

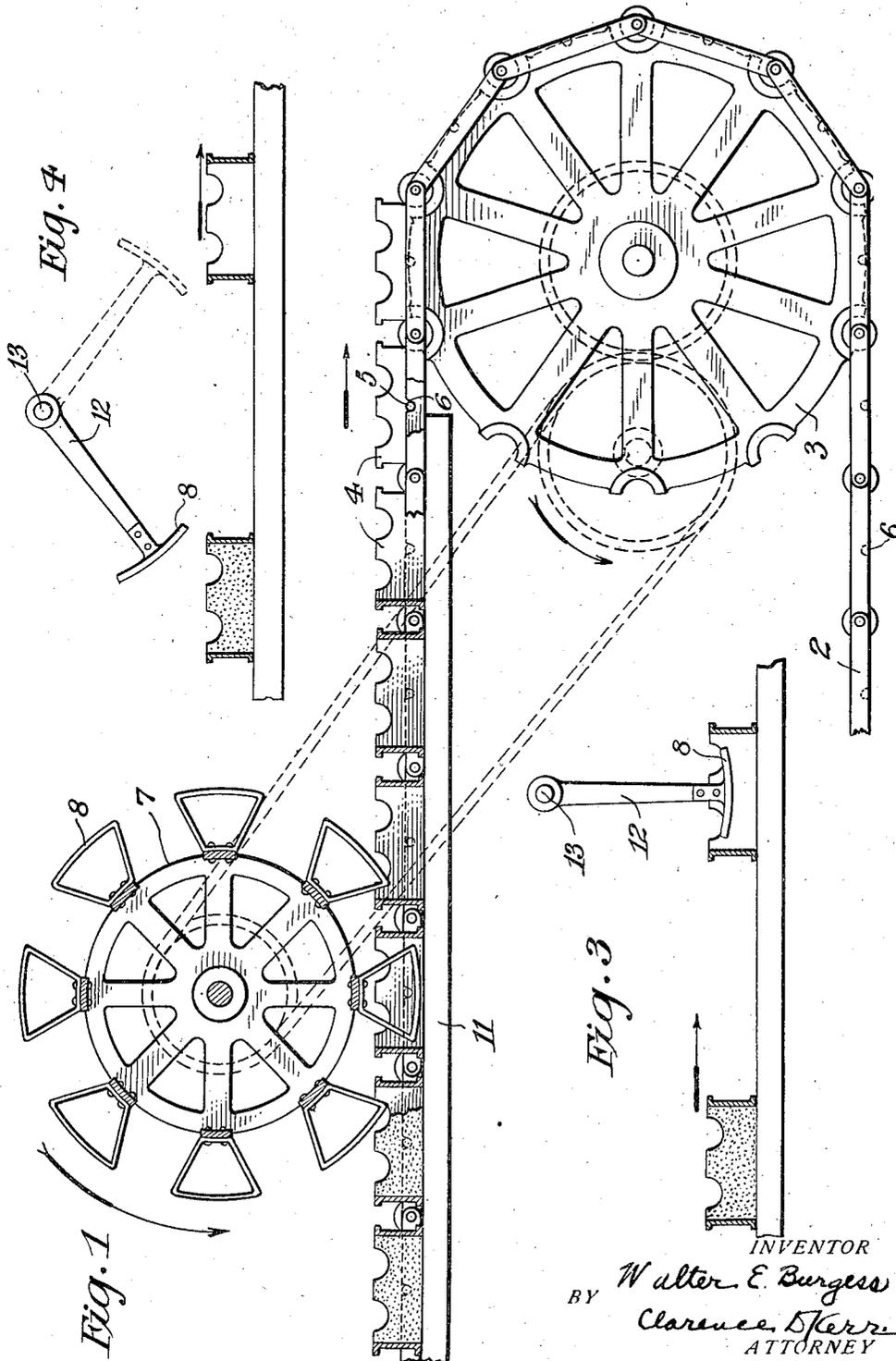
Oct. 9, 1923.

1,469,888

W. E. BURGESS
SAND EJECTOR FOR FLASKS

Filed Nov. 19, 1921

2 Sheets-Sheet 1



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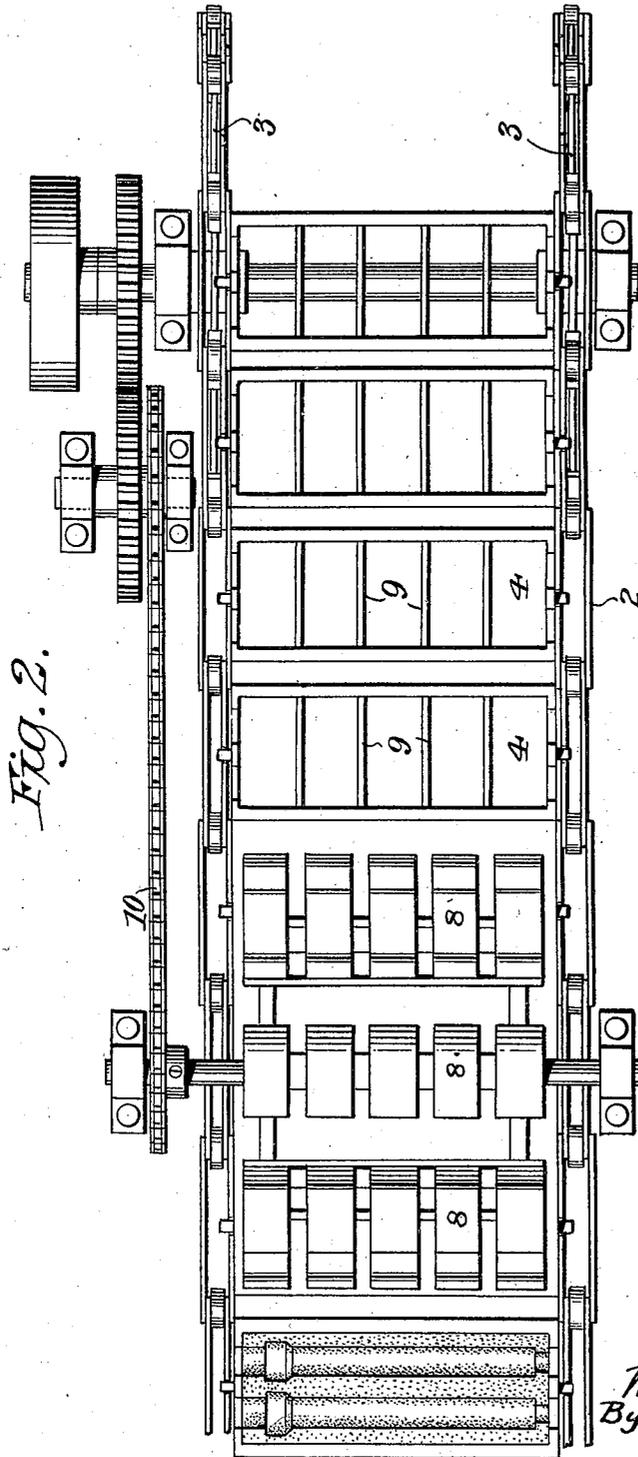


Fig. 2.

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SAND EJECTOR FOR FLASKS.

Application filed November 19, 1921. Serial No. 516,284.

To all whom it may concern:

Be it known that I, WALTER E. BURGESS, a citizen of the United States, residing at Rutherford, Bergen County, New Jersey, have invented new and useful Improvements in Sand Ejectors for Flasks, of which the following is a specification, reference being had to the accompanying drawings, in which—

Fig. 1 is an elevation partly in section of my improved mechanism; Fig. 2 is a plan thereof; Figs. 3 and 4 are elevations partly in section of a modification of my invention.

My invention relates to ejecting sand from flasks, and comprises mechanism for driving the sand out of the flasks after castings have been molded therein. My invention is particularly adapted to a continuous foundry, but may also be employed with single flasks. My invention also consists in the various features which I shall hereinafter describe and claim.

In the drawings, I have shown a continuous conveyor consisting of link belts 2 mounted on the sprockets 3 and driven from any suitable source of power. The flasks 4 have the usual projections 5 at their ends, which fit into recesses 6 in the links of the belts 2. The flasks 4 are shown in open position, that is, the cope and drag are illustrated as of similar construction and are arranged side by side, the castings having been removed therefrom so that the sand may be readily driven out of the flask.

The shake-out or sand ejector consists in a wheel 7 having arranged around its periphery a plurality of sets of shoes 8 having their greatest dimension arranged on their peripheries. I have shown a plurality of shoes in each set, which are thus enabled to pass between the bars 9 across the top of a flask 4 and also require less pressure to force the sand out of a flask than if made in a solid piece, as the plurality of shoes assist in breaking up the sand rather than tending to force it out all in one mass which would require an application of much greater power. The wheel is arranged directly over the upper side of the conveyor and spaced a sufficient distance above it so that as the wheel rotates the shoes will enter the successive molds, inasmuch as the sides of the shoes are arranged at angles re-entrant with their peripheral faces, which prevents interference between the shoes and the sides of

the mold. The wheel 7 may be driven by a sprocket chain 10 suitably connected through sprockets and gearing and a counter-shaft with the shafting which drives the continuous belt 2. Beneath the point of application of force of the wheel 7 and below the upper rim of the conveyor are arranged supports 11, over which the conveyor travels and which act as an anvil and prevent the wheel from exerting a bending movement on the conveyor.

In operation, after the cope halves of the flasks have been taken off and the articles cast therein have been removed, the flasks 4, one of which with the sand therein is shown at the left of Fig. 2, are then carried by the endless conveyor 2 directly under the wheel 7. As the shoes 8 on the wheel are spaced about its periphery so as to properly register in the flasks 4 as these come along, and the wheel 7 is timed to move with the movement of the flasks, each set of shoes will enter a flask and will force the sand down and out of the flask. The bottom or peripheral face of the shoes 8, as it enters the flask at an angle, will serve to break up the sand before the full force of the shoe is exerted, and as this force is exerted with a sort of fulcruming or turning movement, the sand will be effectively discharged from the flask.

In Figs. 3 and 4 I have shown a modified form of my invention, in which a shoe 8 is mounted on the end of a lever arm 12 which is oscillated about the axis 13. In this form the shoe 8 swings into the flask, as is shown in Fig. 3, forces the sand out of the flask, and swings forwardly with the movement of the flask and then back to the full line position shown in Fig. 4, ready to swing down into the next advancing flask.

I have found that apparatus constructed in accordance with my invention is very effective in removing sand from flasks and performs its work with a minimum of effort and at low cost, since the operation is entirely automatic and the parts of the stripper are not only of simple character but are of very rugged construction.

The terms and expressions which I have employed are used as terms of description and not of limitation, and I have no intention, in the use of such terms and expressions, of excluding any mechanical equivalents of the features shown and described, or portions thereof, but recognize that vari-

ous structural modifications are possible within the scope of the invention claimed.

What I claim is:—

1. In mechanism for stripping sand from flasks, which comprises a rotatable wheel having a plurality of shoes arranged around the periphery thereof, a conveyor operating in a horizontal plane beneath said wheel, a plurality of flasks carried by said conveyor, and means for bringing said shoes into register with successive flasks to expel the sand therefrom.

2. In mechanism for stripping sand from flasks, which consists in a rotary wheel having a plurality of shoes arranged around the periphery thereof, said shoes having a broad outer face and the sides thereof forming re-entrant angles with said face, a plurality of flasks arranged in a plane tangent to the periphery of the wheel, means for moving said flasks along said plane and into engagement with said shoes, and means for bringing said shoes into register with successive flasks and for expelling the sand therefrom.

3. In mechanism for stripping sand from

flasks, which comprises a rotary wheel having a plurality of shoes arranged around the periphery thereof, a conveyor upon which are mounted flasks movable in a plane intersecting the path of movement of said shoes, said shoes being brought successively into the interior of said molds to force the sand therefrom.

4. In mechanism for stripping sand from flasks, which comprises a rotary wheel having a plurality of shoes arranged around the periphery thereof, a conveyor upon which are mounted flasks movable in a plane intersecting the path of movement of said shoes, said shoes being brought successively into the interior of said molds to force the sand therefrom, and a support beneath the conveyor arranged to act as an anvil for the mold.

5. In mechanism for stripping sand from flasks, which comprises a flask carrier, a shoe mounted for movement through an arc intersecting the path of the flask carrier, said shoe being arranged to expel the sand from flasks on said carrier.

WALTER E. BURGESS.