

(No Model.)

2 Sheets—Sheet 1.

H. L. LEACH, Jr.
TRACK SANDING APPARATUS.

No. 512,833.

Patented Jan. 16, 1894.

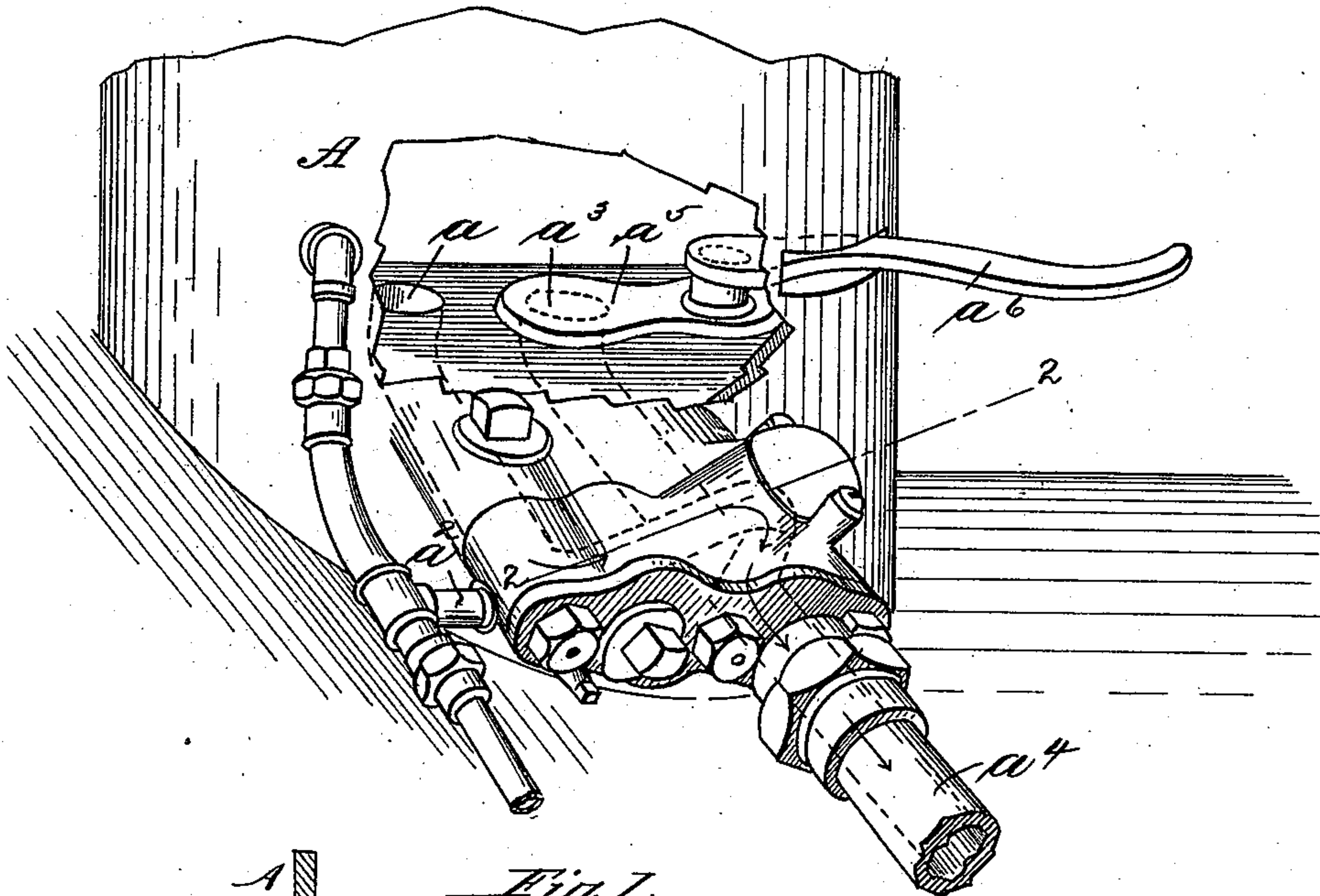


Fig. 1.

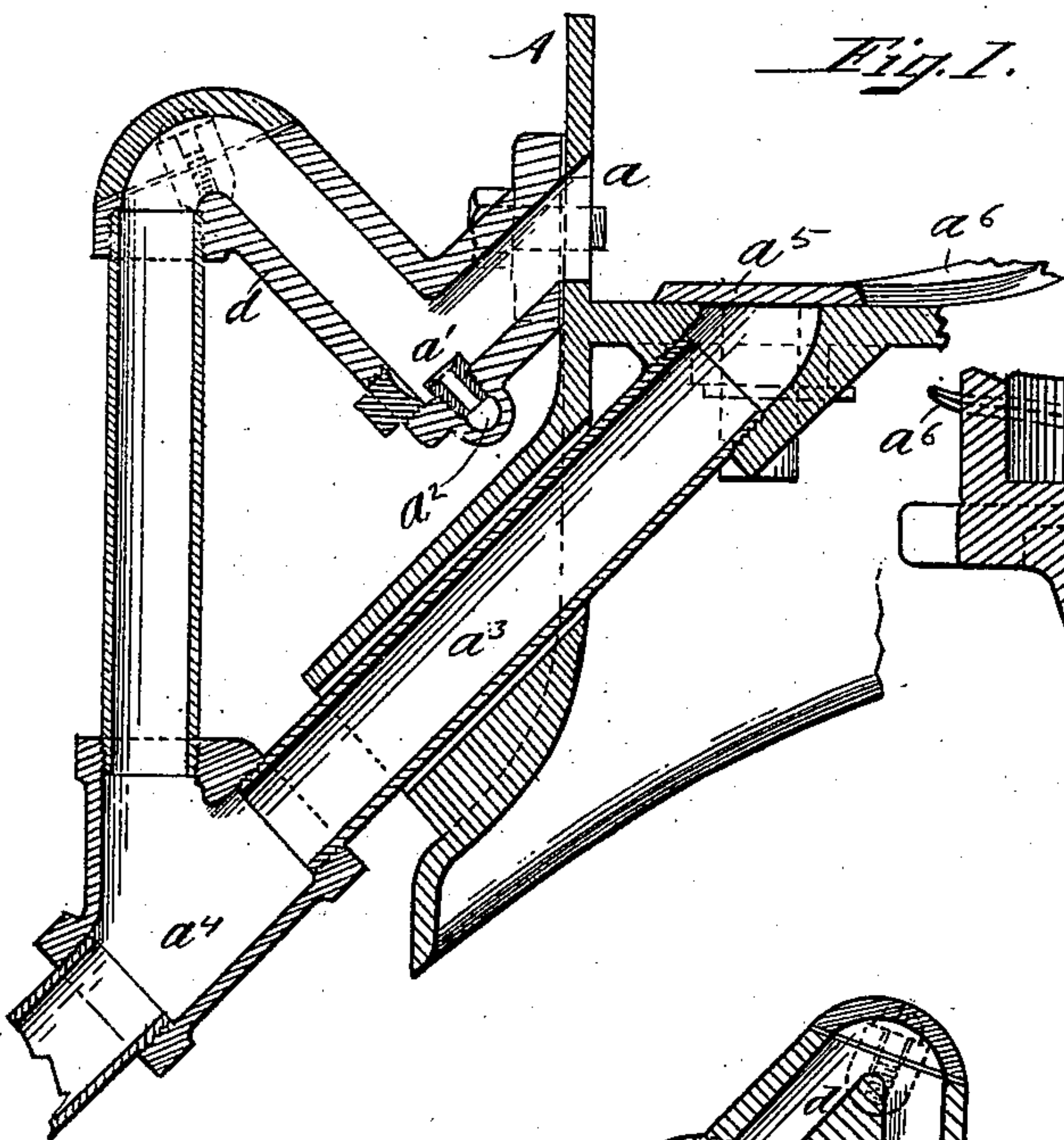


Fig. 4.

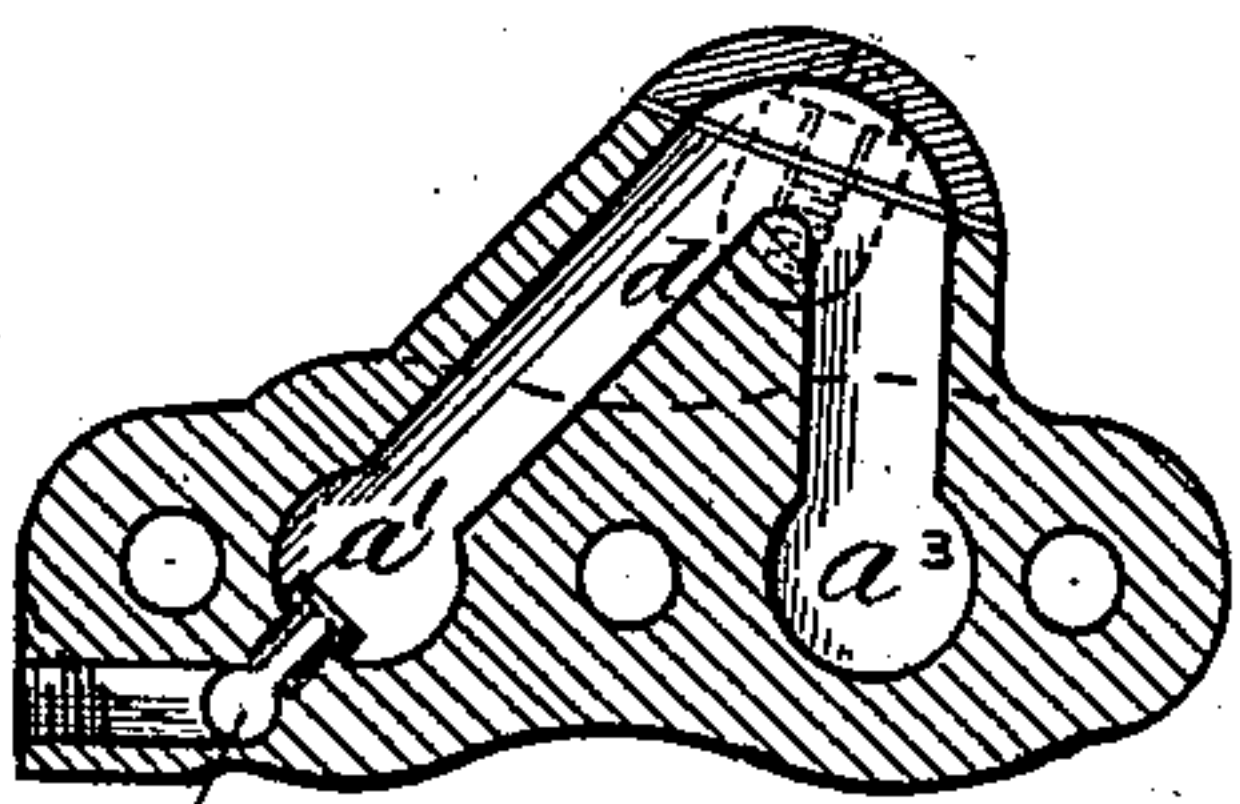


Fig. 2.

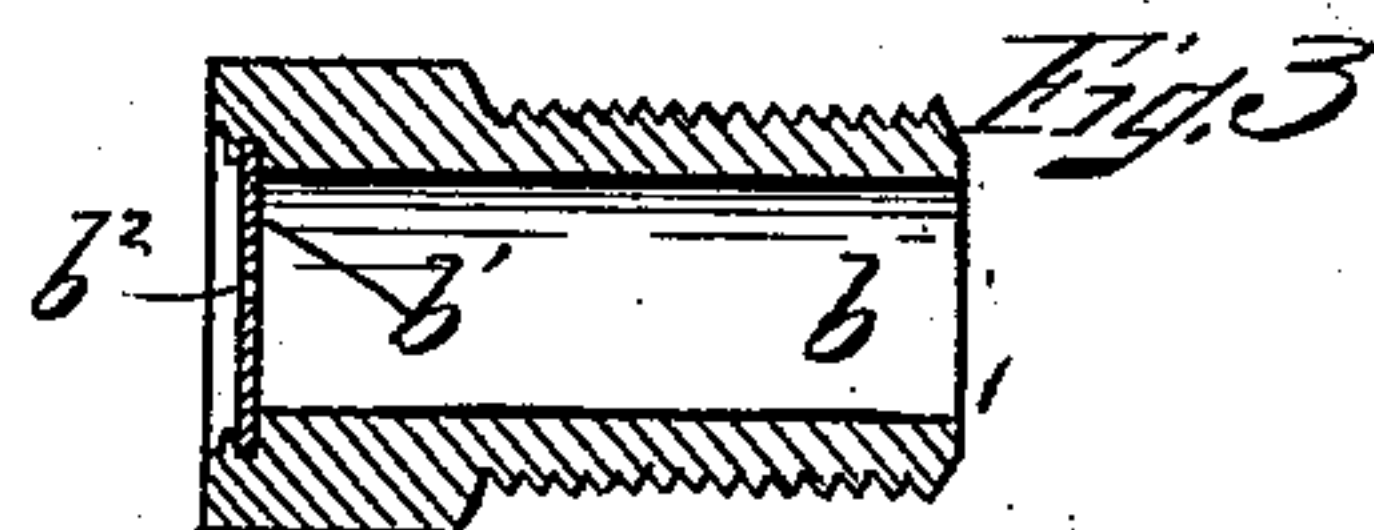


Fig. 3.

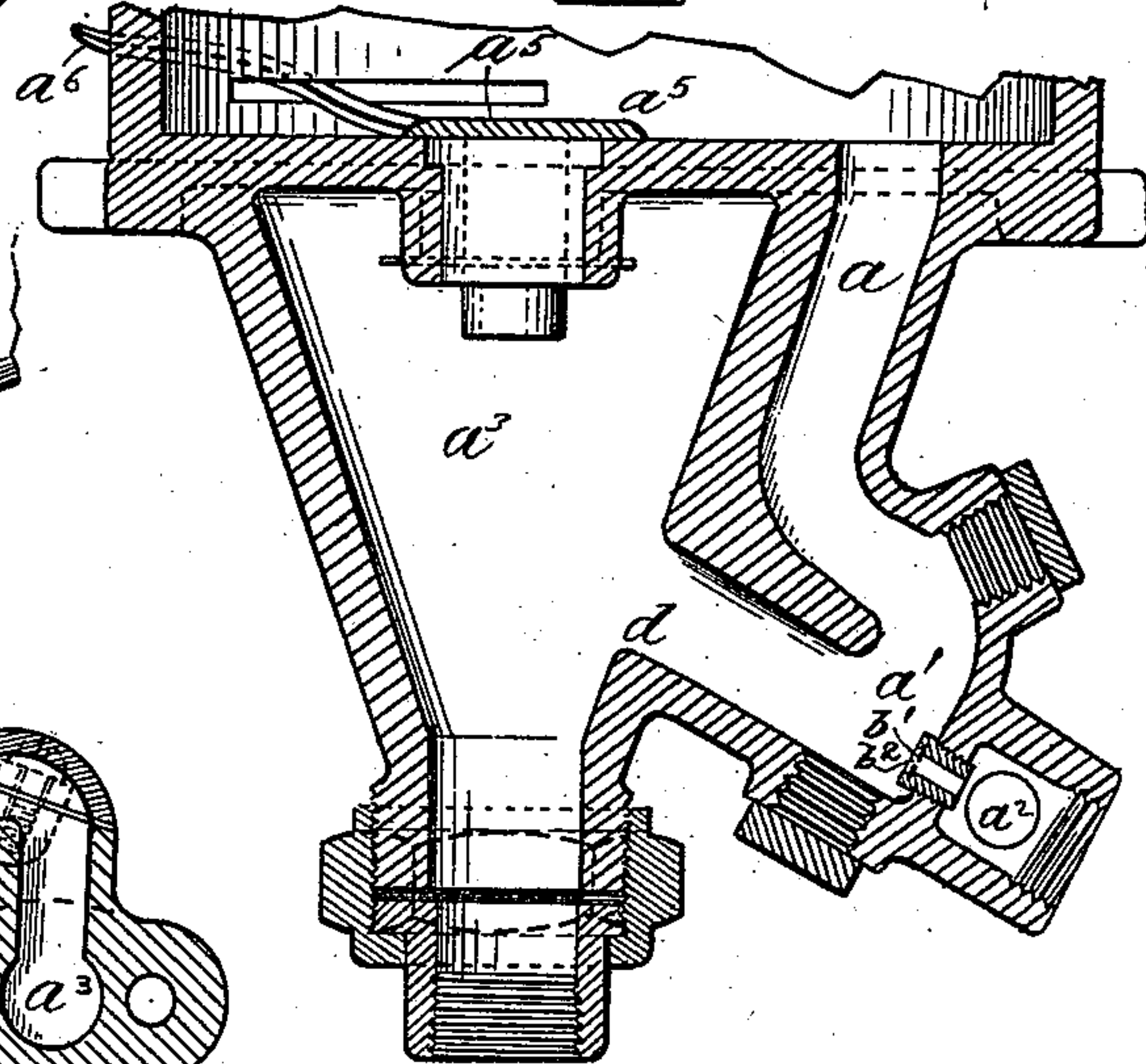


Fig. 5.

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By his attorney,
Edward C. Deach

(No Model.)

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Fig. 6.

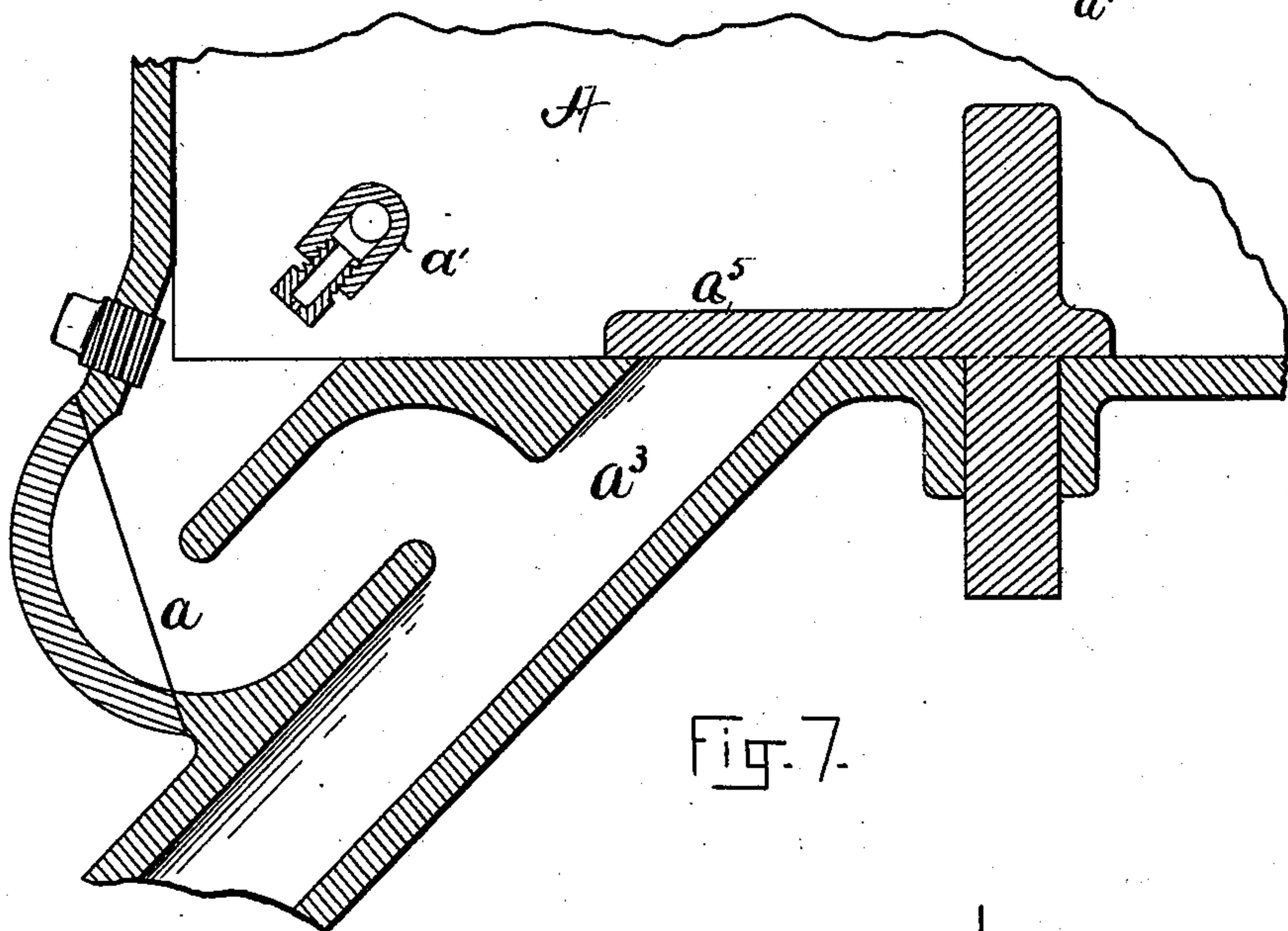
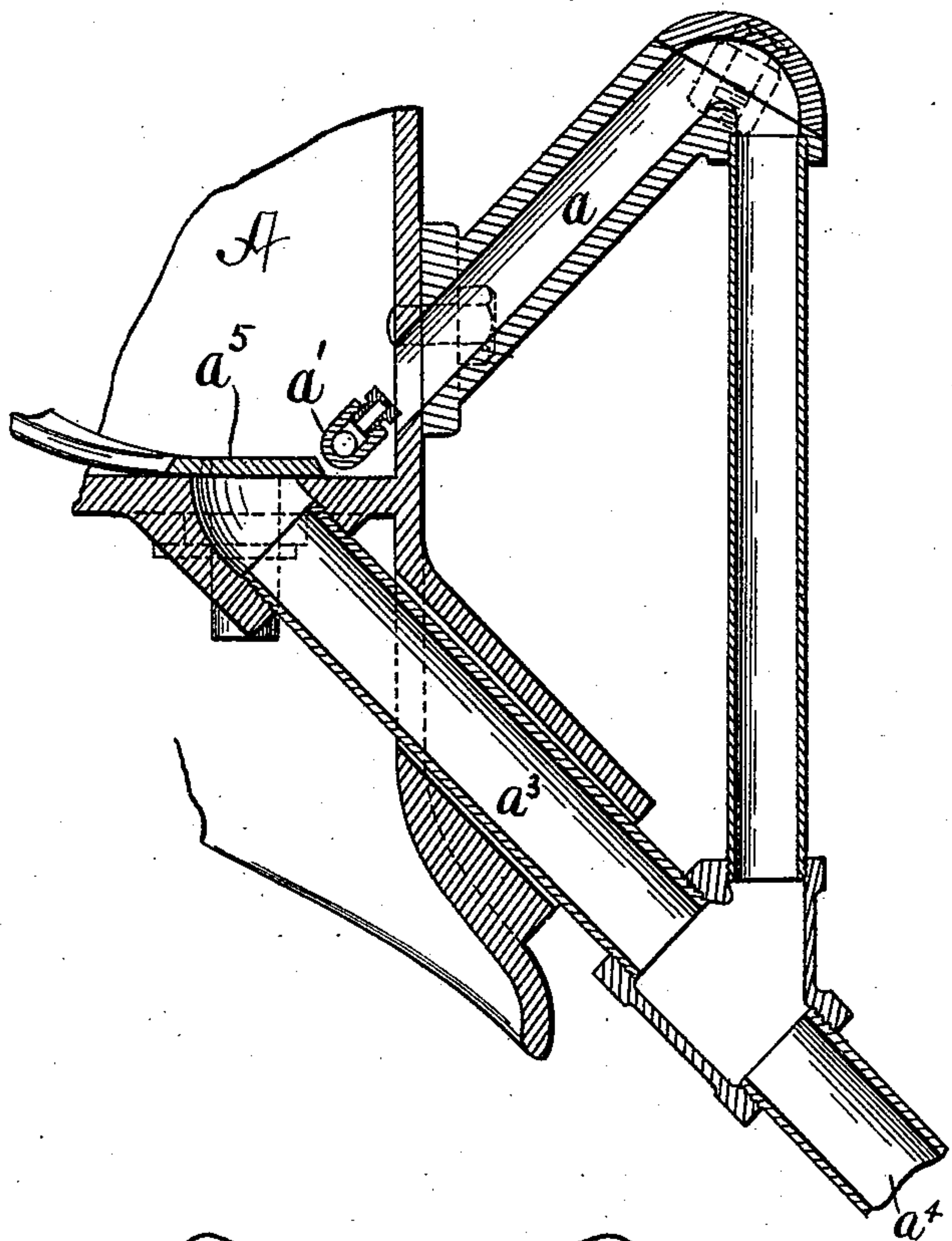


Fig. 7.

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UNITED STATES PATENT OFFICE.

HENRY L. LEACH, JR., OF FITCHBURG, MASSACHUSETTS.

TRACK-SANDING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 512,833, dated January 16, 1894.

Application filed March 2, 1893. Serial No. 464,470. (No model.)

To all whom it may concern:

Be it known that I, HENRY L. LEACH, Jr., a citizen of the United States, residing at Fitchburg, in the county of Worcester and State of Massachusetts, have invented a new and useful Improvement in Track-Sanding Apparatus, of which the following is a specification, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective of one form of apparatus embodying my invention. Fig. 2 is a sectional detail on line 2—2 of Fig. 1. Fig. 3 is a central, sectional view of a form of blast nozzle, enlarged for greater clearness. Figs. 4, 5, 6 and 7 show modifications; that is, different forms of apparatus embodying my invention.

The object of my invention is to produce an apparatus which can be used not only to feed small quantities of sand to the rails by the use of a sand blast; but also, in addition to the blast sanding, to profusely sand the rails in cases of emergency.

My invention consists, mainly and broadly, in the combination, in track-sanding apparatus, with a sand-passage and a blast-nozzle therefor of a sand-passage, which is auxiliary to the blast-passage.

In the drawings, which illustrate three different forms of my invention, Fig. 1 shows an embodiment thereof which is convenient for locomotives of certain construction, although the apparatus is not materially different from the apparatus shown in the figures which illustrate apparatus for other and different forms of locomotives.

A represents a sand-box; a an outlet or passage therefrom, and a' a blast-nozzle, through which the blast is introduced. Passage a communicates with the auxiliary sand-passage a^3 from sand box A to the delivery pipe a^4 . The mouth of the independent passage a^3 is controlled by any suitable device, for example, by the pivoted slide or cover a^5 , provided in this instance with a lever or handle a^6 .

I have found, in practice, that in order to prevent the clogging of coarse grains of sand or pebbles in the blast-nozzle, it is highly desirable to make the perforated end of the blast-nozzle flat; and in Fig. 3, which shows

the blast-nozzle greatly enlarged, the body of the nozzle is formed with a cylindrical passage b , and at one end thereof is a sheet metal end forming a thin wall b' perforated at b^2 to permit the passage of the blast. This is a very important constructional feature, overcoming the difficulty which has hitherto been encountered occasionally by the clogging of the blast-nozzle.

In my new apparatus, sand falls from sand box A into the chamber formed by the passage a for which an air-nozzle a' is provided, being preferably but not necessarily located in the passage a . By means of the air-nozzle the sand which falls in front of the same is blown over the partition d , whence it passes to the track in such quantities as are commonly required to prevent slipping. When it is necessary to make an emergency stop, or when for any reason, the rails require profuse sanding, the valve or cover a^5 is moved, and sand falls freely through the auxiliary passage a^3 to the delivery pipe a^4 and thence to the rails. Compressed air is usually employed for the blast and is readily taken from the pipe leading from the main reservoir to the engineer's brake-valve, or, from the main reservoir itself, or from any other suitable source; this supply being regulated by a feed valve of the proper construction placed in the cab, convenient to the engineer, or in any other suitable place; all of which will be plain to all skilled in the art without more particular description.

In all forms of my apparatus, passages a , a^3 both open, preferably but not necessarily, into a common delivery pipe, a^4 .

In that form or modification of my new apparatus shown in Fig. 4, passage a leads from the side of sand box A, and the auxiliary passage a^3 leads from the bottom of the sand box A. Passages a , a^3 both preferably open into a common delivery pipe a^4 . This form of my apparatus will be plain to all skilled in the art without more particular description, and is adapted for certain styles of locomotives now in common use.

In Fig. 5, I show another form or modification of my improved apparatus in which the passages a , a^3 are formed in a casting.

Fig. 6 shows a modification in which the

air-nozzle a' for sand-passage a is located in sand-box A. Blast-passage a leads to delivery pipe a^4 from an opening near the bottom of sand-box A and the auxiliary emergency passage a^3 leads from the bottom of the sand box to the delivery pipe a^4 ; this passage a^3 being controlled by any proper form of valve or cover a^5 . In this form of my apparatus, the passage a is preferably inclined upwardly, before it turns downwardly to connect with passage a^4 , but the degree of inclination is not material.

In Fig. 7, showing another modification, blast-nozzle a' provided for passage a , points downwardly and is mounted in sand box A. This form of apparatus is convenient in some locomotives.

I am aware that track sanding apparatus embodying my invention may be produced in other forms than those I have set forth, and I therefore wish to be understood as claiming my invention broadly.

What I claim is—

1. In track-sanding apparatus, the combination of a sand-passage having a blast-nozzle with an emergency sand-passage auxiliary to that passage which is provided with a blast-

nozzle, all substantially as and for the purpose set forth.

2. In track-sanding apparatus, the combination of a blast-passage with an auxiliary, emergency sand-passage; the two passages communicating one with the other, all substantially as and for the purpose set forth.

3. In track sanding apparatus, the combination of a sand-box and a sand-delivery pipe with a sand-blast passage from the sand-box; a blast-nozzle therefor; an auxiliary, emergency sand-passage from the sand-box, and a cover for said auxiliary passage, all substantially as and for the purpose set forth.

4. In track-sanding apparatus, the herein described combination of a sand-box; a sand-blast passage; an air-nozzle therefor; an auxiliary sand-passage from the sand-box; a cover for said passage, and a delivery pipe common to the sand-blast and auxiliary passages, all substantially as and for the purpose set forth.

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Witnesses:

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