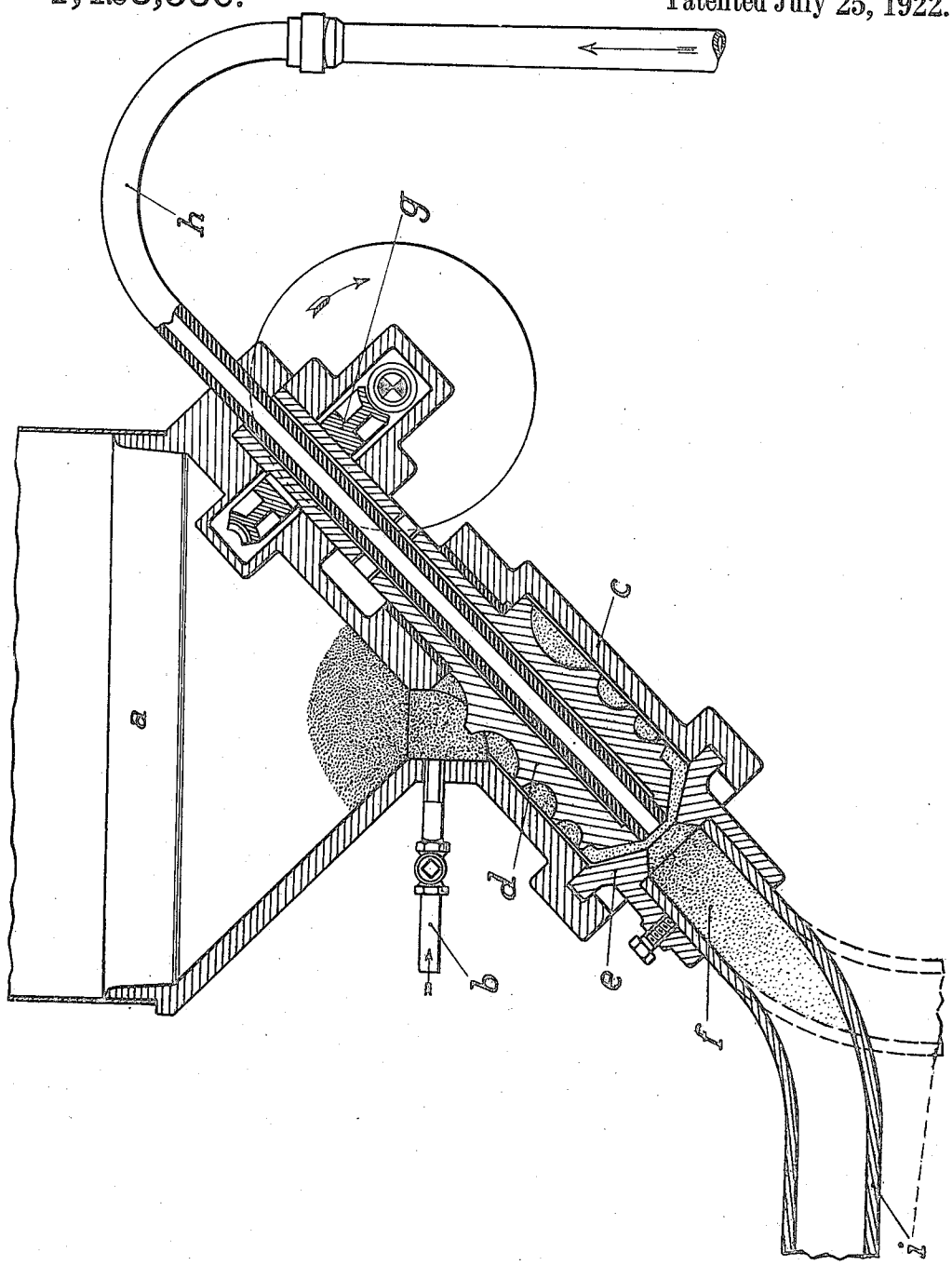
T. MOSER.

APPLIANCE FOR THROWING MORTAR FOR THE PLASTERING OF WALLS AND THE LIKE.

APPLICATION FILED OCT 29, 1920.

1,423,536. Patented July 25, 1922.



Inventor:
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UNITED STATES PATENT OFFICE.

THEODOR MOSER, OF BERLIN-GRUNEWALD, GERMANY.

APPLIANCE FOR THROWING MORTAR FOR THE PLASTERING OF WALLS AND THE LIKE.

1,423,536. Specification of Letters Patent. Patented July 25, 1922.

Application filed October 29, 1920. Serial No. 420,552.

To all whom it may concern:

Be it known that I, THEODOR MOSER, a citizen of the German Republic, residing at Berlin-Grunewald, Germany, have invented new and useful Improvements in an Appliance for Throwing Mortar for the Plastering of Walls and the like (for which I have filed an application in Germany, July 16, 1918), of which the following is a specification.

An appliance by means of which quantities of mortar or the various component parts of same, are thrown by compressed air or similar means, in order to cover, or for building up, parts of building construction are already known.

The existing processes and the building construction erected by these processes, however, did not prove satisfactory.

The mortar thrown was either imperfectly mixed, or in spite of perfect mixture it deteriorated, when thrown into the open by means of compressed air.

The cause of the deterioration was, that the various particles of mortar were never in intimate contact with each other, and owing to the difference in weight, and consequently in the inertia of the particles each one was thrown with a different force.

When mortar that was ready mixed and moistened, was thrown, the valuable binding material was washed out, because with the process hitherto used, an excess amount of water is necessary for making the mortar soft enough to be brought into the current of compressed air of the apparatus previously employed.

As the result of these disadvantages, building construction made on the old process was not of uniform strength, a further drawback being the reduced reliability of service of the existing plants due to clogging and general inadequacy of the piping and nozzles employed for conducting the material.

All these drawbacks are overcome by the present invention. The object of the inventor was to bring mortar, ready for use, and of faultless quality into a current of compressed air in such a manner that without deterioration of its composition, it is carried along in an atomized state, thus to be thrown against building parts, or to form building parts by the assistance of known auxiliaries.

Mortar of faultless quality, however, contains a very small water admixture, and the mixture of mortar, immaterial of what composition, is therefore very stiff.

The conveying medium, on the other hand, consists of high pressure steam, compressed air, or gas, the resistance of which must be overcome when the mortar is brought together with the conveying medium.

The problem is, to overcome the twofold resistance, once of the mortar, and then again of the conveying medium.

This is effected by the mortar, after having been ready mixed being seized at the bottom end of a material-container, by a conveyor screw with tapered thread, which presses it against an opening in the screw casing situate in line with the longitudinal axis. At this point the conveying medium, introduced through the hollow shaft of the conveyor screw, catches hold of the mortar, and throws it away.

The drawing represents an appliance for employing this process.

The receptacle *a* contains the mortar, already mixed or may also serve for mixing it.

For mixing the mortar in this vessel, if such should be required, an adjustable water connection is provided below the tank at *b*.

Below the mortar receptacle *a* a worm *d* has been provided in a closed casing *c*, serving for properly saturating the mortar with moisture. During its rotation this worm pushes the mortar along, and compresses it. By this compression the chamber *f* filled with compressed air or the like, is effectively sealed, and moreover the finer hydraulic binding ingredients of the mortar are brought into intimate contact with the coarser admixtures. The driving arrangement for this worm or screw may be designed in various ways; on the drawing it is indicated by worm-gear reduction *g* which is driven by means of a motor. The compressed air is introduced through *h*, but this arrangement may also be constructed in a different manner if desired. For the movable nozzle *i* it is well to use a piece of hose, the length of which is determined by the prevailing conditions of pressure.

Conveying mediums in the sense of this description, are any compressed gaseous bodies, having the property of carrying

solid or liquid bodies along in their flow. Mortar is any mixture suitable for plastering or forming parts of building construction, namely mixtures of cement, lime, plaster of Paris, clay, loam, etc. The conveyor and mixer screw, as also the receptacle may be placed in any position in space, and during the manipulation of the apparatus need not be placed horizontally.

Claims:

1. Mortar throwing apparatus comprising a hopper, a casing into which the hopper discharges, a nozzle leading from the casing, a screw conveyer arranged for rotation in the casing and the flight of which decreases in pitch toward the discharge end of said conveyer, means to discharge compressed air through the conveyer and the said nozzle, and driving means for the conveyer.

2. Mortar throwing apparatus comprising a hopper having a discharge throat, a casing communicating with the discharge throat, means to supply water to the material in said discharge throat, a nozzle leading from the casing, a screw conveyer arranged for rotation in the casing and the flight of which decreases in pitch toward the discharge end of said conveyer, means to discharge compressed air through the conveyer and the said nozzle, and driving means for the conveyer.

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

THEODOR MOSER.

Witnesses:
MEINICH KLEINUNG,
MAX KIECKSEE.