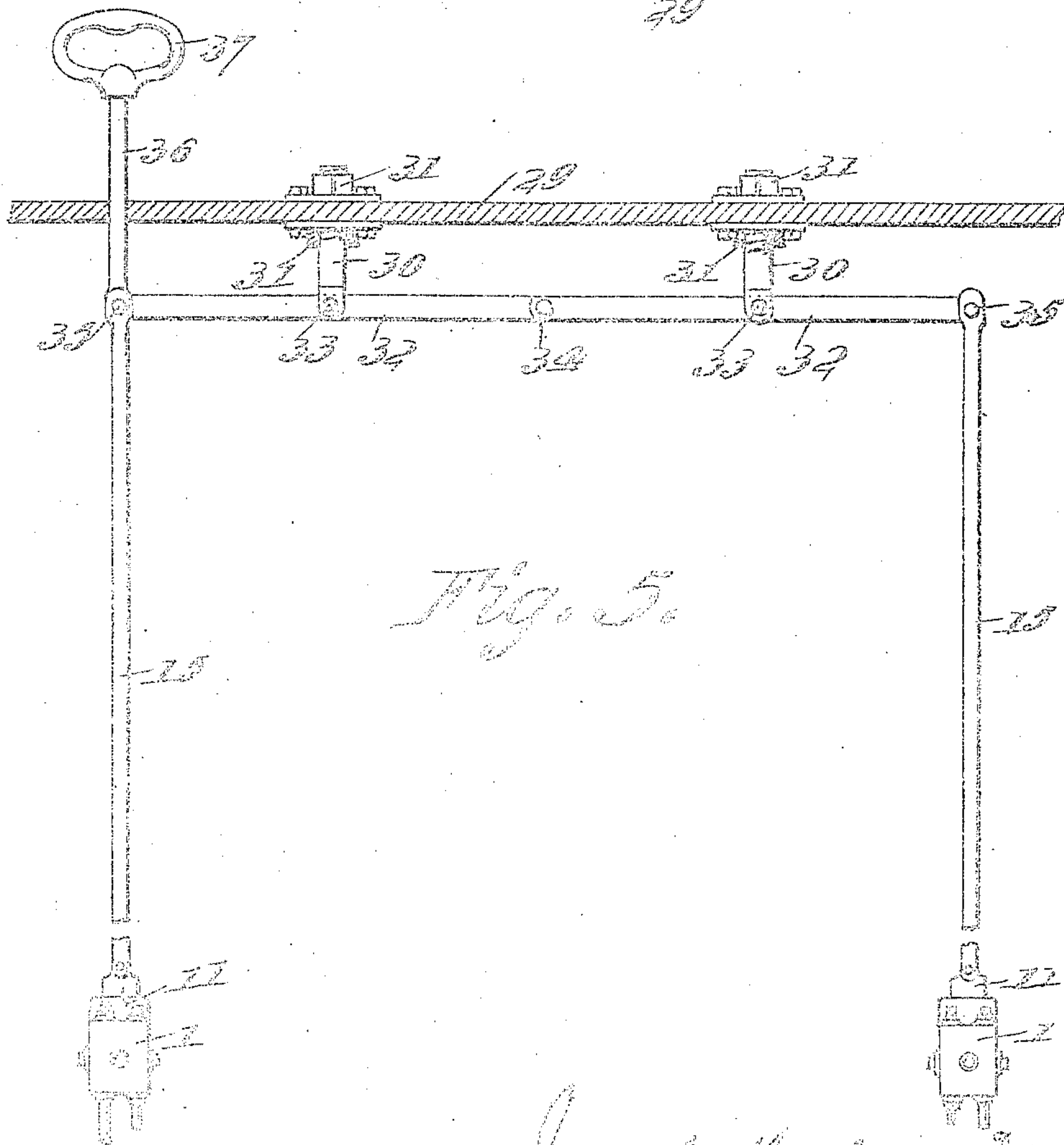
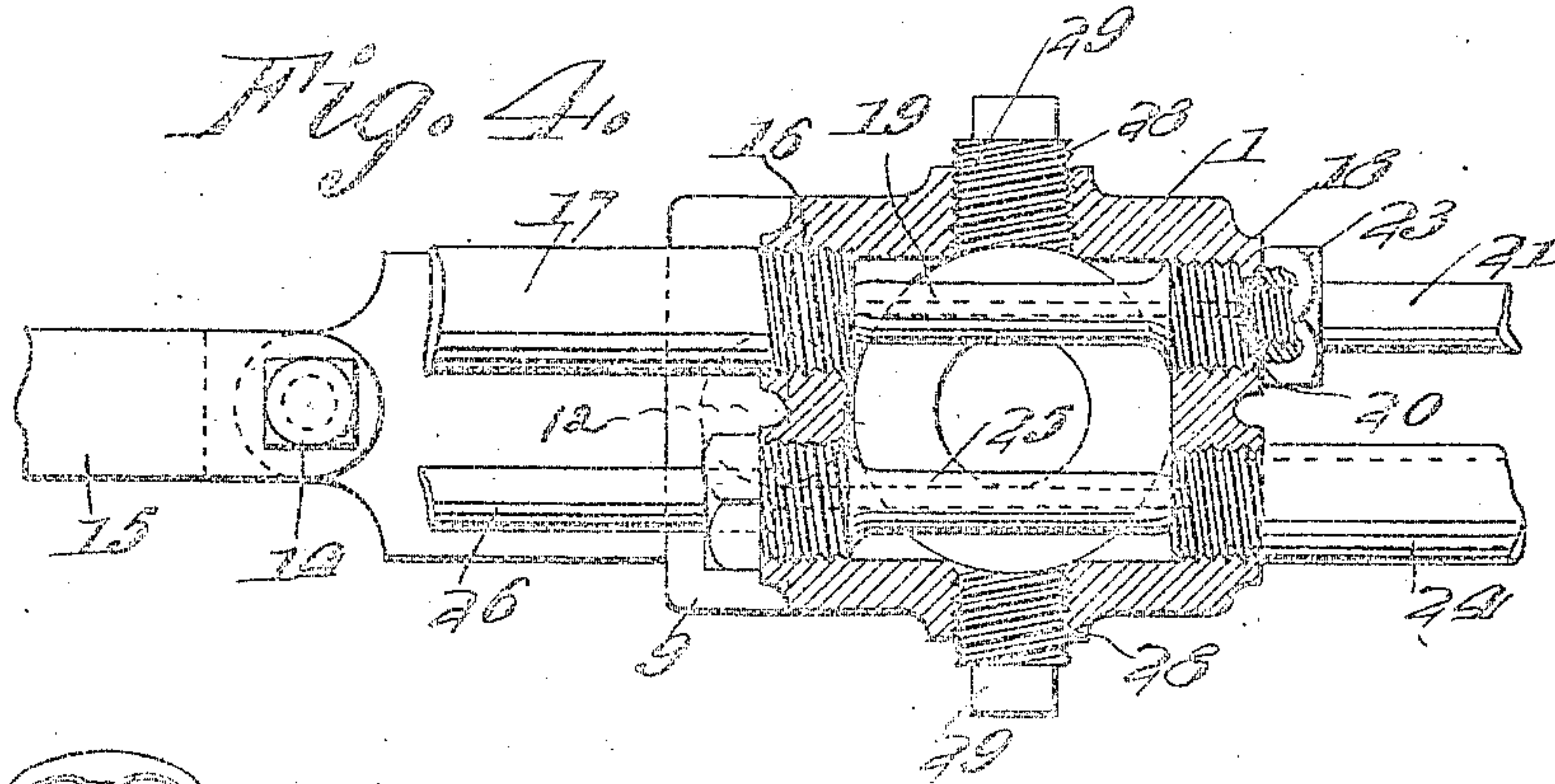


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 TRACK SANDING APPARATUS.
 APPLICATION FILED JULY 29, 1909.

940,375.

Patented Nov. 16, 1909.

2 SHEETS—SHEET 2.



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TRACK-SANDING APPARATUS.

940,375.

Specification of Letters Patent.

Patented Nov. 16, 1909.

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To all whom it may concern:

Be it known that I, JOSEPH WILLIAM STICKLEY, a citizen of the United States, residing at Norfolk, in the county of Norfolk and State of Virginia, have invented certain new and useful Improvements in Track-Sanding Apparatus, of which the following is a specification.

This invention relates to improvements in track sanding apparatus, and has for its object to provide means under control of the engineer by which sand can be positively and reliably delivered from the sand dome to the tracks at points to the front and rear of the locomotive driving wheels.

A further object of this invention is to provide means for quickly and effectually cleaning the sand box, should, for any reason, same be clogged up by the collection of foreign substances or other extraneous matter which latter the sand notoriously contains.

A still further object of the invention is to improve the construction and increase the efficiency of the parts and to simplify the construction.

Further and other objects will be later herein set forth and be manifest.

In the drawings, Figure 1 is a view in perspective of a locomotive equipped with my improvement, Fig. 2 is a vertical section taken through the sand box, Fig. 3 is an elevation of the front end of the sand box, Fig. 4 is a horizontal view taken on the line 4-4 of Fig. 2 and Fig. 5 is a diagrammatic view of the means for operating the cleaning slides in unison.

The invention as at present contemplated embodies a sand box or receptacle 1 which latter as shown in Fig. 2 of the drawings is provided with a threaded opening 2 at its top and a second threaded opening 3 at its bottom in axial alinement with opening 2. The interior of the body has a tapering portion 4, the purpose of the taper being to effect a positive and gradual feed of the sand from the body to the pipe 5 which is threaded into the opening 3 and which leads from the body 1 to a point adjacent the point of contact between the front driving wheels 6 of the locomotive. A second pipe 7 is threaded into the opening 2 at the top of body 1 and leads to the sand-dome 8, which latter as is well known, is provided on the locomotive as a part thereof.

The body 1 adjacent its bottom and at its rear end is provided with an extension 9, and is further provided with a slide-way 10 in which a slide 11 operates. Slide 11 is provided with an opening 12 which is adapted to be brought into register with the tapering portion 4 of body 1, and which, when in register, allows the sand to readily gravitate and be guided into engagement with the track by virtue of pipe 5. The front end of the slide 11 is provided with a depending lip or tongue 12' which is preferably formed integral therewith, and which is adapted to engage the front end of body 1 to restrict the rearward movement of the slide 11. It will be observed that when the lip 12' is in engagement with the body 1 as depicted in Fig. 2, the opening 12 of the slide or valve 11, will be housed within the extension 9, thus preventing the collection of any foreign matter or substances within opening 12. The rear end of the slide 11 is formed with a perforation 13, through which is passed a bolt 14 the latter being also passed through the forked front end of a connecting rod 15, by virtue of which the slide 11 is given movement. As shown clearly in Fig. 4 of the drawings, the rear end of the housing is provided with a threaded opening 16 in which is threaded one end of a pipe 17, the opposite end of the pipe 17 being given an arcuate form so as to encircle one of the rear driving wheels 7', the purpose of the pipe 17 being to convey sand from the sand box 1 to the track at the rear driving wheel 7'. The front end of the sand box 1 is provided with a threaded seat 18 in which is secured a nozzle 19, the front end of the nozzle being projected slightly within that end of the pipe 17 which extends within the sand box. The front end of the body of the sand box 1 is provided with a threaded aperture 20, which is in axial alinement with the threaded seat 18 of the nozzle 19, the threaded aperture 20 being provided for the reception of the threaded end of air pipe 21, the latter leading to the engineer's valve 22 located within the engine cab, and manifestly under complete control of the engineer. A lock nut 23 is preferably threaded over the end of pipe 21 and bears against the front end of the sand box body to more securely relate the parts just named. At the opposite side of the sand box there is located a pipe 24, nozzle 25, and

air pipe 26, the latter being equipped with the engineer's valve 27. The parts just named have the same mode of connection with the sand box 1 as set forth with regard to air pipe 21, sand pipe 17 and nozzle 19, with the exception that in the case of the sand pipe 2', air pipe 26, nozzle 25, the parts are located so as to be related oppositely to the corresponding parts 21, 17, and 19. At each side of the sand box I provide an opening 28, which is preferably threaded so as to receive a suitable closure such as 29. By provision of the openings 28, it will be obvious that access may be readily had to the interior of the sand box for purposes of cleaning, or for any other reason which might present itself.

It will be understood that there are two sand boxes 1, one being located on one side of the locomotive boiler and the other being located on the opposite side thereof as shown more clearly in Fig. 5 of the drawings. Secured to the front end of the engine cab, which end is designated 29 in the drawings, there is an adjustable pair of bolts 30 which by means of the lock nuts 31 can be adjusted in any desired manner and securely retained in adjustable position, as is evident. The bolts 30 have forked outer ends, there being a lever 32 received in each fork end of the bolts 30 and being pivoted thereto as at 33. The inner ends of the two levers 32 are pivotally connected as indicated at 34, and the outer ends of the levers are pivotally connected as at 35 to the respective connecting rods 15 which connect with the slides 11. An operating rod 36 is projected through an opening in the front end of the engine cab and is provided with a hand operating member 37 which is disposed on the interior of the engine cab, easily accessible to the engineer. It will thus be obvious that by proper manipulation (slide movement) imparted to the rod 36 that the levers 32 will be given movement so as to cause operation of the slides 11 in unison.

In operation it will be understood that the slide 11 normally occupies the position depicted in Fig. 2 closing communication between the interior 4 of the sand box and the pipe 5, thus assuring a complete filling of the sand box with the sand which gravitates from the sand-dome 8, which thereby causes the level of the sand to project above the level of the sand pipes 17 and 24. As air is supplied through the pipes 21 and 26 which latter lead into the pipes 17 and 24 respectively, it will be evident that the sand will be drawn from the interior of the sand box through the pipes 17 and 24 and conveyed by the latter to their respective points of discharge. Should it ever at any time be desired to feed the sand directly from the sand-dome to the front driving wheels this

can be effected by proper manipulation of the operating rod 36 so as to cause such movement of the slides 11 as will bring the opening 12 of the slide into register with the interior of the sand box 1 which will allow the sand to gravitate directly from the sand dome on to the track. As stated however, it is the further purpose and function of the slide 11 to permit of the removal of any foreign substances such as stones, leaves, twigs, or other foreign matter which usually accompanies sand, and which may have entered the sand box 1 to hinder free discharge of the sand such as by clogging up the entrance of the sand pipes 17 and 24. By bringing the opening 12 of slide 11 into register with the sand box at the discharge end of the latter it will be seen that the entire contents of the sand box will be discharged, consequently removing any obstructions or the like which may have entered the sand box. As the two air pipes 21 and 26 have separate engineer valves it will be further manifest that either one may be used to the exclusion of the other or both may be used simultaneously.

What I claim and desire to secure by Letters Patent of the U. S. is:—

1. A track sanding apparatus, composed of a hollow sand box having a tapering discharge mouth, an air nozzle connected to each end of said box so as to extend thereinto above the taper thereof, a sand pipe connected to each end of said box and having their ends leading to points adjacent the track, the free ends of the nozzles extending into the inner ends of the sand pipes, a slide connected to said box and disposed below and out of contact with said air nozzles and pipes at the base of said tapering discharge mouth, said slide being formed with an opening to register with said discharge mouth, and a pipe connected to the discharge mouth and leading downwardly at a point adjacent the track and in proximity to the free end of one of said sand pipes.

2. A track sanding apparatus composed of a sand box, means for feeding sand from said box to two separate points on each rail of the track, and means for feeding the sand from said box to a third point on each rail of the track in proximity to one of the first named points and a slide and controlling means for the discharge of the sand from said box.

3. In a track sanding apparatus, a pair of sand boxes arranged one on each side of the locomotive boiler, a pair of sand pipes connected to each box and discharging at separated points on the rail, independent air controlled means in the cab for feeding sand through each of said pipes, a pipe leading from each of said sand boxes to the rail, and means for governing the discharge of sand

through the last named pipe, said means being operable by the engineer from within the cab.

4. A track sanding apparatus composed of a sand box, a pair of sand pipes leading from opposite ends of the box and discharged at different points on one of the rails of the track, a third sand conveying pipe independent of each of the first named sand pipes and leading from the bottom of said box, and a reciprocatory slide in said sand box, and connections whereby sand may be independently conveyed through either of the three named pipes.

5. In a track sanding apparatus, a sand box on each side of the locomotive boiler, a sand pipe leading from each box to discharge onto the rails constituting the track, a slide for each box controlling the feed of sand into each sand pipe and having means to limit its movement in one direction, and means for operating the slides in unison composed of a pair of levers pivotally connected at their inner ends and being pivotally mounted at their centers, and a connecting rod pivoted to the outer end of each lever and leading to the slides.

6. In a track sanding apparatus, a sand box on each side of the locomotive boiler, a sand pipe leading from each box to discharge onto the rails constituting the track, a slide for each box controlling the feed of sand into each sand pipe, and means for operating the slides in unison said means comprising pivotally united independently pivoted levers and an operating rod extending in the line of travel of one of said slides.

7. In a track sanding apparatus, a sand box on each side of the locomotive boiler, a sand pipe leading from each box to discharge onto the rails constituting the track, a slide for each box controlling the feed of

sand into each sand pipe, and means for operating the slides in unison composed of a pair of levers pivotally connected at their inner ends, adjustable means for pivotally mounting said levers at their centers, a connecting rod pivoted to the outer end of each lever and leading to the slides, and an operating rod extending in the direction of travel of one of said slides and connected to one of the levers at the junction of said lever and the adjacent connecting rod for actuation by the engineer.

8. In a track sanding apparatus, a sand box, a sand pipe extending into said box, an air nozzle connected to the box and having its free end extending into said sand pipe, a second sand pipe independent of the first named one and leading directly to the track, and a slide in said box arranged below said first named sand pipe and nozzle and above the second sand pipe, said slide being separated from said nozzles and constructed to be operated to enable cleaning of the sand box to be effected or to allow sand to be fed directly to the track without entering the first named pipe.

9. In a track sanding apparatus, a sand box, means for feeding sand from said box to the track, second means for feeding sand to the track independently of the first means, and reciprocating lipped means for controlling the feed to the second means located between the first and second sand feeding means, said controlling means also permitting cleaning of the sand box.

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

JOSEPH WILLIAM STICKLEY.

Witnesses:

ROYCE A. RUESS,
G. W. CANE.