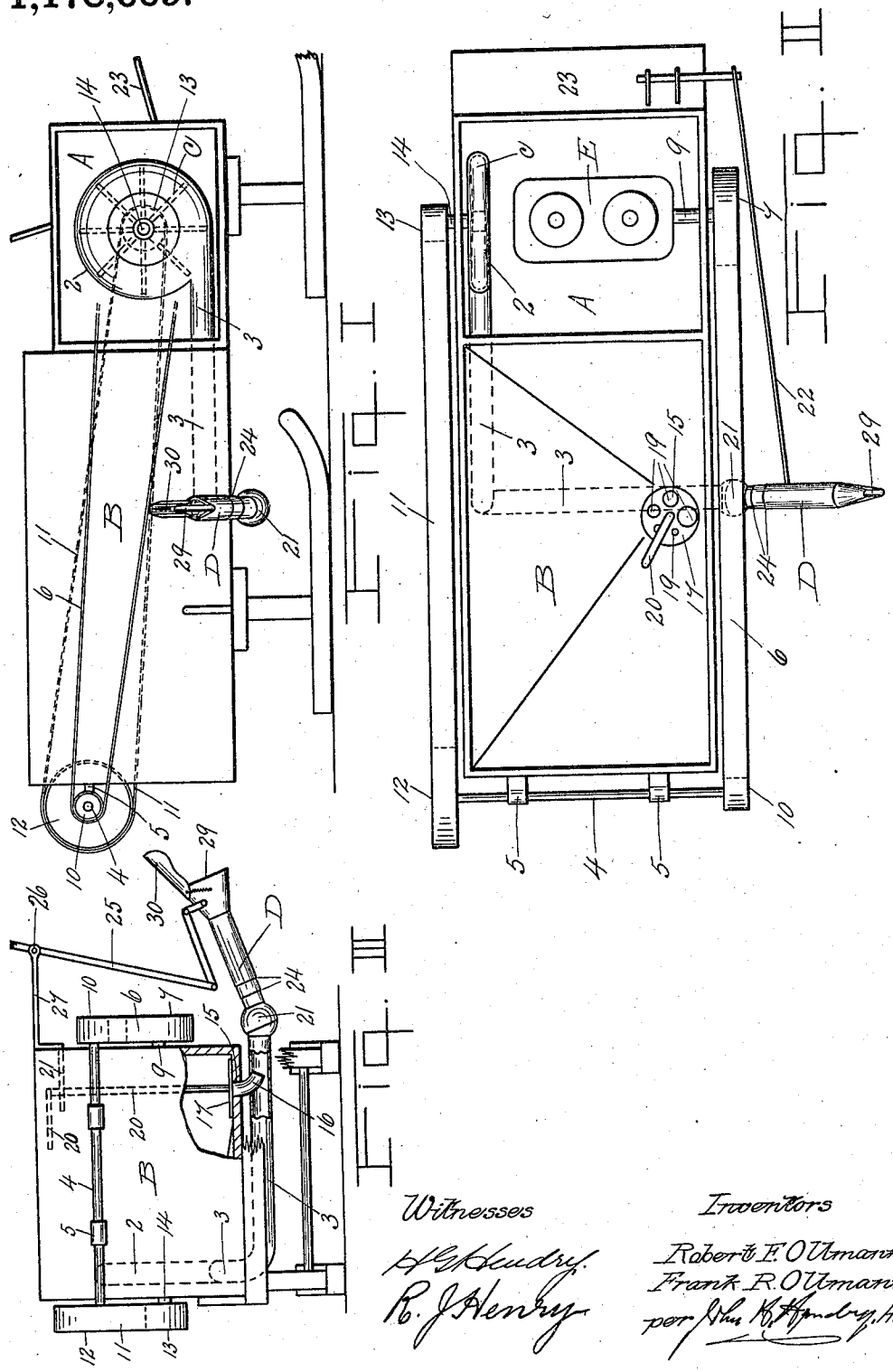
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SIDEWALK SANDER.

APPLICATION FILED NOV. 10, 1915.

1,178,669.

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Witnesses

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ROBERT F. OLLMANN AND FRANK R. OLLMANN, OF OSHAWA, ONTARIO, CANADA.

SIDEWALK-SANDER.

1,178,669. Specification of Letters Patent. Patented Apr. 11, 1916.

Application filed November 10, 1915. Serial No. 60,664.

To all whom it may concern:

Be it known that we, ROBERT F. OLLMANN and FRANK R. OLLMANN, subjects of the King of Great Britain, residing at Oshawa, in the county of Ontario and Province of Ontario, Canada, have jointly invented a new and useful Sidewalk-Sander, of which the following is a specification.

Our invention relates to improvements in an apparatus for spreading sand, ashes, cinders and the like on slippery sidewalks, pavements, roadways or streets, by means of air blast, and consists essentially of a wagon box mounted on runners or wheels, but preferably on runners as it is principally used when there is snow on the ground, and having therein a compartment or container for sand, a rotary blower fan, an engine to operate the fan, and an adjustable spout for spreading purposes.

The objects of our improvement are: First, to provide an apparatus for spreading sand on slippery sidewalks, thereby eliminating the cause of accidents which occur so frequently on city streets in winter. Second, to accomplish this work quickly. Our apparatus accomplishes this more rapidly and satisfactorily than could a great number of men, thereby saving money and labor. Third, to provide means to economize in sand. This apparatus spreads or blows the sand evenly over the whole surface of the sidewalk, as it can be adjusted to any desired width. An apparatus of this nature has long been desired, as hitherto this kind of work has been done with a shovel and wheel barrow, or some other cumbrous and unsatisfactory manner. It can also be perceived that the spreading of sand on icy sidewalks and pavements is exceedingly beneficial to public safety. The apparatus may also be utilized for spreading grass and other seed, or fertilizer and the like. We attain these objects by the mechanism illustrated in the accompanying drawing, in which:—

Figure 1 is a side elevation of the apparatus, showing the near side of the fan and engine compartment and the engine removed. Fig. 2 is a plan of the same with the cover removed and the engine in place. Fig. 3 is a rear view of the apparatus showing the lower right hand corner of the sand compartment in section, in order to show sand feed device.

Similar characters of reference refer to similar parts throughout the several views.

The wagon box, comprising the frame of the apparatus, is divided into two compartments, a forward compartment A containing the engine and the blower fan, and a larger rear compartment B to contain the sand. The apparatus may be mounted on runners or wheels, according to conditions, and is hauled by horses or other suitable motive power.

C is the rotary blower fan suitably journaled in a casing 2, and shown in the drawing in broken lines. The purpose of this fan is to send a strong current or blast of air, through the pipe 3, in order to blow the sand, which is emitted to the said pipe from the sand compartment or container, through the spout D which is hereafter to be described. The fan is operated by means of indirect power from the engine E which is suitably and substantially mounted in the forward compartment of the apparatus, and opposite the fan as shown.

The method adopted to drive the fan is as follows: Mounted on the road end of the apparatus, and extending clear across same, is a shaft 4 adapted to freely rotate in the bearings 5. A belt 6 connects a large pulley 7 secured to the engine shaft 9, and a small pulley 10 secured to the end of the shaft 4; and another belt 11 connects a larger pulley 12 secured to the opposite end of the shaft 4, and a small pulley 13 secured to a shaft 14 which extends from the axis of the fan C. By this drive arrangement, it can be seen that the rotary speed of the fan is much greater than that of the engine, hence a terrific current of air is forced through the afore-mentioned pipe 3.

As above stated, the sand is contained in the compartment B. This compartment has a double bottom or floor, the upper part of which is divided into three inclined parts, all of which slope toward an opening 15, as can be seen in Fig. 2. This is so that the weight of the sand will be at the said opening, especially when only a small quantity is left. Through the said opening 15 the sand is emitted, by its own weight, through a curved pipe 16, into the wind pipe 3, where it is then taken up by the air blast. The pipe 16 is curved in the direction of the air current, as shown in Fig. 3, so that the air cannot blow the sand back up, or

hinder the flow of the same, as it would if the pipe were perpendicular.

The flow or quantity of sand emitted to the pipe 3 can be regulated by means of a circular plate or disk 17 which is pivoted to the floor in proximity to the opening 15, and so arranged that one of a series of different size holes 19 therein can be adjusted over said opening by means of the handle 20, or the flow may be closed off altogether if desired. The said handle is journaled at the top to a plate 21 which is secured to the side of the compartment. This plate is so gaged that by the position of the handle 20, the operator may determine the position of the holes in the disk 17 when the same is covered with sand

The aforementioned spout D is attached to the end of the pipe 3 by means of a universal or ball joint 21, and therefore may be swung to a desired vertical or horizontal angle by means of the rod 22, shown in Fig. 2, attached to the footboard 23, to escape, and to allow the sand to escape, trees, telegraph poles, sidewalk signs and other obstacles, when sanding a sidewalk from the side of the road.

The spout is also what may be termed telescopic, as indicated at 24, and therefore may be adjusted to a desired length, by means of the lever 25 which is fulcrumed at 26 to the bracket or arm 27, shown in Fig. 3. The end of the said spout is narrowed to a thin slot 29 in order to give greater force to the sand as it passes from the spout, and also to spread the same over a greater width of sidewalk or area to be sanded. The desired width may be obtained by adjusting the cover 30 which is pivoted to the upper end part of the spout. A full sized apparatus has been experimented with, satisfactory results being obtained therefrom in all instances.

Various changes in the construction, proportions, and positions, also the method of propelling the fan, may be resorted to, without departing from the spirit and scope of the invention.

What we claim, and desire to secure by Letters Patent, is:—

1. In a sidewalk sander of the character described, the combination of a wagon box adapted to contain sand or like substance, a compartment in front of and adjoining said wagon box, said compartment containing a rotary fan and an engine mounted in opposite ends thereof and each being provided with a pulley exterior of the compartment, a transverse shaft journaled on the rear of said wagon box, pulleys on each end of said shaft, a drive belt connecting the drive pulley with one of said rear pulleys, a similar belt connecting the other rear pulley with the fan pulley, a pipe leading from the fan and extending under the wagon box, and means for discharging sand into said pipe from the wagon box.

2. In a sidewalk sander of the character described, the combination of a wagon box mounted on runners or wheels and adapted to contain sand, a compartment in front of said box, a fan casing therein, a rotary fan in said casing, a pipe leading from the fan casing to one side of the wagon box, means for discharging sand into said pipe from said wagon box, a telescopic spout attached by means of a universal or ball joint to the end of said pipe, a nozzle having a perpendicular narrow opening therein on the end of said spout, means for directing the blast of sand which passes through said nozzle, means for adjusting the direction of said spout, together with means for increasing or decreasing the length thereof.

3. In a sidewalk sander of the character described, the combination of a wagon box mounted on runners or wheels and adapted to contain sand, an air pipe passing under said wagon box, a rotary fan for forcing a blast of air through said pipe, an opening in the floor of the wagon box, a curved tube leading from said opening into said air pipe, a disk journaled in the floor of the wagon box in proximity to said opening and having an annular plurality of various size holes therein so arranged that upon turning said disk one of said holes will be immediately over said opening in the floor of the wagon box.

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