No. 889,837. PATENTED JUNE 2, 1908.

J. A. WEIMER.

SAWDUST COLLECTOR AND CONVEYER.

APPLICATION FILED JAN. 3, 1908.

Fig. 1.

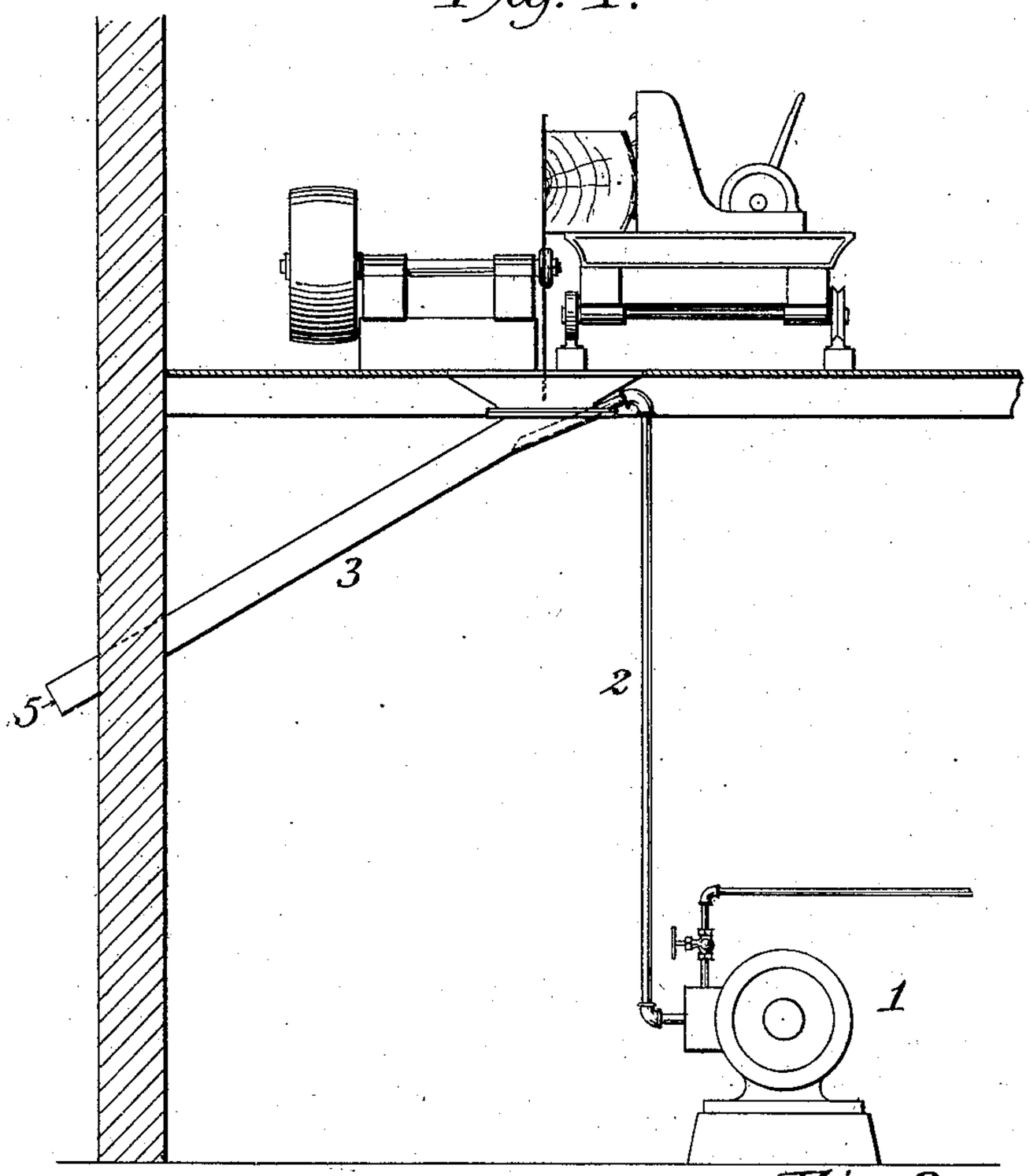


Fig. 5.

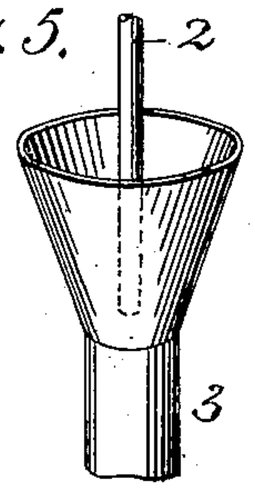


Fig. 6.

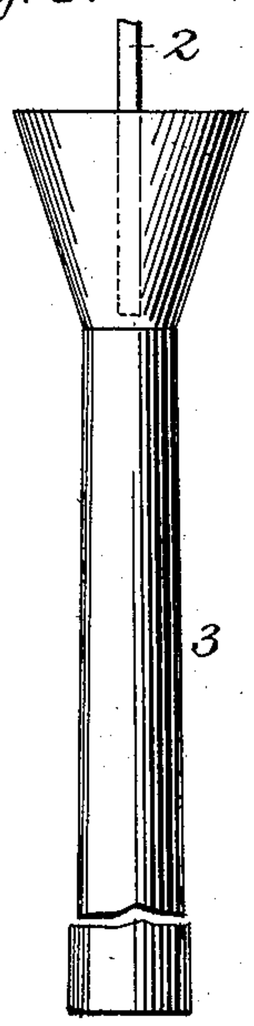


Fig. 2

Fig. 3.

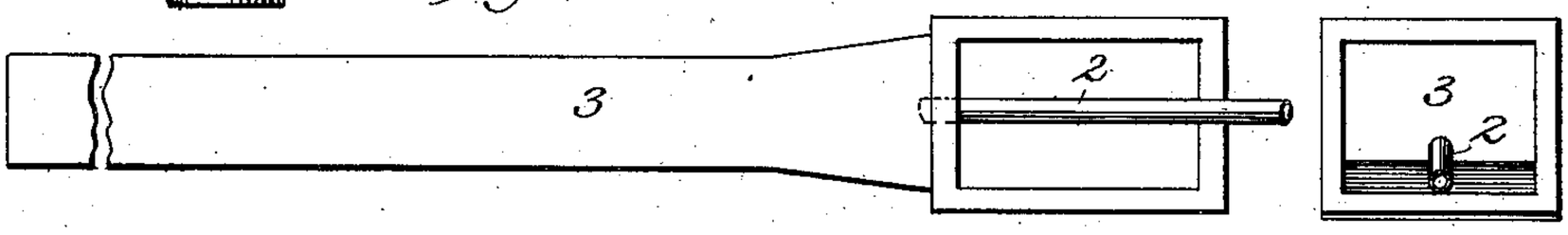
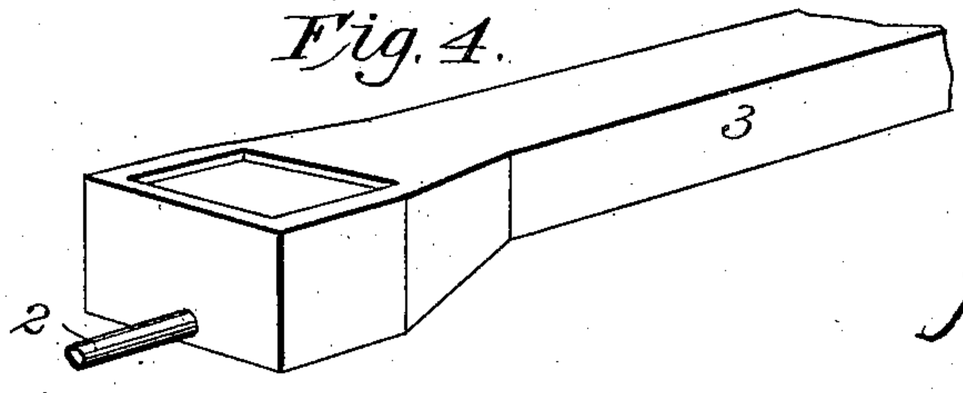


Fig. 4.



Witnesses

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SAWDUST COLLECTOR AND CONVEYER.

No. 889,837. Specification of Letters Patent. Patented June 2, 1908.

Application filed January 3, 1908. Serial No. 409,133.

To all whom it may concern:

Be it known that I, JESSE A. WEIMER, a citizen of the United States, residing at McHenry, in the county of Garrett and State of Maryland, have invented new and useful Improvements in Sawdust Collectors and Conveyers, of which the following is a specification.

My invention relates to a device, more especially designed for use in wood working factories, for collecting and delivering to a suitable receptacle or locality sawdust, shavings or other light waste discharged from saw mills, planing mills or the like; and consists in elements combined as hereinafter described and more specifically pointed out in the claims.

In the accompanying drawing, Figure 1 is a side view showing the construction preferably used by me in carrying out my invention. Fig. 2 is an enlarged plan of a portion of Fig. 1. Figs. 3, 4, 5 and 6 show modifications hereinafter described.

Similar numerals of reference indicate similar parts in the several views.

1 represents a steam engine having a side exhaust.

3 is a box or stack the inner and open end of which, as shown in Fig. 1, is placed on a level with a floor of a mill and in such relative arrangement to a tool, shown as a saw, that the sawdust or waste shall be conveniently received by the box or stack, the main or delivery portion of which is inclined and projects through a wall so that the waste may be discharged from the end 5 to a pit or other convenient point.

The exhaust pipe 2 of the engine 1 is furnished with an upper or outer end extending into the box 3 to a point beyond that at which the waste is received, so that the suction induced by the steam shall catch the waste as it falls into the box and thus assist in its conveyance to the point of delivery.

As shown in Fig. 3, the mouth of the box 3 is at its end, although it may be at its side; but under this modification the placing of the receiving end of the box with respect to the tool must also be such that the waste shall conveniently reach the box and its removal be facilitated by the action of the exhaust steam.

As shown in Fig. 4, the mouth of the box 3 is, as in Fig. 1, at the upper side, and the exhaust pipe 2 enters at its lower side, but still extends into the box to a point beyond that at which the waste is received.

As seen in Figs. 1, 3 and 4, the exhaust pipe 2 enters the box at its lower side, the steam passing through the pipe thus forming a current under the waste falling into the box and acting more effectually to induce its movement within the extension of the box than would be the case were the current of steam directed at a higher point.

In Figs. 5 and 6 further modifications are shown in which the box 3 with its receiving end stands vertically, the construction, as in the figures already described, being such that said end shall be in close proximity to the tool, whereby the waste may fall thereinto partly by gravity. In Fig. 6 the extended or terminal portion of the box 3 is enlarged or outwardly tapered so that clogging of the waste is prevented and its free discharge facilitated. In all cases the outer or discharge end of the box 3 leads to a space or pit, or to a point where the waste is finally burned or disposed of. The steam and waste passing out together no back pressure on the engine is produced.

I am aware that, broadly speaking, pneumatic means and means acting on the steam injector or ejector principle have been used for moving bodies such as waste from sawmills, grain and the like, but in such cases where steam has been employed it has been, so far as I am advised, live and not exhaust steam. Now I have discovered that exhaust steam under the pressure at which it is ordinarily discharged from an engine will suffice to do the work herein described as an effective aid to gravity to which force the material is subjected in an inclined or vertical chute. Thus steam ordinarily wasted is utilized to effect an advantageous result, and it, even though at a comparatively low pressure, when applied at the point at which the light material falls from the tool and would otherwise collect, serves a useful purpose, especially as an aid to gravity, in preventing such collection and dislodging any accumulation which would otherwise occur at the mouth of the conveyer. The invention therefore differs in this respect from conveyers in which live steam at a high pressure is used, and where the jet of steam is admitted considerably beyond the point at which the material is fed to the conveyer.

This invention provides a cheap and effect-

ive device for collecting and discharging the material named, and in no wise affects the action of the engine exhaust.

The device may be also used in factories and mills other than those in which wood working machinery is employed, for the collection and disposition of dust and other light material thrown off in the operation of machinery.

Having thus described my invention, I claim:—

1. In a conveyer for sawdust, shavings and other light waste from wood working machinery in which conveyer the force of gravity is utilized, a box having an open enlarged end adapted, to receive the waste from a tool, such as a saw, planer or the like, and a delivery end leading to a pit or other point of discharge, combined with a steam exhaust pipe having its outer end extending into said enlarged end of said box to a point beyond that at which the waste is received therein, substantially as set forth.

2. In a conveyer for sawdust, shavings and other light waste from wood working machinery in which conveyer the force of gravity is utilized, a box having an open enlarged end adapted to receive the waste from a tool, such as a saw, planer or the like, and having a delivery end or portion of gradually increasing area leading to a pit or other point of discharge, combined with a steam exhaust pipe having its outer end extending into said enlarged end of said box to a point beyond that at which the waste is received therein, substantially as set forth.

3. In a conveyer for sawdust, shavings and other light waste from wood working machinery in which conveyer the force of gravity is utilized, a box having an open enlarged end arranged substantially on a level with the floor of a mill so as to receive the waste from a tool, such as a saw, planer or the like, said box being provided with a delivery end leading to a pit or other point of discharge, combined with a steam exhaust pipe provided with an outer end extending into said enlarged end and lying substantially at the bottom of said box, so as to induce a suction below the waste received into said box and thus facilitate its passage to the point of discharge, substantially as set forth.

4. In a conveyer for sawdust, shavings and other light waste from wood working machinery in which conveyer the force of gravity is utilized, a box having an open enlarged end arranged substantially on a level with the floor of a mill so as to receive the waste from a tool, such as a saw, planer or the like, said box being provided with a delivery end or portion of gradually increasing area leading to a pit or other point of discharge, combined with a steam exhaust pipe provided with an outer end extending into said enlarged end and lying substantially at the bottom of said box, so as to induce a suction below the waste received into said box and thus facilitate its passage to the point of discharge, substantially as set forth.

5. In a conveyer for sawdust, shavings and other light waste from wood working machinery in which conveyer the force of gravity is utilized, a box having an open enlarged end arranged substantially on a level with the floor of a mill so as to receive the waste from a tool, such as a saw, planer or the like, said box being provided with a delivery end leading to a pit or other point of discharge, combined with a steam exhaust pipe having its outer end extending into said enlarged end of said box to a point beyond that at which the waste is received therein and lying substantially at the bottom of said box, so as to induce a suction below the waste received into said box and thus facilitate its passage to the point of discharge, substantially as set forth.

6. In a conveyer for sawdust, shavings and other light waste from wood working machinery in which conveyer the force of gravity is utilized, a box having an open enlarged end arranged substantially on a level with the floor of a mill so as to receive the waste from a tool, such as a saw, planer or the like, said box being provided with a delivery end or portion of gradually increasing area leading to a pit or other point of discharge, combined with a steam exhaust pipe having its outer end extending into said enlarged end of said box to a point beyond that at which the waste is received therein and lying substantially at the bottom of said box, so as to induce a suction below the waste received into said box and thus facilitate its passage to the point of discharge, substantially as set forth.

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

JESSE A. WEIMER.

Witnesses:

KENY N. SUICK,

ASA T. MATTHEWS.