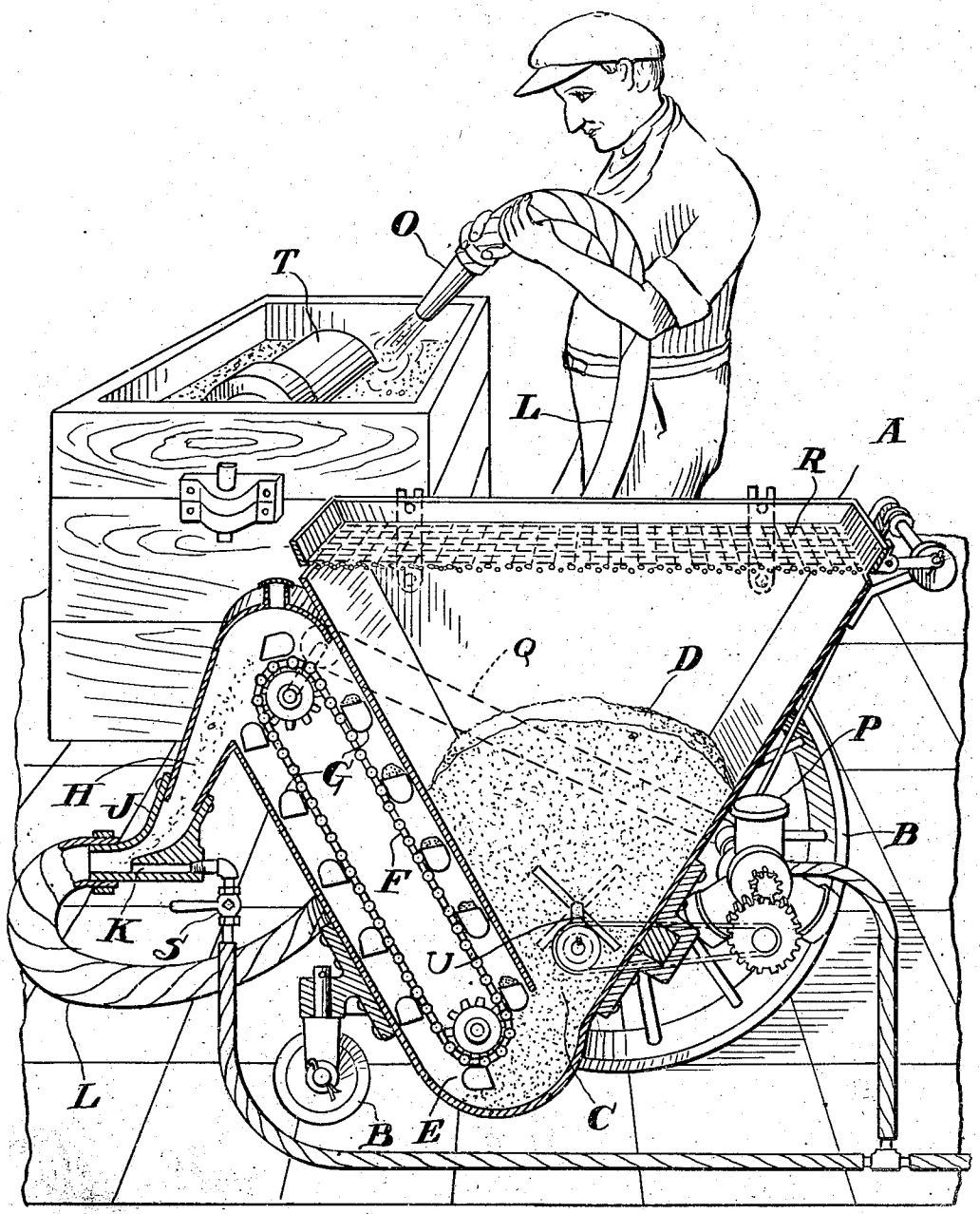
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PNEUMATIC CONVEYER FOR MOLDING SAND

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PNEUMATIC CONVEYER FOR MOLDING SAND.

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This invention relates to pneumatic conveyers but more particularly to a device to be used in foundries or construction work for pneumatically projecting such materials as sand or cement. Sand or cement not in suspension in liquid has heretofore been hard to project satisfactorily by pneumatic means as its lack of uniform viscosity or cohesion will not allow it to be fed to the work in even quantities but will rather cause it to be fed in haphazard fashion which absolutely prevents any accurate work by the operator.

My invention aims to overcome this difficulty by the use of a mechanical means for uniformly feeding material into the path of a compressed air stream adapted to blow it on the work. At the same time I have provided for the actuation of the entire device by means of compressed air so that its operation will be simple and economical.

The object of my invention therefore is to provide a device for pneumatically feeding sand or cement not in suspension in liquid onto the work desired in a predetermined quantity. Another object of my invention is to provide a portable device for feeding such material, the only motive power needed being a supply of compressed air, while a further object of my invention is to provide a device for feeding such material in which the screening, mixing and projecting will be done automatically and at a speed predetermined by the operator. My invention is embodied in the combination of elements and the features of novelty described in this specification, set forth in the appended claim and illustrated in the drawing in which,

The figure is a transverse sectional elevation of my invention showing its mode of use for the making of molds in foundry work.

Referring to the drawing a hopper A is shown portably mounted on wheels B and having a restricted outlet C at the bottom through which the sand D is forced by means of gravity into the bottom of the chamber E. The chamber E is longitudinal in shape and extends along one side of the hopper A. A bucket chain conveyer F carrying the buckets G is adapted to operate within the chamber E in such a way that the buckets will be drawn through the sand D at the bottom thereof and will carry the sand up to the top of the chamber E where they will drop the sand into a tapering nozzle H which in turn runs into a pneumatic nozzle J so constructed that the sand will be thrown into the path of a jet of compressed air K, and will then be blown through flexible tubing L and the projecting nozzle O which is adapted to be held by the operator. An air motor P of any preferred design is used to operate the bucket conveyer device F by means of the belt Q and is suitably mounted upon the frame of the hopper. This same motor is also adapted to be used to motivate the screening device R, and the agitator U, which is placed in the hopper A near the restricted opening. A valve S is adapted to control the force of the air jet K for projecting the material upon the work. The operator is shown directing a supply of sand around the core T for the formation of a mold.

In operation after the hopper A has been filled with sand, which has been screened by means of the automatic screening device R, the operator can start the bucket chain F moving at a predetermined speed according to the speed of the motor P and the sand will thereby be delivered in measured quantities into the chute H from which it will be blown also in a quantity predetermined by the operator through manipulation of the valve S, upon the work T.

I am not to be understood as confining myself to the invention as shown in the drawing, as such an invention lends itself to a multitude of adaptations by one skilled in the art, What I claim as elements of novelty is the mechanical bucket chain conveyer which can be operated at any desired speed and which will thereby supply sand in uniform quantities into the compressed air stream in combination with the nozzle K and pneumatic means for projecting the sand upon the work through a flexible tube.

I claim:

A portable pneumatic conveyer for materials not in suspension in a liquid comprising, a hopper, a pneumatic motor mounted on said hopper, a mechanical screen over said

hopper motivated by the said motor, a mechanical mixer at the bottom of said hopper motivated by said motor, a restricted outlet in said hopper, a chamber at said restricted outlet, a chute leading from the top of said chamber, a mechanical bucket conveyer motivated by said motor adapted to scoop the material from the restricted outlet and deposit it in said chute, and pneumatic means at the bottom of said chute for projecting the said material.

In testimony whereof I have signed this specification.

CHARLES C. HANSEN.