W. B. ROGERS.

SANDER.

APPLICATION FILED OCT. 29, 1912.

1,068,080. Patented July 22, 1913.

Fig. 2.

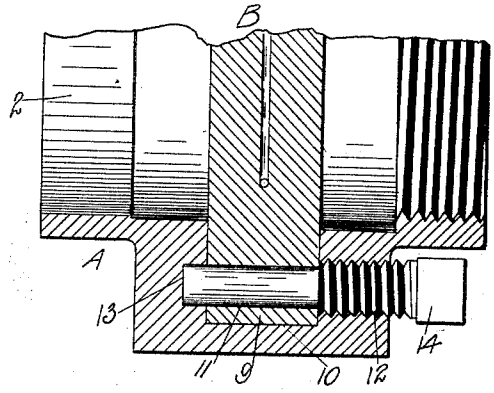
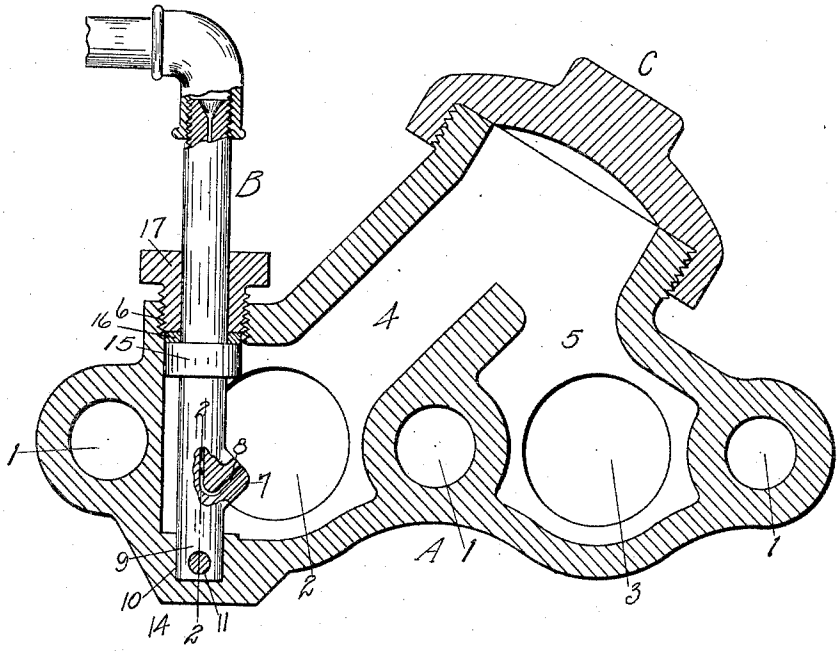


Fig. 1.



WITNESSES

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SANDER.

1,068,080. Specification of Letters Patent. Patented July 22, 1913.

Application filed October 29, 1912. Serial No. 728,489.

To all whom it may concern:

Be it known that I, WALTER B. ROGERS, a citizen of the United States, residing at Knoxville, in the county of Knox and State of Tennessee, have invented a new and useful Improvement in Sanders, of which the following is a specification, reference being had to the accompanying drawing.

My improvement relates particularly to sand traps for locomotive sanders in which the sand is driven by an air blast through a part of its course from the sand box or dome into and through the delivery pipe which extends to or nearly to the adjacent track rail, sanders of this type usually comprising a trap having a body within which is a sand-receiving chamber or compartment from which an air blast issuing from a nozzle carries the sand in a small stream diagonally upward against a deflecting member, the sand then falling by gravity and downward air movement into a delivery compartment from which it passes by gravity and in part by air movement into the delivery pipe.

The object of the improvement is to provide an efficient means for adjusting and securing the nozzle and nozzle pipe in the sander body.

In the accompanying drawings, Figure 1 is an upright longitudinal section of a sander embodying my improvement; Fig. 2 is a section on the line, 2—2, of Fig. 1.

Referring to said drawings, A is the sander body, B is a nozzle pipe, and C is a cap or deflecting member. The body is, as to its main features, similar to the bodies of sanders heretofore used and similar to the sander body described in my application Ser. No. 683,394, filed in the United States Patent Office March 12, 1912.

The body has three holes, 1 for bolts by which the sander body is secured. At its left, said body has a receiving chamber, 2, and at its right the discharge chamber, 3. A blast passage, 4, leads obliquely upward from the receiving chamber to the cap, and a gravity passage leads from the cap downward to the discharge chamber.

A nozzle pipe port, 6, is formed in the upper wall of the body at the left of the receiving chamber, and the nozzle pipe, B, extends downward through said port. At its lower end, the nozzle pipe has the nozzle, 7, having a passage, 8, substantially coincident with the extended axial line of the blast passage. Air is driven through said pipe and said nozzle in the usual manner, the sand being thereby carried approximately along said axial line until it strikes the cap, C, when it is deflected and descends through the gravity passage into the discharge chamber and thence through the discharge or delivery pipe (not shown). The nozzle pipe is formed with a recess aperture adapted to receive a key, 14, for securing the lower ends of the pipe. In the form shown in the drawings, the pipe has at its lower end a downward extension, 9, preferably of cylindrical form, as shown, and of proper size to fit into a corresponding socket, 10, formed in the lower portion of the wall of the body, A. A recess or aperture, 11, to receive said key extends through the extension, 9, horizontally and transversely to the length of the body, A. At the front of and in line with said aperture, the body, A, has a screw threaded aperture, 12, in line with the recess or aperture, 11. At the rear of the extension, 9, the wall of the body, A, has an aperture, 13, preferably smaller than the aperture, 12, and not threaded. A bolt-form key, 14, threaded at the portion adjacent the head, extends through the apertures, 12, 11, and 13, and is held by the engagement of its threads with the threads in the aperture, 12. The aperture, 11, is in such position as will bring the nozzle passage, 8, into the discharge portion when said key is in its position. By properly fitting the extension, 9, into the socket, 10, and properly fitting the key, 14, and the aperture, 9, the nozzle and nozzle passage may be set and held with accuracy, so that the discharge of the sand from the nozzle is in the axial line of the blast passage, 4. Furthermore, the bolt-form key, 14, forms a suitable support or abutment adapting the nozzle pipe to resist downward pressure exerted by the means employed for securing said pipe at the nozzle port, 6, as will be next described.

Within the port, 6, the nozzle pipe, B, has an annular shoulder, 15. On said shoulder rests a packing ring composed of suitable yielding material adapted to spread in response to downward pressure and bear closely against the pipe and against the adjacent face of the port, 6.

A packing nut, 17, loosely surrounds the port, 6, as far as it can be turned, the key, 14, as above stated, resisting downward movement of the nozzle pipe. By means of this nut, the upper portion of the nozzle

pipe is held securely against lateral movement, and by means of the downward pressure of said nut upon the packing ring, 16, the pipe is held against upward movement. Furthermore, the pressure of the nut upon the packing causes the latter to spread and seal the passage between the pipe and the nut and also the passage between the wall of the port, 6, and the nut, the passage of air through the port being thus prevented.

The port, 6, and the portions of the nozzle pipe which enter the body, A, are of such relative size as to permit the passing of said portions of said pipe through said port.

It will be observed that this mechanism is effective and easily manipulated, and it is at the same time, adapted to economical manufacture. The shoulder, 15, and the portion of the nozzle pipe above said shoulder, and also the extension, 9, at the lower end of said pipe, may be turned in a lathe, and the aperture, 11, may be bored by an ordinary drill. The port, 6, may be molded and then bored to exact size and threaded, and the socket, 10, bored at the same setting of the body, A, in the machine. The apertures, 12 and 13, may be bored by the same tool, and the aperture, 13, afterward threaded; and it is possible to combine these two steps.

I claim as my invention:

1. In an apparatus of the nature described, a body having a receiving chamber, a nozzle pipe port, and a key passage, a nozzle pipe having a recess adapted to receive a key, a key extending through said key passage and said recess, and means for engaging said nozzle pipe in said port, substantially as described.

2. In an apparatus of the nature described, a body having a receiving chamber, a nozzle pipe port, a socket, a key passage transverse to said socket, a nozzle pipe having a transversely apertured extension, a key extending through said key passage and said extension, and means for engaging said nozzle pipe in said port, substantially as described.

3. In an apparatus of the nature described, a body having a receiving chamber, a nozzle pipe port, a socket, a key passage transverse to said socket, a nozzle pipe having a transversely-apertured extension, a screw threaded key extending through said key passage and said extension, and means for engaging said nozzle pipe in said port, substantially as described.

4. In an apparatus of the nature described, a body having a receiving chamber, a nozzle pipe port, a socket, a key passage transverse to and at both sides of said socket, a nozzle pipe having a transversely-apertured extension, a key extending through said passage and said extension, and means for engaging said nozzle pipe in said port, substantially as described.

5. In an apparatus of the nature described, a body having a receiving chamber, a nozzle pipe port, a cylindrical socket, a key passage transverse to said socket, a nozzle pipe having a transversely-apertured cylindrical extension, a key extending through said key passage and said extension, and means for engaging said nozzle pipe in said port, substantially as described.

In testimony whereof I have signed my name, in presence of two witnesses, this 24th day of October, in the year one thousand nine hundred and twelve.

WALTER B. ROGERS.

Witnesses:
ROY A. JOHNSTON,
CYRUS KEHR.

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