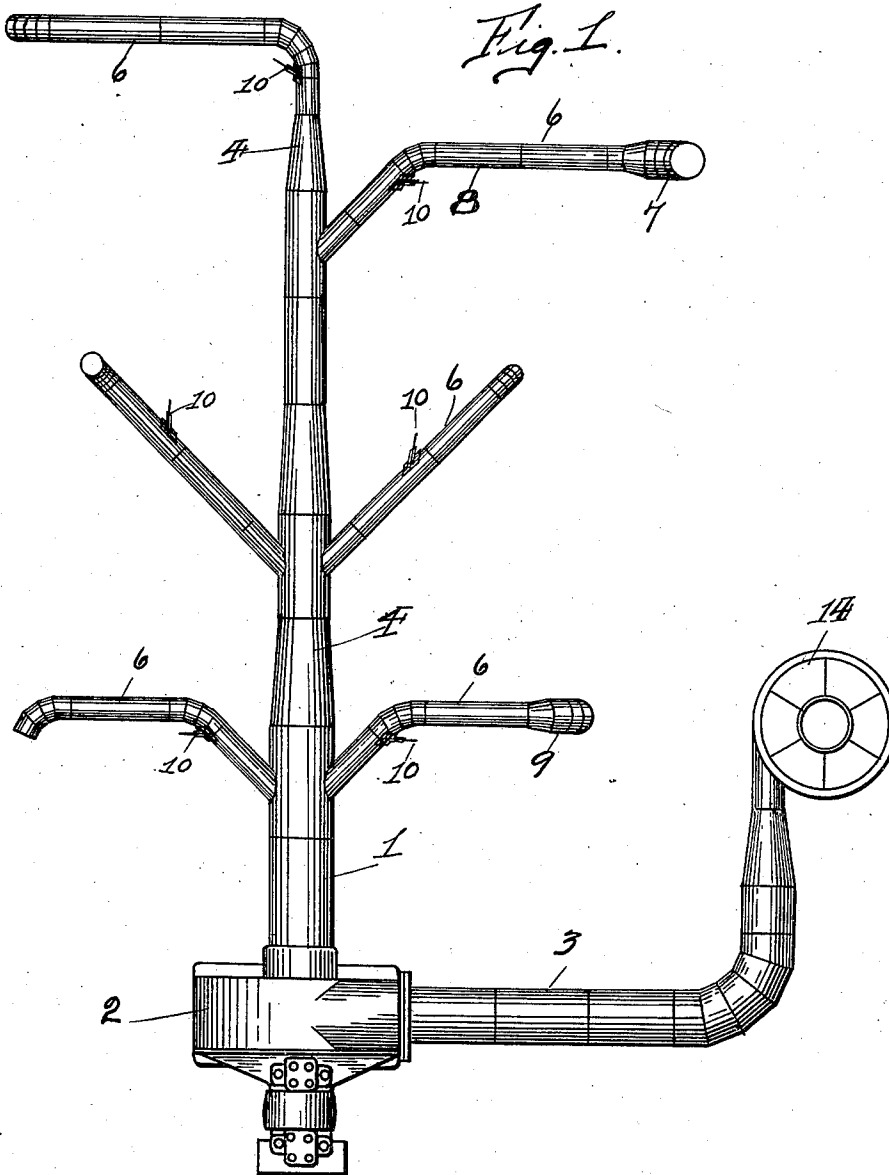


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 ADJUSTER FOR BLOWPIPE SYSTEMS.
 APPLICATION FILED AUG. 22, 1910.

1,028,376.

Patented June 4, 1912.

2 SHEETS—SHEET 1.



WITNESSES:

C. M. Baumister.
H. L. C. maw.

INVENTOR

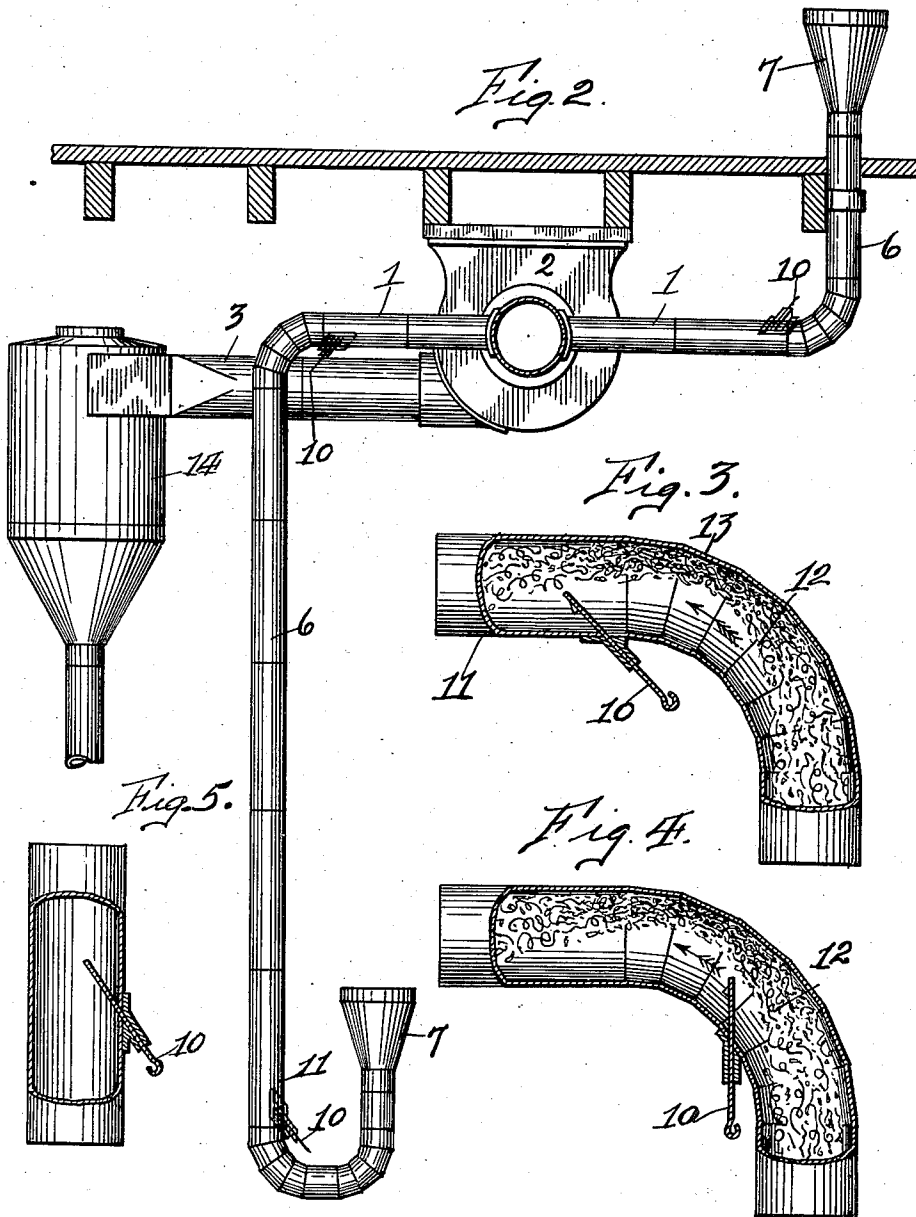
Philip C. Miller
 BY
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PHILIP C. MILLER, OF CHICAGO, ILLINOIS.

ADJUSTER FOR BLOWPIPE SYSTEMS.

1,028,376.

Specification of Letters Patent.

Patented June 4, 1912.

Application filed August 22, 1910. Serial No. 578,355.

To all whom it may concern:

Be it known that I, PHILIP C. MILLER, a citizen of the United States, residing at Chicago, county of Cook, and State of Illinois, have invented a certain new and useful Improvement in Adjusters for Blowpipe Systems, of which the following is a specification.

My invention is designed principally to be used to equalize the vacuum in the branch pipes in those systems which are designed to collect, remove and handle shavings, sawdust, chips, lint and other similar material, and has for its object to provide means to reduce the velocity in the main pipes and thereby correspondingly reduce the friction, to bring the maximum suction as near the initial point where the vacuum is required, (i. e. where the shavings, etc., are fed) as is possible, and to accomplish this result for utilizing the well known tendency of material in a system of this kind to mass itself on the outer wall of a curved pipe or one side of a horizontal pipe. I am aware that adjusters seeking to accomplish this result have been constructed but they have been subjected to numerous objections. Those with which I have been familiar have been placed in the branch pipe T joint near the main pipe and have a considerable tendency to cause a clogging, due to the fact that the material in its travel strikes against the adjuster and is thrown against the opposite wall of the T, and causes a clog in the branch so that it is no longer available for use, while my adjuster is so located that this defect will never occur.

My means of accomplishing the foregoing may be more readily understood by having reference to the accompanying drawings which are a part of this specification and are hereunto annexed in which:

Figure 1 represents a plan view of a blow pipe system, the branch pipe showing my improved invention in connection therewith. Fig. 2 is an elevation showing the piping where the system extends from one floor to another in a building. Fig. 3 is an enlarged detail view partly in section of one of the elbows and an adjoining portion of the branch suction pipe, showing my adjuster in place and the manner in which the material travels past without coming in contact therewith. Fig. 4 is a similar view with the adjuster located in a different line of pipe.

Fig. 5 is a detail view showing the adjuster located in the main pipe.

Similar reference numerals refer to similar parts throughout the entire description.

As shown in the drawings, the main suction pipes are indicated by the numeral 1. These pipes are suitably connected to an exhaust fan 2. A pipe 3 being provided to convey the material from the fan to a dust collector which, as shown is one of the well known cyclone type of dust collectors in which tendency of the material to mass itself against the outer wall of the curve is made use of to separate the material from the air. The main suction pipe is provided with tapering sections 4 for the purpose of conforming the area thereof to the desired suction ratio required in the branch pipes. These branch pipes 6 extend at varying intervals from the main suction pipe, and terminate as a rule in a hood 7, which is arranged adjacent to the saw or other machine which may be producing the refuse which the blow pipe system is to carry away. It frequently happens that a branch pipe, as at 8, will require a 2-inch suction to carry away the shavings or sawdust produced by the machine adjacent to it, while the branch pipe, as at 9, will also require the same amount of suction, being adjacent a similar machine. It therefore becomes necessary to regulate the effective area of the pipe 9, as it will be apparent to persons skilled in the art, that a much greater suction will be produced on this pipe than the pipe 8. I accomplish this equalization by inserting my improved adjuster 10 in the section of pipe 11 adjacent to the elbow 12 at an angle inclined in the direction of the travel of the material which is being conveyed, as indicated by the arrows. The material, following the well known law referred to, masses itself upon the outer wall 13 of the elbow, as shown in Fig. 3, so that the adjuster 10, when located in this position, never comes in contact with any of the material, but is used solely for the purpose of affecting or varying the area of the pipe to regulate the suction. It will be apparent from an inspection of the drawings that this construction permits of the reduction of the velocity in the branch pipe, and also arranges for bringing the maximum suction very close to the hood, which is the initial point where the vacuum is required.

It will be apparent from the foregoing description that the location of the adjuster 10 is not limited to the exact point shown in the drawings, as there will be a number 5 of points in a blow pipe system where my adjuster can be inserted, the only requirement being that it shall occupy a position in a pipe where the material tends to mass upon the opposite wall, and by its presence and 10 adjustment relative to the wall, overcomes the clogging tendency.

It is well known to persons engaged in constructing and erecting these systems, that the amount of suction required in the branch 15 pipes varies with the particular work which the machine, to which the branch pipe extends, is doing. Some machines require an inch suction, while others will require three inches. By the use of my improvement, it 20 becomes possible to regulate the suction in each branch pipe to a great degree of nicety, so that it becomes possible to provide the requisite amount of suction and no more than is necessary to handle the material in a 25 given case.

It is well known that, because of friction, the current of air is retarded in the curved

portions of pipes; and that by diminishing the air passage, at the curved portion, the velocity of the air current is increased: 30 therefore; by inserting my adjuster through the inner curve of the elbow or bend of the pipe, the objectionable features are avoided.

Having described my invention, what I regard as new and desire to secure by Letters Patent, is: 35

1. In a pneumatic conveyer, a pipe having a receiving hood and having a curved elbow therein, a suction means applied to the pipe, and an adjuster slidably seated within the 40 inner curve of the elbow.

2. In a pneumatic conveyer, a suction-fan, a pipe leading to said suction-fan and having one of its ends connected thereto, a funnel-shaped hood, an elbow connecting said 45 hood to the opposite end of said pipe and an adjuster slidably adjustable through the inner curve of said elbow, said adjuster adapted to strengthen the force of suction within the said elbow.

P. C. MILLER.

Witnesses:

C. M. BAUMEISTER,
H. L. COWAN.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."