

No. 772,124.

PATENTED OCT. 11, 1904.

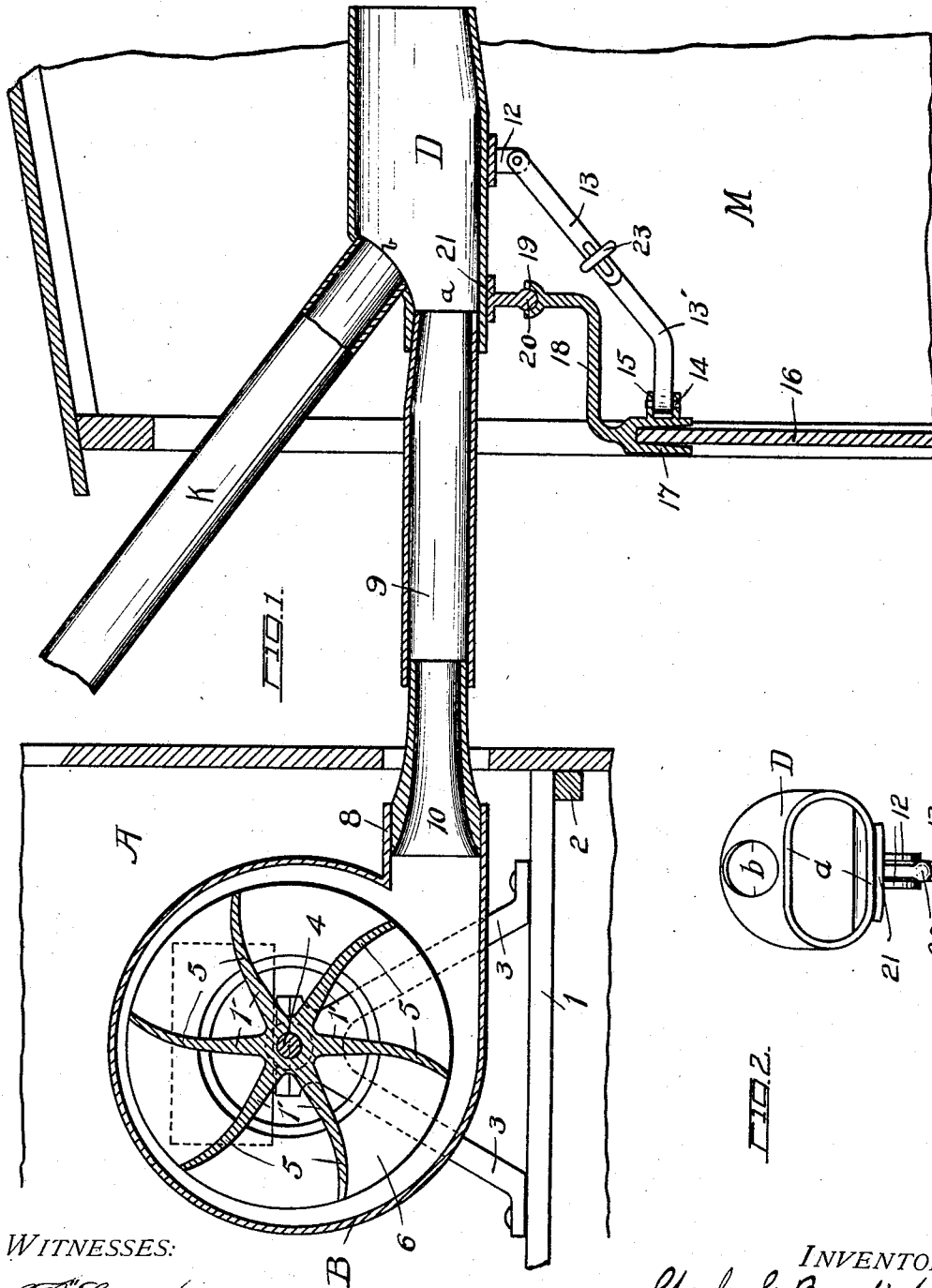
C. G. BENEDICT & W. ANDERS.

AIR BLAST GRAIN SPOUT.

APPLICATION FILED FEB. 5, 1904.

NO MODEL.

2 SHEETS—SHEET 1.



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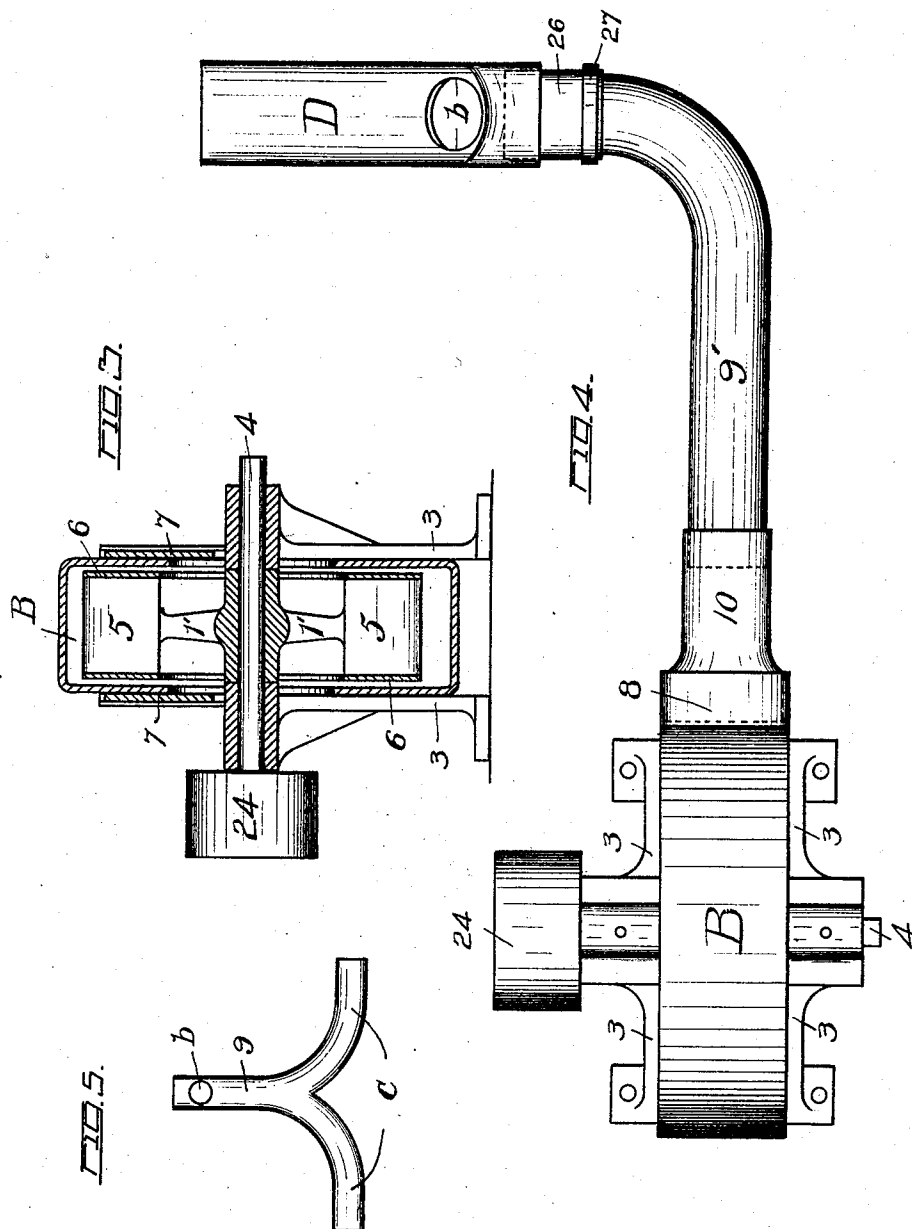
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2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

CHARLES G. BENEDICT AND WILLIAM ANDERS, OF CREIGHTON,
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AIR-BLAST GRAIN-SPOUT.

SPECIFICATION forming part of Letters Patent No. 772,124, dated October 11, 1904.

Application filed February 5, 1904. Serial No. 192,093. (No model.)

To all whom it may concern:

Be it known that we, CHARLES G. BENEDICT and WILLIAM ANDERS, residing at Creighton, in the county of Knox and State of Nebraska, have invented certain useful Improvements in Air-Blast Grain-Spouts; and we do hereby declare that the following is a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

This invention relates to a new and novel improvement in air-blast grain-spouts.

The aim of our invention is to provide a device by means of which grain may be expeditiously loaded into a grain-car, the hull of a vessel, or any other suitable receptacle by means of an air-blast; and our invention embodies the combination of certain mechanical instrumentalities, as will be set forth more fully hereinafter, and finally pointed out in the claim.

In the accompanying drawings we have shown in Figure 1 a view, partly in section and with portions broken away, of an air-blast grain-spout embodying our invention. Fig. 2 shows a rear view of the adjustable nozzle as used in our invention, disclosing the intake-opening. Fig. 3 shows a sectional view of the fan. Fig. 4 discloses a top view of the fan and spout as used in our invention, while Fig. 5 discloses a top view illustrating the grain-spout as branched.

In Fig. 1 we have shown a broken portion of a grain-elevator A, within which is provided a suitable support 1, held by a cleat 2. Upon this floor 1 are held the brackets 3, which brackets support a suitable blast-fan B. In Fig. 1 one side of the blast-fan is shown as removed. These brackets 3 support a suitable shaft 4, provided with a plurality of fan-blades 5, these fan-blades being secured near their sides by means of two disk flanges 6, as shown also in Fig. 3. These fan-blades 5 are secured to the spokes 1' of the fan-wheel, as disclosed. Secured to the sides of the fan are the gates 7, as disclosed more particularly

in Fig. 4, so that the amount of air taken into the fan may be regulated. Secured to the exit-spout 8 of the fan B by the joint-piece 10 is the air-tube 9, which tube may be of metal and be straight, as is shown in Fig. 1, or be curved; as is shown in 9' of Fig. 4. In order that this tube 9 may be adjustable, the same is made to telescope, so that this tube 9 will telescope into and out of the joint 10. The outer end of this air-tube 9 is somewhat contracted, so as to fit into the delivery-nozzle D, as is disclosed more particularly in Fig. 1. This delivery-nozzle D is provided, in addition to the intake-opening *a*, as is disclosed in Fig. 2, with the second grain-intake opening *b*, as is more clearly disclosed in Fig. 2, into which opening extends the grain-delivery spout K, which is suitably secured to the grain-bins or grain-weighing mechanism and from which the grain is to be fed into a suitable car M, as shown in Fig. 1.

The adjustable nozzle D is provided near the forward end with the ears 12, to which are secured the supporting-rods 13, swivelly supported below upon the pin 14, held within the bracket 15, secured to the bifurcated ear 17, striding the grain-door 16, as indicated in Fig. 1. Extending from this bifurcated ear 17 is a supporting-rod 18, provided with the socket 19, within which operates the ball 20 of the bracket 21, secured to the adjustable nozzle D. The supporting-rod 13, it will be noticed, is provided with the section 13', the two being slotted and united by means of the screw 23. Now, as disclosed in Fig. 1, the grain as it feeds through the spout K into the adjustable nozzle D is blown by the air-blast straight ahead, a suitable pulley 24 being secured to the driving-shaft 4, as disclosed in Figs. 3 and 4, to create an air-blast, so that the grain is delivered straight ahead when the instruments are arranged as disclosed in Fig. 1. Now if it is desired to deliver the grain toward the end of the car the nozzle D is adjusted so as to extend to the left or right, in which instance, however, we use a curved air-delivery spout or tube 9', as is disclosed in Fig. 4. When that end of the car is filled,

the tube 9' is reversed, the nozzle D being re-adjusted so that the grain may be fed toward the end of the car. If desired, the air-tube 9 may be provided with two ends, as shown at 5 c in Fig. 5, so that the air may be simultaneously forced to the right or left, the nozzle being provided with a suitable grain-intake opening b, as is shown in Fig. 5. This grain-intake opening is shown at the juncture of the 10 two branching pipes, though it should be understood that the same may be placed at the ends of these pipes c. If desired, the nozzle D may be secured to a swivel-collar 26, provided with a ring 27, suitably supported so 15 that this grain-delivery nozzle may be turned upon the end of the spout in feeding the grain toward the end of the cars. It is of course understood that these air-blast delivery-spouts may be made of various sizes. In Fig. 1 a 20 broken portion of the car-door 16 is disclosed

as in position, supporting the bifurcated end of the bracket 18.

Having thus described our said invention, what we claim as new, and desire to secure by United States Letters Patent, is—

The combination, with an air-blast fan, of an air-duct leading from said fan, a nozzle secured to said duct, said nozzle being adjustable in a horizontal plane, adjusting-brackets to support said nozzle, a grain-intake opening 30 within said nozzle and a grain-delivery spout entering said nozzle.

In testimony whereof we affix our signatures in presence of two witnesses.

CHAS. G. BENEDICT.
WILLIAM ANDERS.

Witnesses:

RENNE ROSEBACH,
J. H. BERRYMAN.