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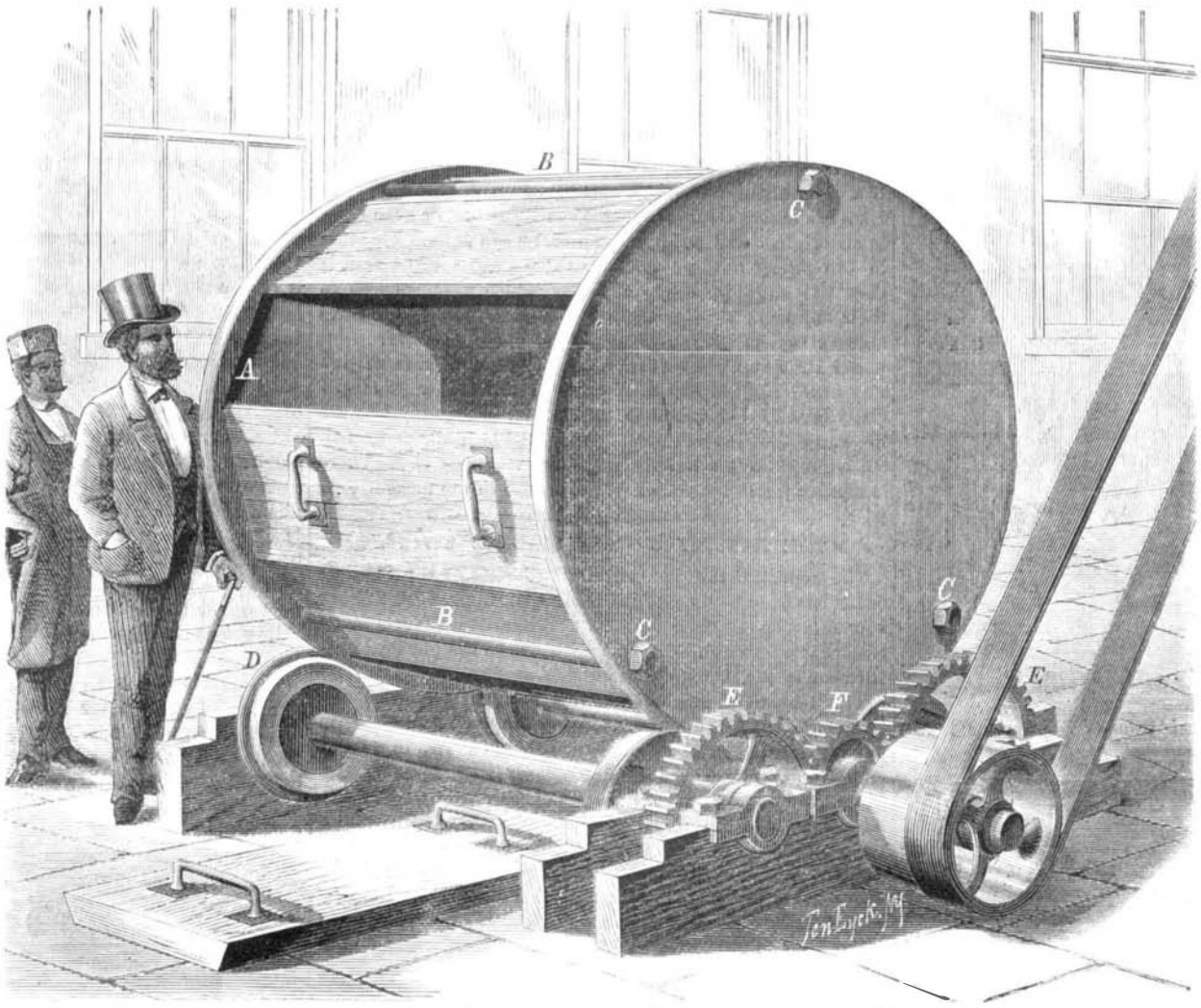
IMPROVED GRINDER FOR CASTINGS.

The invention herewith illustrated consists in a large cylindrical vessel rotated by improved mechanism, and adapted to hold quite large castings, stove plates, sinks, and hollow ware, for example, in order to give the same the requisite cleaning and polishing. The cylinder is made with two heavy wooden or metallic heads, and with a lagging of heavy plank or metal forming its sides, in the shape of a number of plane sections. Two or more of these sections are removable in order to admit of the introduction, into the interior of the receptacle, of castings regardless of size or form.

In our engraving one of the sections is shown detached and placed upon the floor. Through the opening thus left will be seen a flange, A, which runs around the circumferences of both cylinder heads. The sections to be removed are provided with suitable handles; and in order to detach them from the grinder, the bolts, B, are slacked up by unscrewing the nuts, C. The ends of the planes are then readily slipped from under the flanges, A, which, it will thus be seen, braces the sections against the outward pressure of the heavy contents of the machine. When the latter is filled, the covers are replaced, the nuts, C, tightened, and the various portions are at once firmly bound together. The sections are provided with suitably beveled edges in order to secure close joints, and those not intended to be removable are permanently secured in place.



MILLER'S IMPROVED GRINDER FOR CASTINGS.

The reader has doubtless already remarked that the mechanism for rotating the cylinders differs from that employed in the ordinary rumble. In the present case, the edges of the heads rest and revolve upon four flanged rollers, D. Upon the shafts of the latter, which have their bearings in heavy framework, are two gear wheels, E, which mesh with the pinion, F, which is on the same shaft as the driving pulley. It is obvious that the motion of the latter is imparted to the rollers and by these to the cylinder, the weight in the latter, of course, contributing to increase the traction between the surfaces.

The manufacturers inform us that they have had in use one of these machines, 5 feet in diameter by 5 feet in length, and find that it requires but few repairs, while doing its work with much efficiency. The apparatus has been in operation in their foundery since 1869, and three more have recently been added. From 500 to 1,000 pounds of bugs (small scraps of iron from the bottom of the cupola) are put in with the castings, the quantity varying with the size of the machines. The manufacturers also state, in order to show the small amount of power required to drive the apparatus, that they run three grinders, two full of castings and bugs (in dimensions about 2½ by 3 feet) and the other with facing, a 14 inch emery wheel, and a drill, with 100 feet of 2 inch shafting with a 1½ inch double belt traveling 600 feet per minute. This device is covered by two patents granted to George Miller, of Providence, R. I., and a third patent to the same inventor relates to the application of the plan to water wheels. The cylinder in this instance is the wheel, overshot or otherwise, from which power is transmitted to the friction rollers, and thence to the pulleys, in reverse direction, in short, to the hammer above described. The wheel thus arranged, it is claimed, admits of cheaper construction than when the centralshaft and the necessary arms for supporting thereon are used. The power also being communicated to the machinery from four different points, and these being those at which the wheel is supported, it is considered that the strain upon the latter will be more equally divided, and that twisting and cross strains will be avoided. The inventor also believes that the present arrangement will have advantage in point of lessening friction. Further particulars regarding the grinder may be obtained by addressing the Miller Iron Company, Providence, R. I.

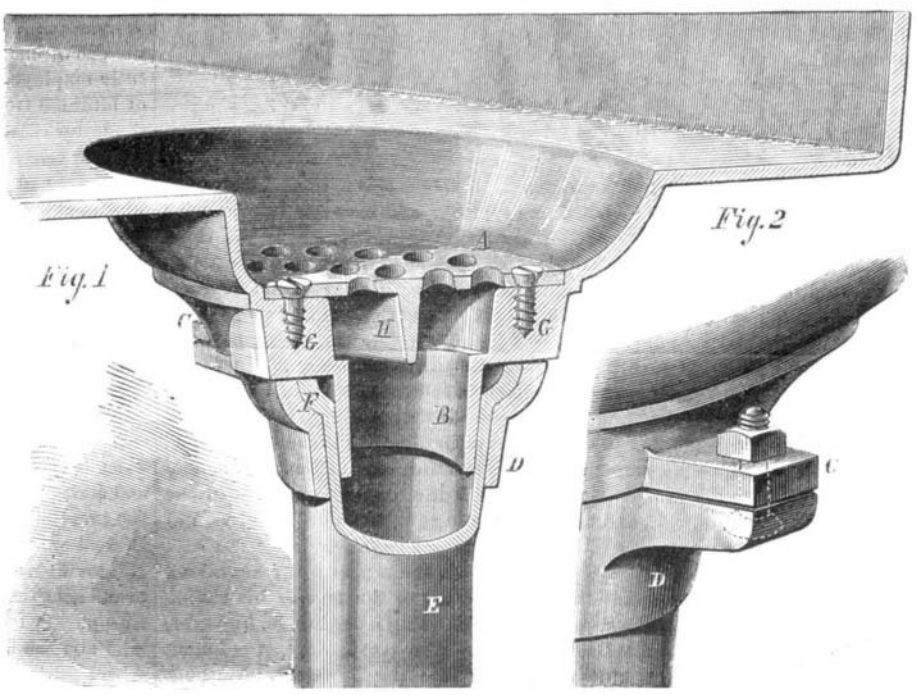
MILLER'S IMPROVED SINK.

A prominent objection to many forms of sink in common employment is that the strainer inside and the flange of the waste pipe outside are secured to the sink by screws which, passing directly through all portions, are set up by nuts. The disadvantage is, that two extra holes are thus made in the bottom of the sink, which require constant packing to render them watertight, which packing must be removed and re-adjusted whenever it becomes necessary to take the strainer out to be cleaned. If the joint be not perfectly tight, the water gradually escapes down through the bolt holes and causes an annoying leak.

To obviate this trouble, the invention represented in the annexed engraving is proposed. A is the strainer (Fig. 1), secured to the funnel in an annular space, as shown. The outlet or nozzle, B, to the funnel is cast to the sink's bottom, and on the thick portion of the latter are formed lugs, C. D is a gland, also provided with lugs, which enable it to be secured to lugs, C, outside the funnel, by a nut and bolt, as shown in Fig. 2. The space between the gland, D, and the nozzle, B, receives the soft metal waste pipe, E, the end of which is turned over as a flange into the enlarged upper portion, F. It will be observed that, instead of allowing the screws, G, which hold the strainer, A, to the funnel bottom, to pass clear through the latter, they merely enter into the thick portion, so that of course no water can escape by the means before referred to. These screws are made of brass to prevent them becoming rusted in their seats, and consequently are easily removable. A rib or truss, H, is constructed across the center of the under side of the strainer, to back up the thin metal of the latter against injuries, and to stiffen the casting in the operation of molding.

As a point of advantage claimed, it may be noted that the fastening of pipe to the nozzle is entirely independent of the attachments of the strainer. The latter, while being so bolted as to be quickly taken out when necessary, is, from the fact of its being thus secured, not liable to be lifted from its place by servants, in order to throw filth, crumbs, or matters likely to clog the pipes, down the sink.

Patented December 2, 1873, by Henry Miller. The manufacturers, who may be addressed for further information relative to sale of rights, etc., are the Miller Iron Company, Providence, R. I.



MILLER'S IMPROVED SINK.

Novel Way of Exporting Bone Dust.

The immense trade in Australian canned meats, now carried on, has had the effect of causing a great accumulation of bones in Melbourne, Australia, where the putting up is done. The sale of the bones is now growing into a remunerative branch of export trade as bone dust manure; and an Australian paper, speaking of the subject, gives an account of the manner of its exportation. It says that a recent vessel, bound for London, has on board a shipment of one hundred tuns of bone dust, prepared for exportation in an altogether novel manner, and one which promises to come into extensive use. To facilitate this trade, an apparatus has been contrived for compressing bone dust into half its original compass, reducing it at the same time into a form very convenient for shipment. By means of strong pressure the crushed bones are molded into cakes of six inches square and three inches thick, something like flooring tiles, each cake weighing a little over four pounds. These bone dust tiles are just adhesive enough to admit their being handled freely —thrown about like bricks, if necessary—and are yet firm; and when required for use, they can readily be crushed. or melted by the application of a little hot water. A tun weight of the manure measures 26 cubic feet, and contains 252 of the cakes. The manufacture of bone dust for fertilizing is a large and rapidly increasing industry in this country, and this Australian method might be profitably adopted here.