

No. 652,212.

Patented June 19, 1900.

J. C. HOOPER.  
LOCOMOTIVE SANDING DEVICE.

(Application filed Apr. 30, 1900.)

(No Model.)

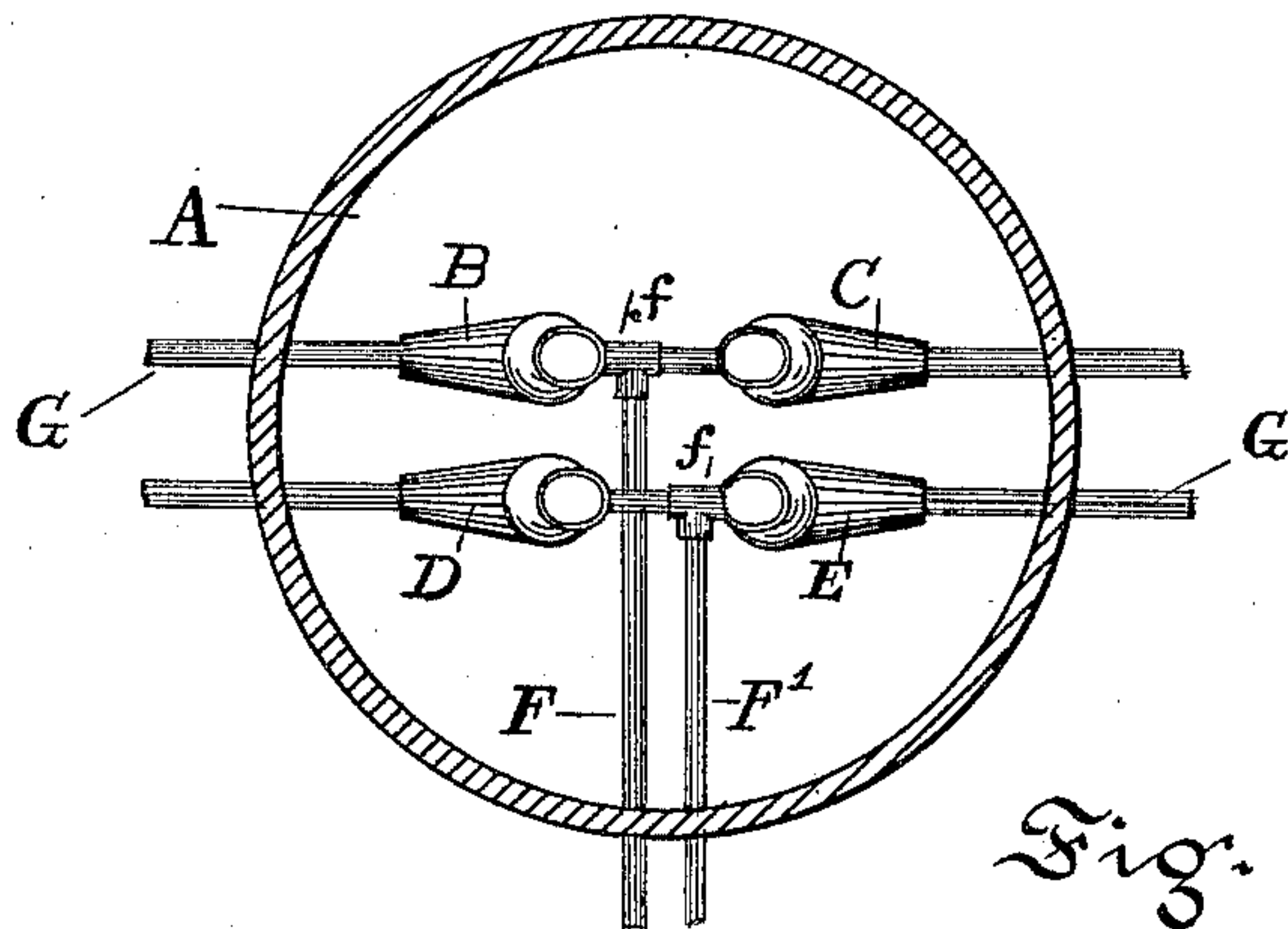


Fig. 1.

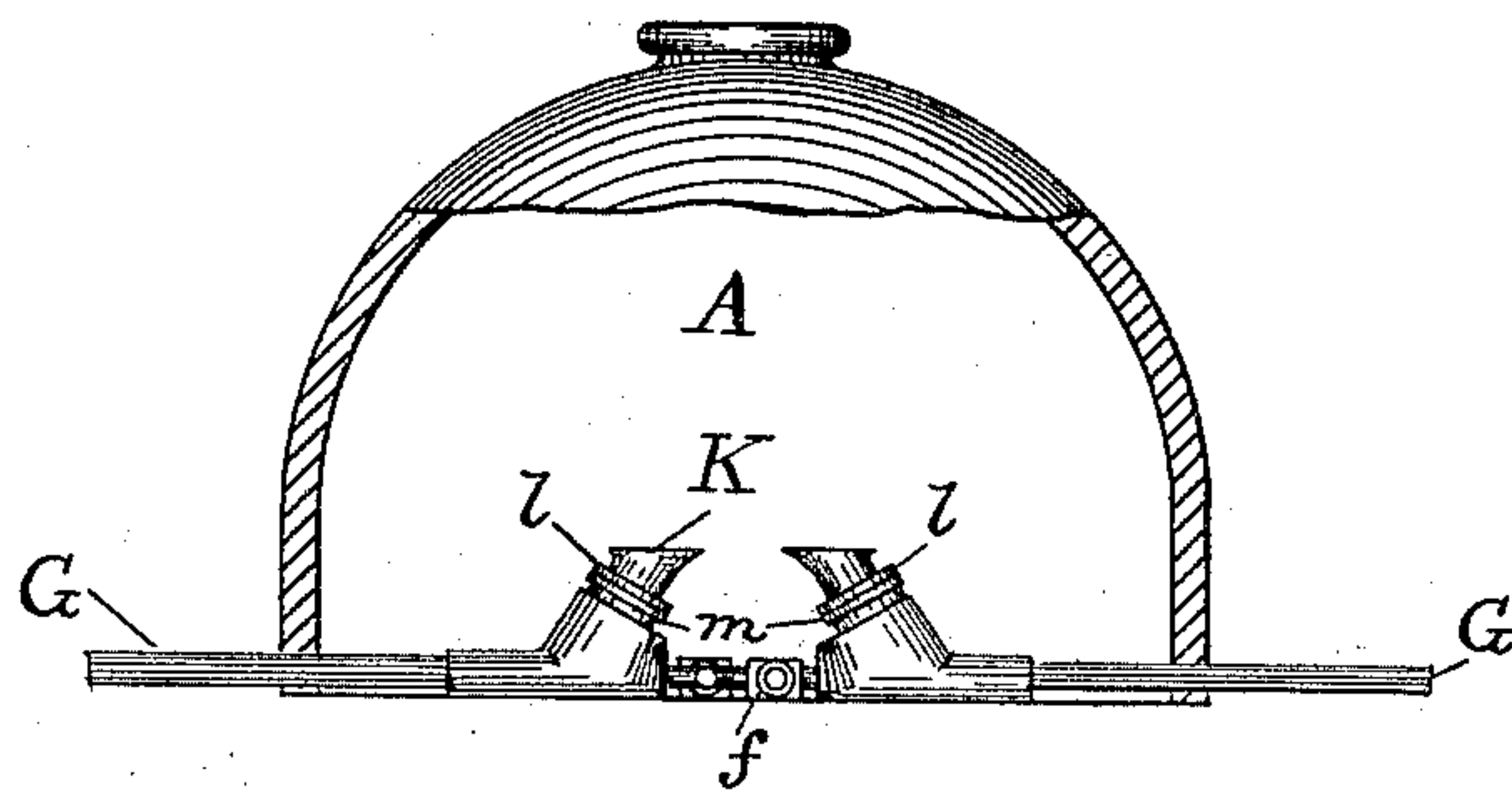


Fig. 2.

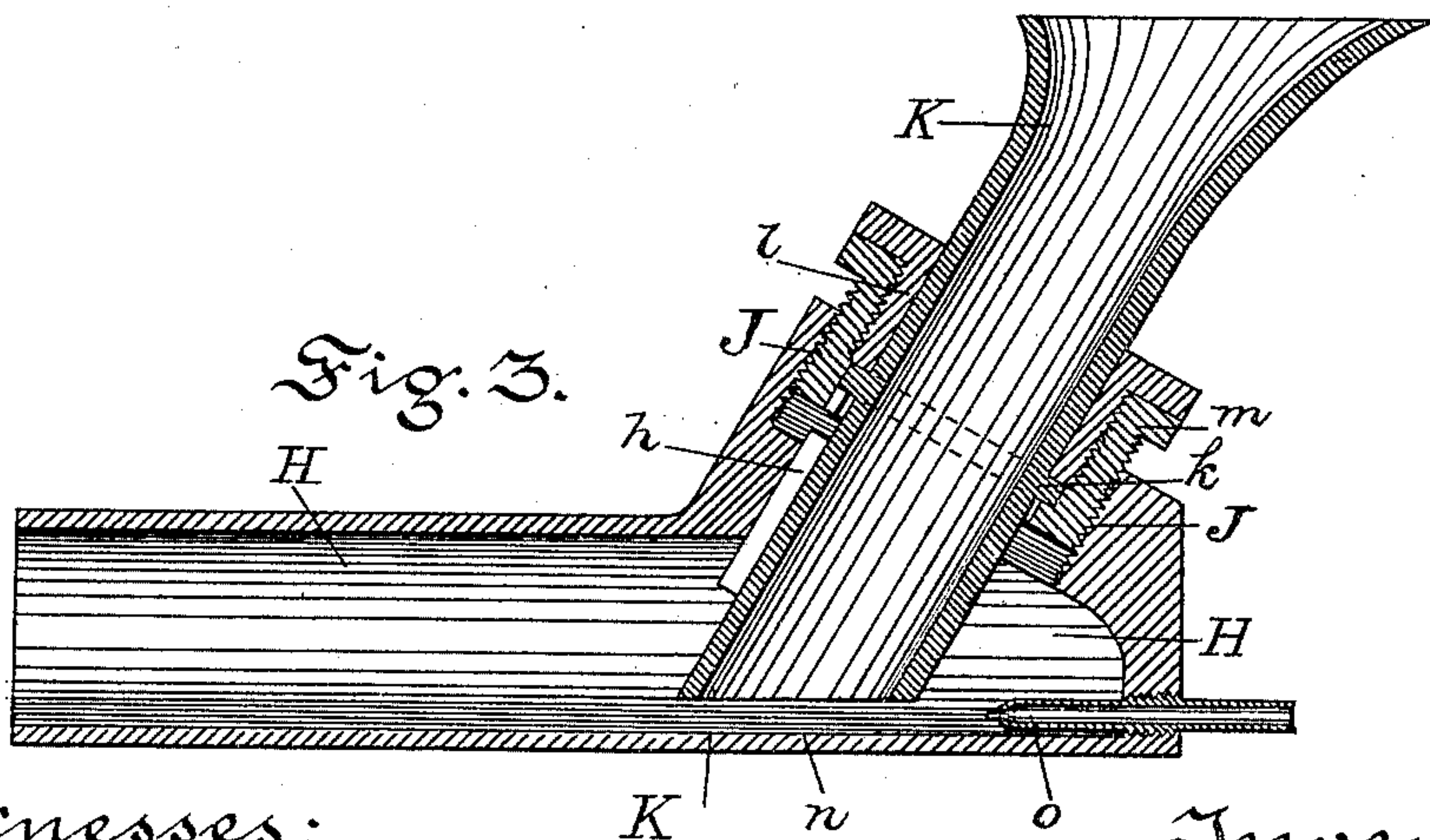


Fig. 3.

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# UNITED STATES PATENT OFFICE.

JOHN CAMPER HOOPER, OF BALTIMORE, MARYLAND, ASSIGNOR OF ONE-HALF TO JOSEPH M. ZAMOISKI, OF SAME PLACE.

## LOCOMOTIVE SANDING DEVICE.

SPECIFICATION forming part of Letters Patent No. 652,212, dated June 19, 1900.

Application filed April 30, 1900. Serial No. 14,841. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN CAMPER HOOPER, a citizen of the United States, residing at Baltimore, in the State of Maryland, have invented certain new and useful Improvements in Locomotive Sanding Devices, of which the following is a specification.

My invention has for its object to provide improved track-sanding devices for locomotives in which the sand is to be discharged from the sand-box by blasts of air, the quantity of sand to be regulated according to the condition of the rails, and in which the discharge-opening will always be kept free from being clogged by paper or other substance that may be mingled with the sand.

With these ends in view the invention consists in the construction, arrangement, and combinations of the parts hereinafter described and claimed.

Reference is to be had to the accompanying drawings, in which—

Figure 1 is a horizontal sectional view of a sand-box of a locomotive, illustrating the arrangement of air-blast pipes, the adjustable sand-nozzles, and the discharge-pipes. Fig. 2 is an elevation of a locomotive sand-box partly broken away to show two of the sanding devices, and Fig. 3 is a vertical sectional view, on a larger scale, of one of the sanding devices shown detached.

Referring particularly to Figs. 1 and 2, A designates the sand-box of a locomotive, in which are placed sanding devices B, C, D, and E, arranged in two pairs, one behind the other, as shown, in the bottom of the sand-box, the devices B C of the front pair each being provided with air-blast nozzles and pipes, which latter are connected by a T *f* with the air-supply pipe F, leading from the cab, the air being under the control of the engineer through the medium of a cock or valve attached to said pipe, but not shown, while the devices D E of the rear pair are similarly provided with air-blast nozzles and pipes connected with an air-supply pipe F'. A pipe G leads from each sanding device laterally through the side of the sand-box A and down to the rails of the track.

Having thus described the general arrangement of the box and sanding devices, I shall

now describe in detail the specific construction of the latter.

Referring particularly to Fig. 3, it will be seen that each sanding device—for instance, the one designated B—comprises an air-chamber H, to which the discharge-pipe G is attached, said chamber being formed with a screw-threaded opening J in its top, in which is a vertically-adjustable inclined sand-nozzle K, formed with a collar *k*, held between two threaded adjusting-sleeves *l* and *m*, which work one inside the other. The outer sleeve *m* works in the said threaded opening J of the air-chamber, so as to raise and lower the sand-nozzle K in order that its lower end, which is in the air-chamber, may be held in proper relation to the lower side of the said chamber so as to have a space *n* between the lower end of the sand-nozzle and said lowerside. The sand-nozzle is provided with a spline *h*, which works in a groove formed in one wall of the air-chamber. The upper end or mouth of the sand-nozzle, which is exposed in the sand-box, is flared, as shown. A small air-blast nozzle *o* is fitted in the lower rear side of the air-chamber H in alinement with the discharge-pipe G and the space *n* below the sand-nozzle K, said air-blast nozzle being connected with one of the air-supply pipes F, so that when the engineer causes a blast of air to issue out of the air-blast nozzle the sand will be blown out of the chamber H and through pipe G onto the rails.

It is especially to be noted that the sand-nozzle K will readily pass small stones, paper, or other substances which might happen to be mingled with the sand in the box A. It will also be seen that by adjusting the nozzle K up or down the size of the space *n* may be increased or lessened, and thereby the amount of sand deposited on the bottom of the air-chamber H ready to be blown out by a blast of air can be readily regulated, and the feed of sand may be shut off altogether by lowering the sand-nozzle, so as to bring its end into contact with the bottom of the air-chamber.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination with a locomotive sand-



box, of an air-chamber provided with a sand-discharge pipe; a sand-nozzle opening into said sand-box and connected with said air-chamber and through which the sand passes  
 5 on its way to the discharge-pipe; means for adjusting the nozzle up or down in the chamber whereby it may deposit different amounts of sand on the bottom of the air-chamber;  
 10 and an air-blast nozzle opening into the chamber and arranged to throw blasts of air against the sand deposited therein.

2. The combination with a locomotive sand-box, of an air-chamber in said box provided with a discharge-pipe for sand and air and  
 15 also formed with a threaded opening; a vertically-adjustable inclined sand-nozzle fitted in said threaded opening through which the sand passes to the air-chamber—said sand-nozzle being arranged to have its lower end  
 20 brought into contact with or at varying distances from the bottom of the air-chamber; and an air-blast nozzle in said chamber at the rear of said sand-nozzle and in line with the discharge-pipe.

25 3. The combination with a locomotive sand-box, of an air-chamber in said box provided with a discharge-pipe for sand and air and also formed with a threaded opening, a sand-nozzle in said opening through which the sand  
 30 passes to the air-chamber, said sand-nozzle being formed with a collar *k*, a threaded

sleeve *m* working in the threaded opening of the air-chamber and engaging the under side of said collar, an inner sleeve *l* screwing in  
 the outer sleeve and engaging the upper side 35 of the said collar, and an air-blast nozzle in said chamber at the rear of said sand-nozzle and in line with the discharge-pipe.

4. The combination with a locomotive sand-box, of sanding devices therein arranged in  
 40 pairs one behind the other and provided with air-chambers in which are air-nozzles connected with air-supply pipes leading from the locomotive-cab, discharge-pipes leading from said air-chambers, and vertically-adjustable 45 sand - nozzles interposed between the discharge-pipes and air-nozzles, through which the sand passes on its way to the discharge-pipes, said sand-nozzles being arranged to be brought into contact with the bottom of the 50 air-chamber to shut off the feed of sand or adjusted above the said bottom whereby to deposit different amounts of sand, and adjusting-sleeves adapted to raise and lower said nozzles. 55

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

JOHN CAMPER HOOPER.

Witnesses:

CHARLES L. VIETSCH,  
 F. S. STITT.