P. SCHUSTER.

DEVICE FOR PREVENTING DUST DETONATIONS.

APPLICATION FILED APR. 13, 1908.

940,075.

Patented Nov. 16, 1909.

Fig. 1.

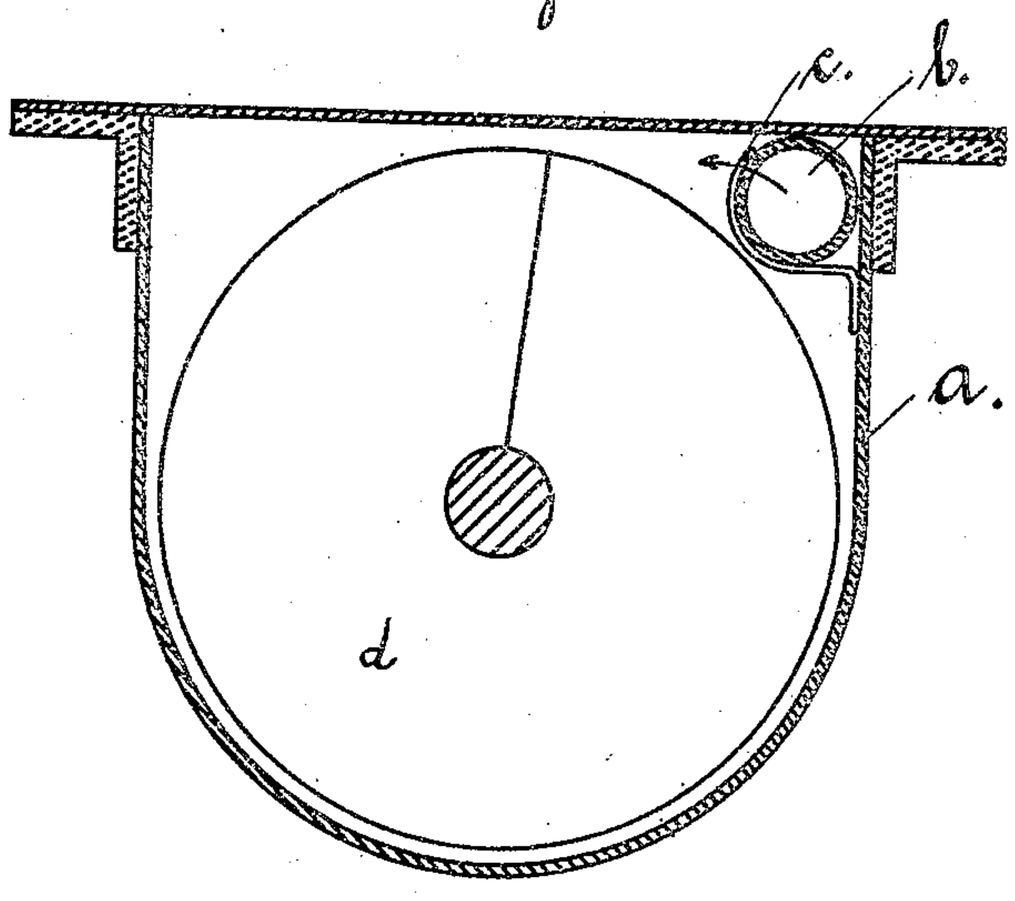
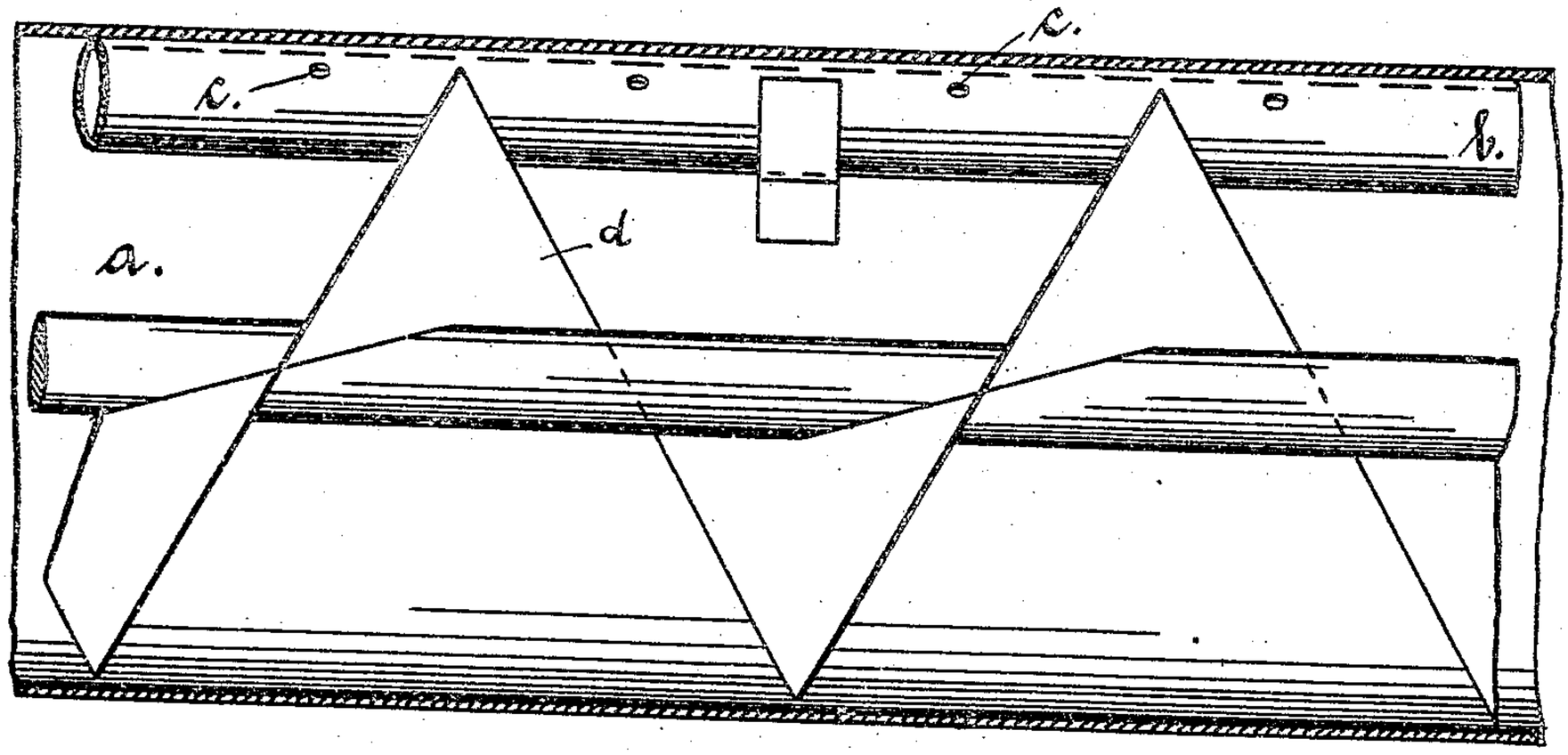


Fig. 2.



Witnesses:
Alfred Bühring.
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by Erich Peters
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UNITED STATES PATENT OFFICE.

PAUL SCHUSTER, OF HÖTENSLEBEN, NEAR MAGDEBURG, GERMANY.

DEVICE FOR PREVENTING DUST DETONATIONS.

940,075. Specification of Letters Patent. **Patented Nov. 16, 1909.**

Application filed April 13, 1908. Serial No. 426,890.

To all whom it may concern:

Be it known that I, PAUL SCHUSTER, a subject of the King of Prussia, German Emperor, residing at Hötensleben, near Magdeburg, Germany, have invented a new and useful Improvement in Devices for Preventing Dust Detonations, of which the following is a specification.

The object of my present invention is to prevent dust detonations in flour mills, wood-working mills, briquet-factories and the like.

My invention consists in spraying the dust particles within the conveyer casing so as to prevent the formation of an explosive mixture. This effect is attained, after determining the fire-center, by introducing steam of low tension into the closed conveyer casing so as to prevent whirling or stirring up of the dust therein. The watery vapor gradually filling the working chamber incloses all suspended particles of dust, and the dust particles become so heavy that they drop and form a wet layer on the material being conveyed and separate the fire center from the air. And as the air above the fire-center is free of dust and saturated with water it will be clear that the danger of explosion is overcome.

A suitable device is illustrated in the accompanying drawing, in which like letters of reference refer to like parts throughout the different figures.

The drawing shows the device arranged in a casing together with a conveyer screw.

In the drawings: Figure 1 shows in a cross-section the device mounted in a casing together with an endless screw. Fig. 2 shows a longitudinal section of Fig. 1.

Inside the transport represented by the closed casing *a* of the conveyer screw *d* I mount a pipe *b* along the full length of the casing at one side of the casing at the upper portion thereof. The pipe *b* is provided with a number of small perforations *c* the openings of which are averted from the material conveyed. As shown in the drawings the openings are directed toward the top of the casing. This arrangement prevents the watery vapor entering the pipe with any degree of force and thus their exit from the opening sets up no undue action of the air or dust particles.

What I claim as new and desire to secure by United States Letters Patent is:—

A device for preventing dust detonation comprising a closed casing and conveying means in the casing, a pipe located on one side of the casing at the upper portion thereof, said pipe having perforations in its upper portion, directed upwardly for directing the watery vapors against the top of the casing.

In witness whereof I have hereunto set my hand in presence of two witnesses.

PAUL SCHUSTER.

Witnesses:

A. G. PERKINS,

S. P. WARNER.