

No. 850,778.

PATENTED APR. 16, 1907.

E. MUELLER.
PROCESS OF MAKING HYDRAULIC CEMENT.
APPLICATION FILED FEB. 11, 1907.

Fig. 2

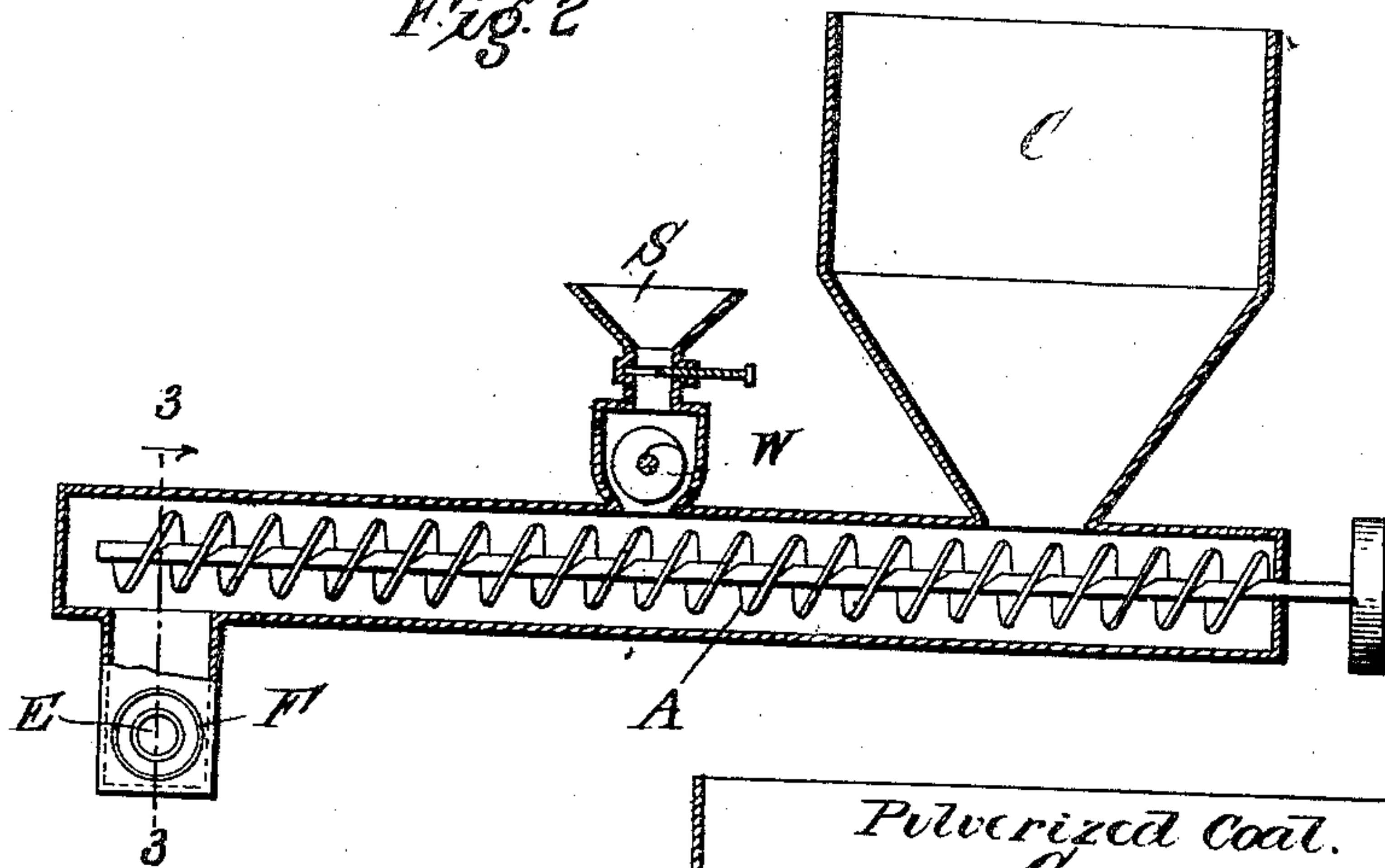


Fig. 1

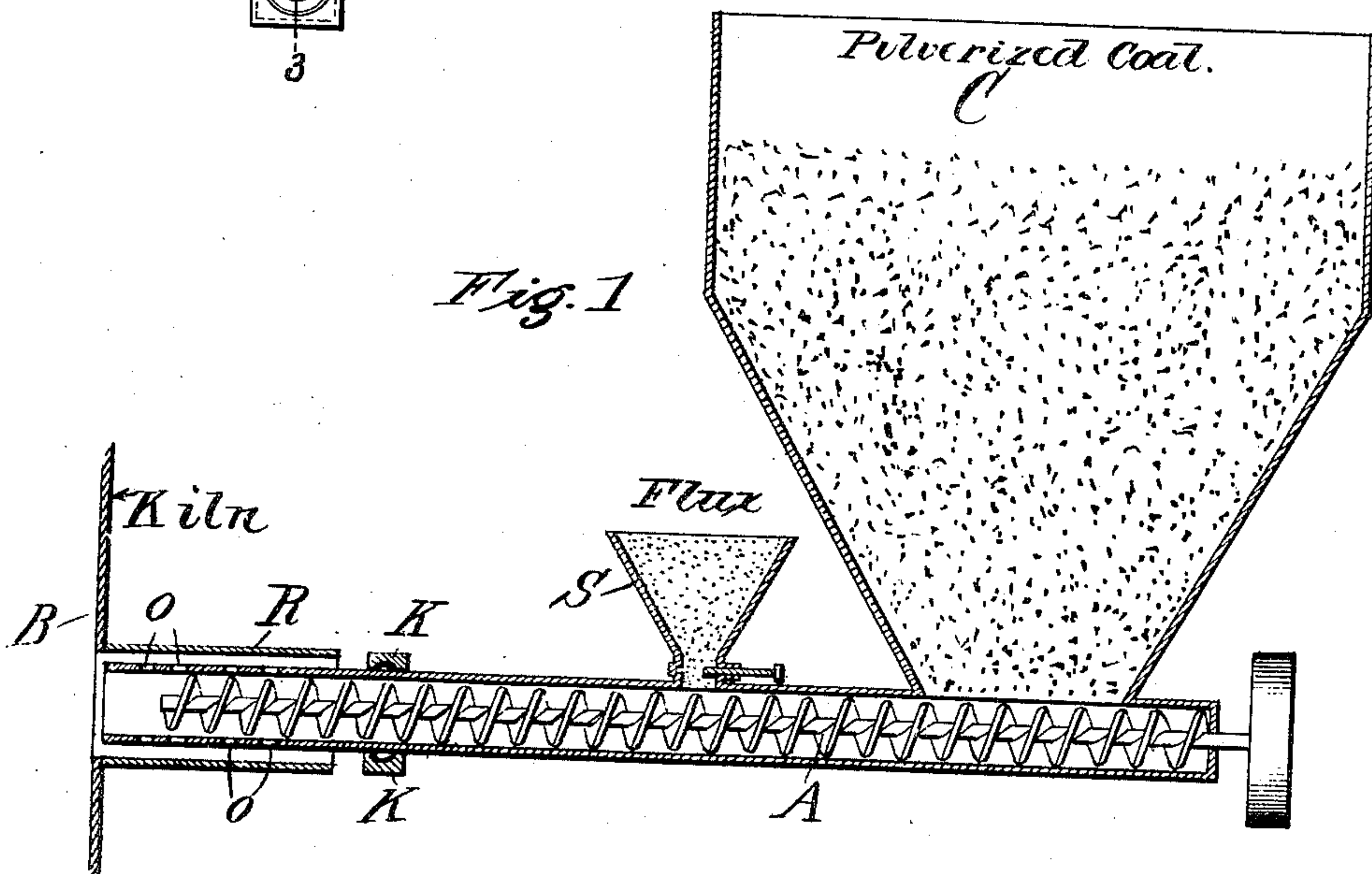
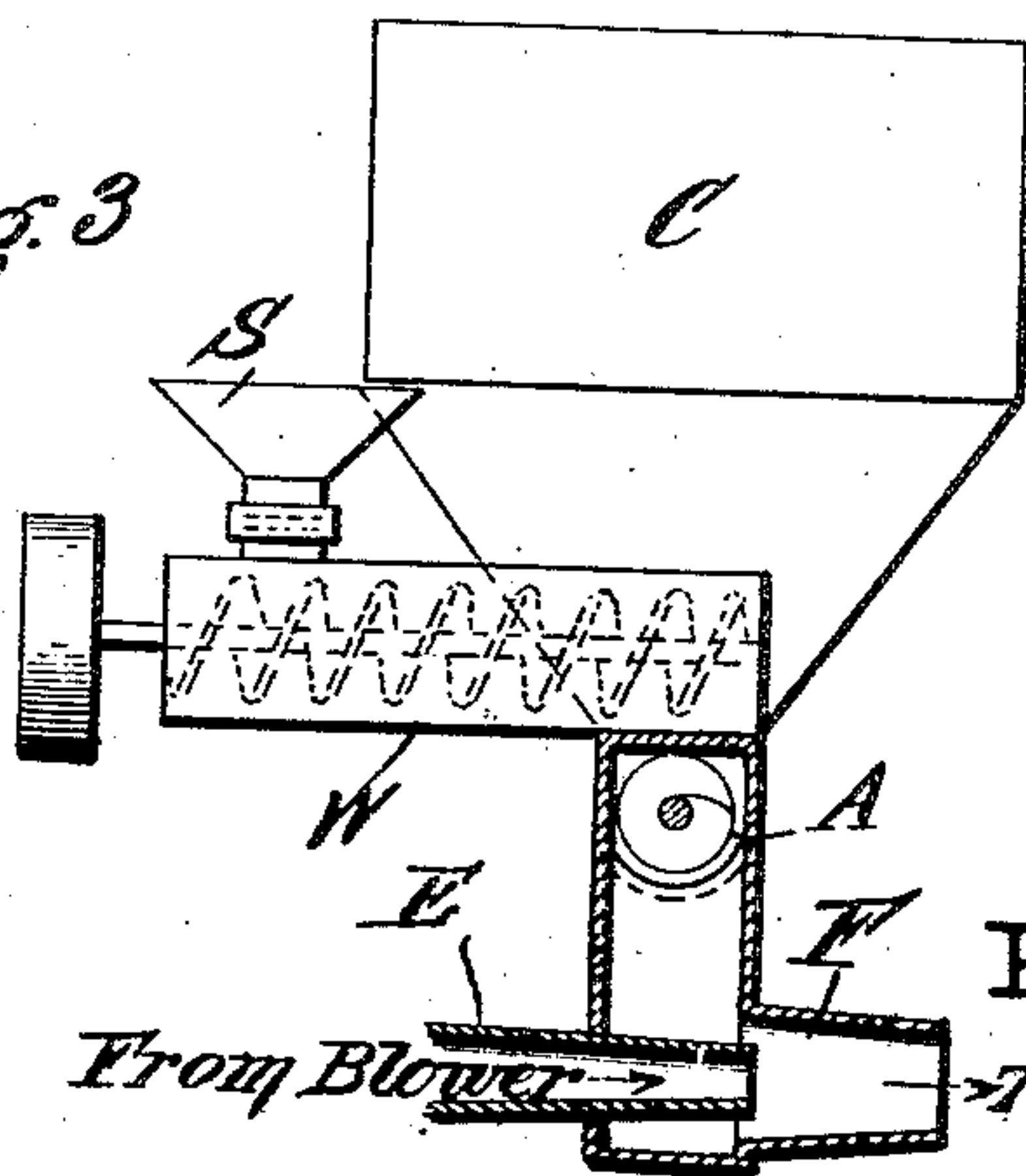


Fig. 3



WITNESSES
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PROCESS OF MAKING HYDRAULIC CEMENT.

No. 850,778.

Specification of Letters Patent.

Patented April 16, 1907.

Application filed February 11, 1907. Serial No. 356,745.

To all whom it may concern:

Be it known that I, EMIL MUELLER, a citizen of the United States, residing at Alsen, in the county of Greene and State of New York, have invented a new and useful Improvement in Processes of Making Hydraulic Cement, of which the following is a specification.

My invention is in the nature of a novel process of making hydraulic cement; and it consists in mixing together pulverized coal and a pulverized flux and feeding the mixture simultaneously into the kiln for calcining the cement clinker, the admixture of flux with the coal and its diffusion and immediate action throughout the kiln serving to calcine the cement at a lower temperature and in a shorter time. The fluxes which I employ are calcium fluorid, iron ore, chrome ore, silica, blast-furnace slag, or any other well-known fluxes. The coal and the fluxes may be mixed by simultaneously grinding them together, or the coal may be ground alone and the flux added thereto and mixed just before entering the kiln.

Figure 1 is a sectional elevation of a simple apparatus for mixing the separately-ground materials and feeding them into the kiln. Fig. 2 is a similar view of an apparatus for feeding the material with compressed air, and Fig. 3 is a section on line 3 3 of Fig. 2.

In the drawings, C is a bin in which is placed the ground coal and from which the ground coal is fed by a tubular conveyer A, having a slowly-rotating feed-screw therein. S is a second smaller bin or hopper which is tapped into the screw-conveyer case at a suitable point along its length and is provided with a regulating gate, valve, or screw conveyer, as hereafter described. Into this bin is placed the pulverized or ground flux, which slowly discharges into the screw conveyer and is therein mixed with the pulverized coal in a more or less homogeneous manner and is then discharged simulta-

neously along with the coal into the kiln B. The percentage of flux used with the powdered coal varies from a fraction of one per cent. to five or six per cent.

The kiln may be of the rotating type or any other type, and the mixture of pulverized fuel may be fed into it as follows: A sliding tube R is arranged telescopically over the discharge end of the conveyer-tube, and a sliding ring K behind the tube R serves the purpose of regulating the supply of air, the openings O allowing the air to be forced directly into the conveyer.

If the materials are to be fed by compressed air, then the form of device shown in Figs. 2 and 3 will be used. In this case the conveyer instead of being in line with the longitudinal axis of the kiln is at right angles to the axis, and the conveyer A discharges into a box from which a spout F enters the kiln, while a concentric nozzle E from an air-blower supplies the blast of air. The flux is also fed from its hopper S by a short auxiliary conveyer W, mounted above the conveyer A and at right angles to it.

I claim—

1. The process of facilitating the calcination of cement clinker, which consists in intimately mixing a carbonaceous fuel and a pulverized flux and simultaneously introducing them into the calcining-kiln.

2. The process of facilitating the calcination of cement clinker, which consists in intimately mixing pulverized coal and a pulverized flux and simultaneously introducing them into the calcining-kiln.

3. The process of facilitating the calcination of cement clinker, which consists in intimately mixing pulverized coal and calcium fluorid and simultaneously introducing them into the calcining-kiln.

EMIL MUELLER.

Witnesses:

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K. G. GLOVER.