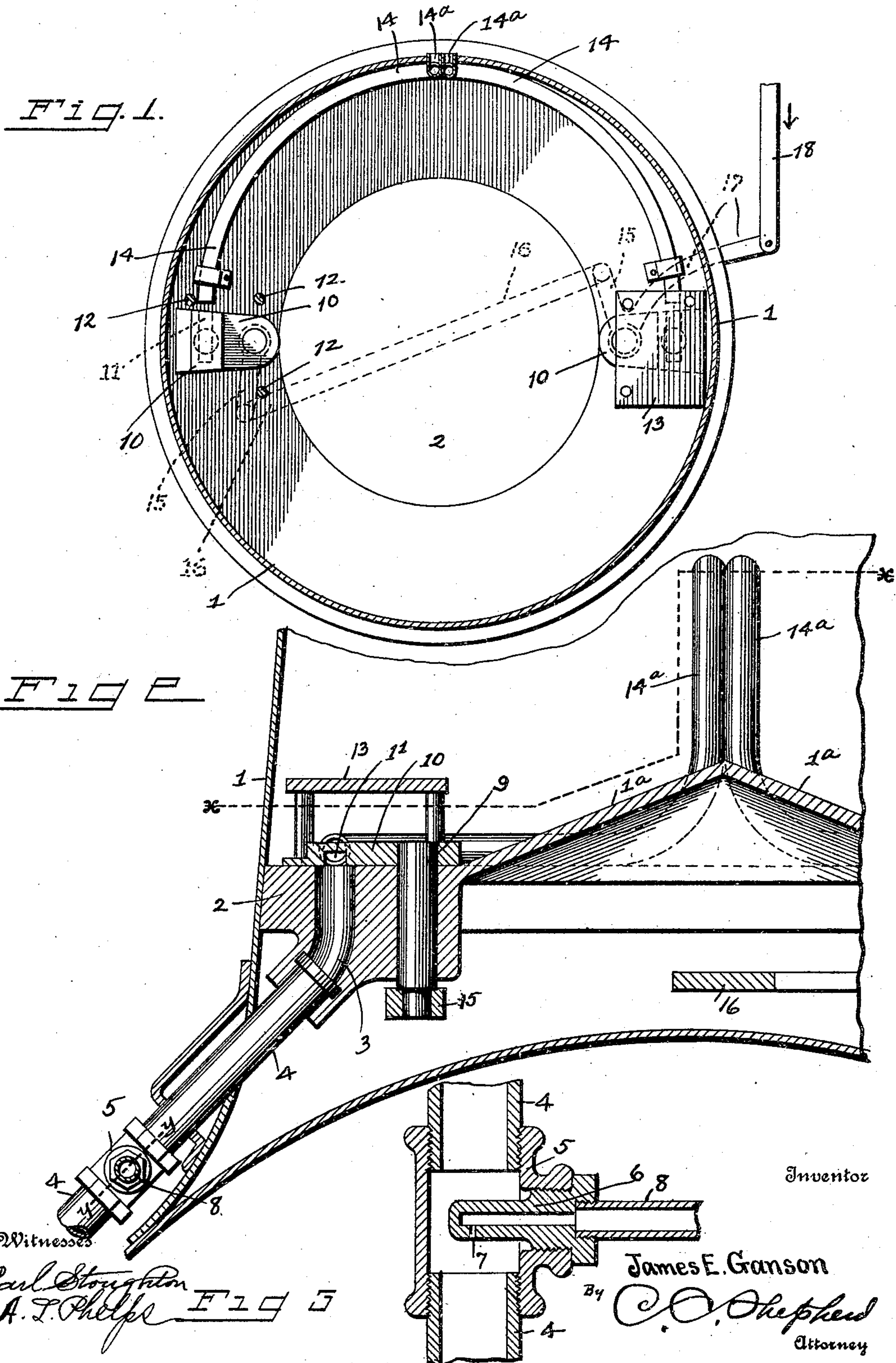


J. E. GANSON.
 TRACK SANDER FOR LOCOMOTIVES.
 APPLICATION FILED APR. 3, 1909.

933,972.

Patented Sept. 14, 1909.



UNITED STATES PATENT OFFICE.

JAMES E. GANSON, OF COLUMBUS, OHIO.

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Specification of Letters Patent. Patented Sept. 14, 1909.

Application filed April 3, 1909. Serial No. 487,645.

To all whom it may concern:

Be it known that I, JAMES E. GANSON, a citizen of the United States, residing at Columbus, in the county of Franklin and State of Ohio, have invented certain new and useful Improvements in Track-Sanders for Locomotives, of which the following is a specification.

My invention relates to the improvement of track sanders for locomotives, and the objects of my invention are to provide a locomotive with an improved construction of track sanding device wherein simple and positive means are provided for insuring a desirable discharge of sand from the box to the track rails; to provide improved means for preventing the packing of the sand upon the outlet valves; to combine with a hand operated sand discharging mechanism, means for automatically creating a discharge of sand from the outlet pipes to the track rails and to produce other improvements the details of which will be more fully pointed out hereinafter. These objects I accomplish in the manner illustrated in the accompanying drawing, in which:

Figure 1 is a sectional view on different planes as indicated by line $x-x$ of Fig. 2, Fig. 2 is an enlarged vertical section of a portion of the sand box, showing my improvements therein, and, Fig. 3 is an enlarged sectional view of line $y-y$ of Fig. 2.

Similar numerals refer to similar parts throughout the several views.

1 represents the usual form of sand box or sand reservoir, which is carried in the usual manner by a locomotive and which is provided with the usual central conical projection 1^a in its bottom. The floor or bottom of the sand box, is provided on its underside on each side of its center with a downward extension 2, through which is formed the usual sand outlet passage 3, the latter having connected with its lower end portion an outwardly inclined discharge pipe 4, which leads through the outer wall of the base portion of the box 1 and through which the sand passes to the track rails. This pipe 4 is formed in sections, as shown more clearly in Fig. 3, and the sections are connected by a T-coupling 5 into which projects a horizontal nipple 6, the hollow of which communicates with the interior of the T-coupling, through the medium of a small vertical port 7, as shown. The nipple 6 is at its

outer end connected with an air supply pipe 8.

Adjacent to the outlet opening of the passage 3, I pivot as indicated at 9 one end of a valve plate 10, which valve plate is normally adapted to extend over the end of the passage 3. Immediately above the upper end of the passage 3 and communicating therewith is formed in the underside of said valve plate, a transverse recess 11, which opens through one edge of the valve plate and extends to a point near the opposite edge thereof. Rising from about each of the valve plates 10, but arranged in such positions as not to interfere with the swinging movement of said plate, are standards 12. Upon each set of these standards, is supported a horizontal shield or baffle plate 13, the latter thus being arranged at a suitable distance above the valves.

14 represents air pipes which lead outward through the sand box or reservoir to the atmosphere, through pipe arms 14^a. One of these pipes 14 leads to a point adjacent to each of the valves 10 and opposite the open end of the valve recess 11.

With each of the valve pivot pins 9 is rigidly connected a laterally extending operating arm 15, the ends of these operating arms being pivotally connected with the ends of a connecting bar 16. At the junction of one of the arms 15 and the pivot pin 9, I provide an outwardly extending lever arm 17 which extending laterally outward, has pivotally connected therewith, an operating lever bar 18 which leads to and is operated by hand from the locomotive cab in the usual manner.

In operation, it will be understood, that when air from a source of compressed air supply carried by a train, is discharged through the port 7 of the nipple 6, a suction will be produced in the discharge pipe sections 4 and passages 3, which will result in drawing sand from the sand box through the valve recesses 11 and downward through said passages 3 and pipes 4. It is obvious, however, that the suction thus produced in the outlet passages and pipes, will result in a tendency toward the formation of a vacuum or partial vacuum therein, thereby necessitating a supply of air from the box to the passages 3 to produce the desired traveling movement of the sand through the discharge pipes. This difficulty I overcome by providing the air pipes 14, which lead to

the atmosphere and through which air is supplied and drawn to the mouths of the passages 3 with the sand. By this operation, it will readily be understood that a supply
 5 of sand will be rapidly and continuously forced downward through the passages 3 and pipes 4 to the track rails. In case, however, the sand owing to its condition or the mixture of foreign matter therewith, should
 10 not flow with sufficient rapidity or freedom through the discharge passages and pipes, it is obvious that I may open the passages 3 by moving the hand operated lever 18 in the direction indicated by the arrow, which
 15 through the connections described will result in the swinging of the valves 10 away from the discharge openings, thus permitting free access of the sand to said openings.

It is well known that the packing of the
 20 sand, or the weight thereof directly upon the valves 10, has a tendency to interfere with the operation of said valves and to overcome this tendency, I have provided the shield or baffle plates 13 above said valves, which will
 25 operate to receive the direct weight of the sand and at the same time permit the sand to flow beneath the edges of said plates at desirable angles. It will thus be seen that in addition to the automatic means provided
 30 for the discharge of sand from the box, I have provided the usual hand operated sand releasing mechanism, which will serve as a safe guard against the failure of the proper operation of the automatic discharging
 35 means.

What I claim, is:

1. In a track sanding device, the combination with a locomotive sand box having dis-

charge openings and outlet pipes leading therefrom, valves pivoted adjacent to and
 40 normally closing said discharge openings, and means for operating said valves, of fixed baffle plates supported above said valves and pipes communicating with the atmosphere and terminating adjacent said discharge
 45 openings.

2. In a track sanding device, the combination with a locomotive sand box having outlet passages and discharge pipes connected therewith, and an air pipe from a source of
 50 compressed air leading into each of said discharge pipes and having a discharge opening, of pivoted valves adapted to cover the sand box discharge openings, each of said valves having an underside recess ex-
 55 tending through one side thereof, and air supply pipes leading to points within close proximity to said valve recesses, and means for operating said valves by hand.

3. In a track sanding device, the combination with a locomotive sand box having discharge passages and discharge pipes connected therewith, air discharge members leading into said discharge pipes and valves pivoted
 60 adjacent to said sand box discharge openings, said valves each having an underside recess as described, of air pipes leading to points adjacent to said valve recesses, baffle plates supported above said valves, and
 65 means for operating said valves by hand.

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

JAMES E. GANSON.

Witnesses:

L. CARL STOUGHTON,
 A. L. PHELPS.