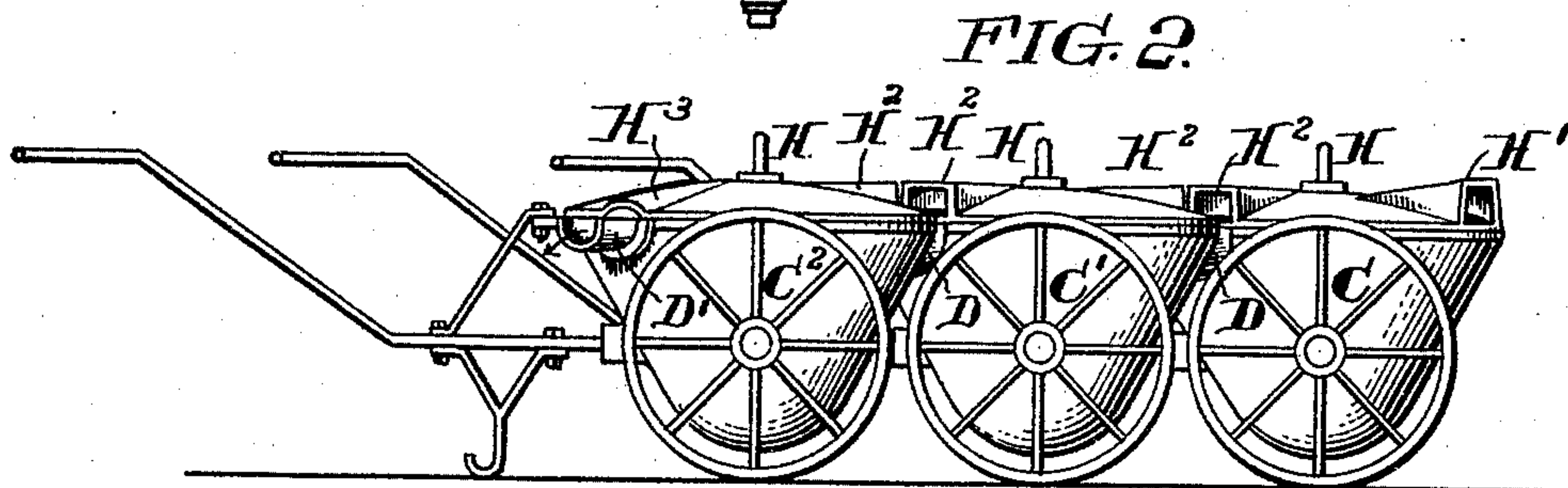
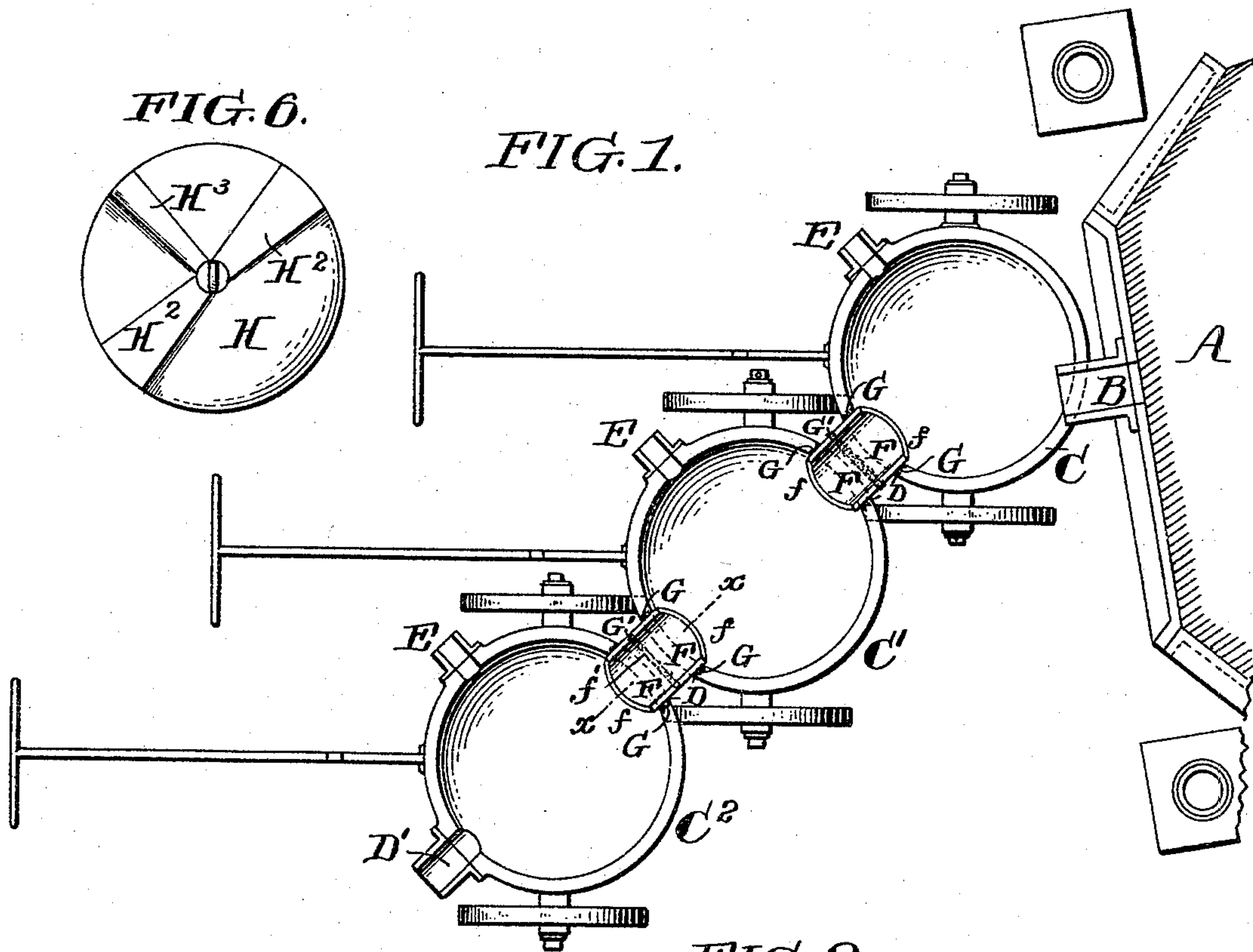


(No Model.)

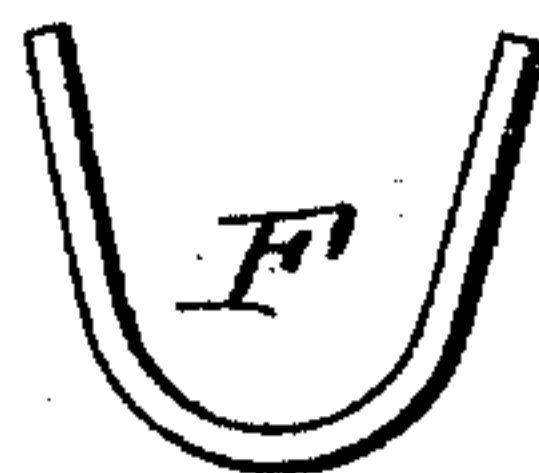
D. SHEEDY & M. W. ILES.  
APPARATUS FOR SEPARATING MATTE FROM SLAG.

No. 500,621.

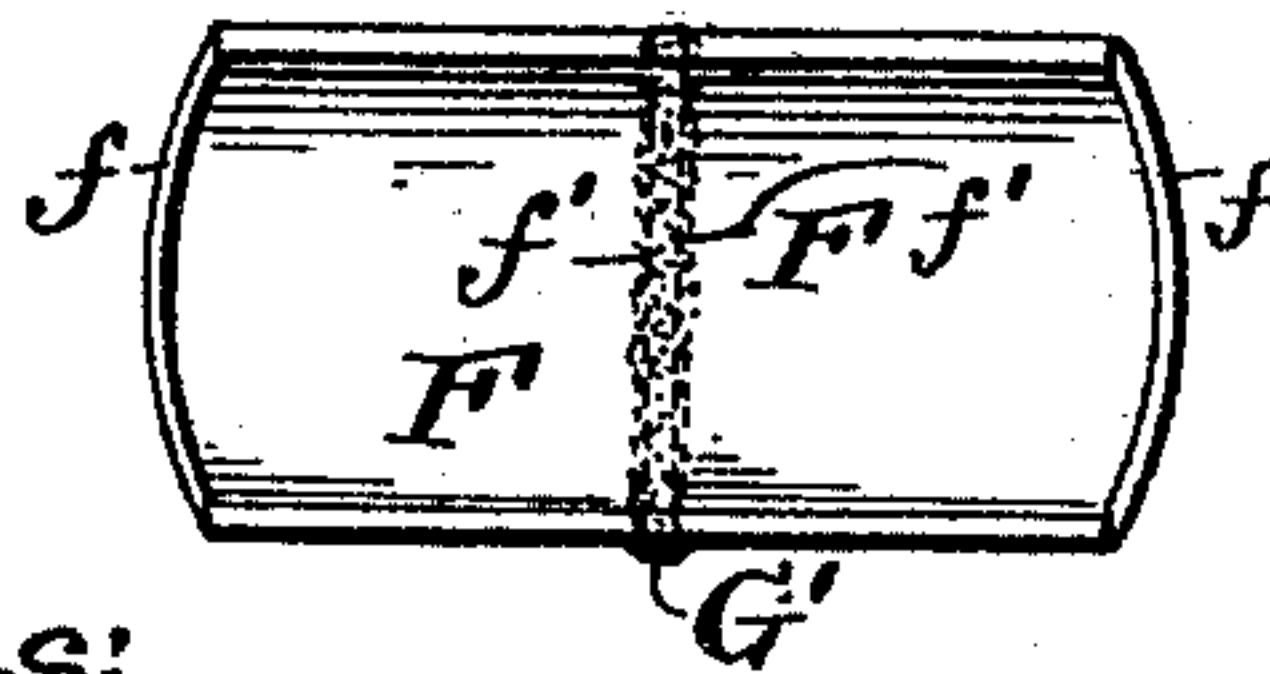
Patented July 4, 1893.



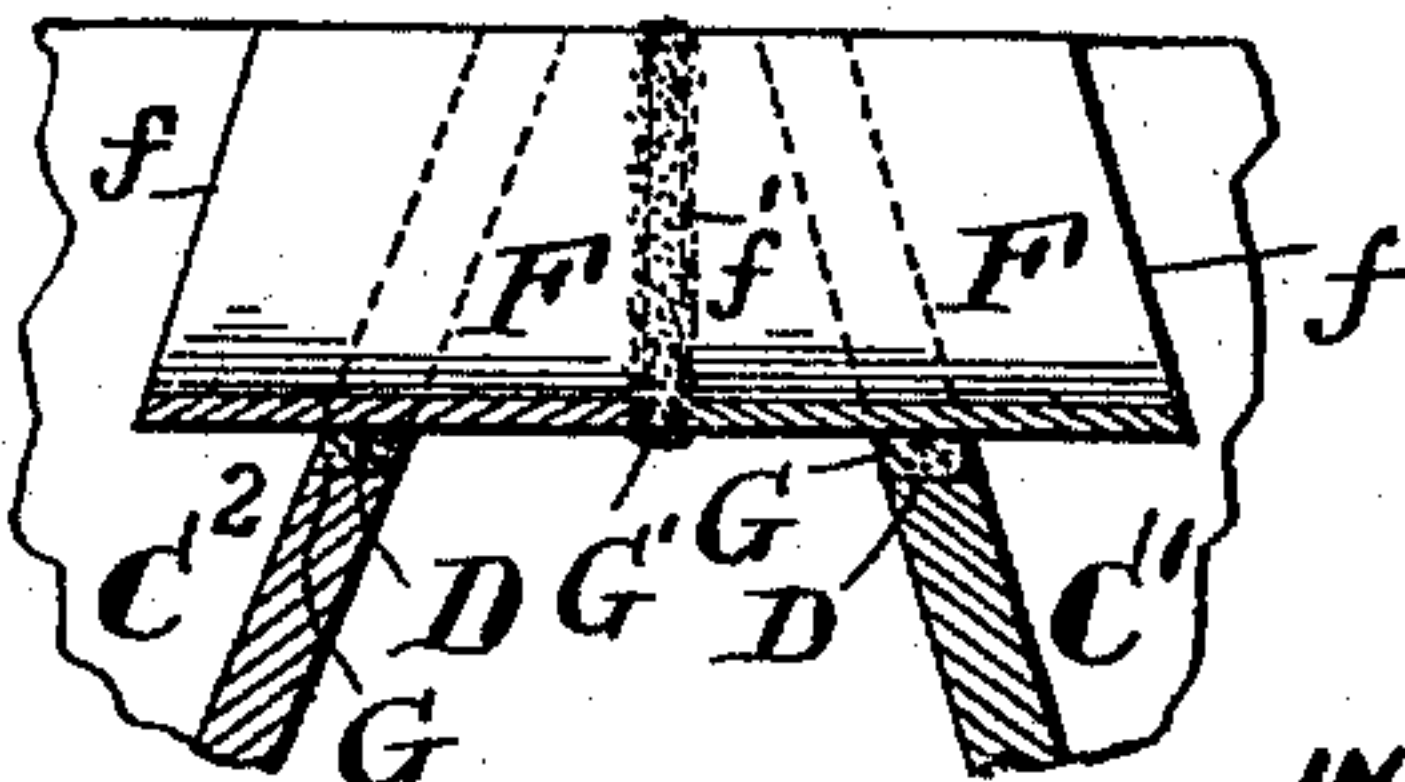
**FIG. 5.**



**FIG. 4.**



**FIG. 3.**



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# UNITED STATES PATENT OFFICE.

DENNIS SHEEDY AND MALVERN W. ILES, OF DENVER, COLORADO.

## APPARATUS FOR SEPARATING MATTE FROM SLAG.

SPECIFICATION forming part of Letters Patent No. 500,621, dated July 4, 1893.

Application filed February 21, 1893. Serial No. 463,228. (No model.)

*To all whom it may concern:*

Be it known that we, DENNIS SHEEDY and MALVERN W. ILES, citizens of the United States, both residing at Denver, in the county of Arapahoe, in the State of Colorado, have invented a certain new and useful Improvement in Apparatus for Separating Matte from Slag, of which the following is a true and exact description, reference being had to the accompanying drawings, which form a part of this specification.

Our invention relates to apparatus for separating matte from slag and particularly to the employment of what are known as matte pots which have heretofore been extensively used for this purpose. In the use of these pots as now practiced however, the construction of the pots and the means for connecting them in series have required that where two or more pots are used, they should, if they are of similar size be placed on different levels, or if placed on the same level that pots of successfully smaller capacity should be used.

The object of our invention is to so construct and arrange the pots, that a series of similar dimensions and heights can be arranged upon the same level and to provide simple and efficient means for connecting the pots in series and for disconnecting them when it is necessary that they should be removed.

The nature of our invention will be best understood as described in connection with the drawings in which it is illustrated and in which—

Figure 1 is a plan view showing the arrangement of a series of three matte pots in connection with a blast furnace. Fig. 2 is an elevation of a series of three pots; Fig. 3 a vertical section taken through a spout connecting two pots on the line  $x-x$  of Fig. 1. Fig. 4 is a plan view of the connecting spout between two pots constructed in the way which we consider preferable. Fig. 5 is an end view of one of the spouts, and Fig. 6 is a plan view of a pot cover.

A indicates the blast furnace having a slag spout B, from which issues slag containing matte prills.

C, C' and C<sup>2</sup> indicate matte pots, which, it will be observed, are of similar size and are each provided with wheels so that they can be readily moved about. Each of the matte pots is formed with one or more notch-like

openings in its edge, adapted to receive a removable spout; these openings are indicated by the letter D and are placed in such position as to come opposite to and practically register with each other in the adjoining rims or edges of the series of pots. It is through these openings that the pots communicate with each other as will hereinafter be described. We prefer to construct each pot with a spout E, preferably placed as far as possible from the openings D, and which are provided only in case of abnormal workings of the furnace from which the matte and slag is derived, or in case the pots are disconnected. The last pot of the series is also provided with a spout D' which may be, as shown, a fixed spout, and through which impoverished slag flows to some suitable receptacle. We prefer to provide each of our pots with a non-conducting cover indicated at H. The cover placed upon the pot into which the slag flows from the furnace has a projecting hood H' into which the mouth of the slag spout B projects, and it is preferable to form a hood of similar character as indicated at H<sup>2</sup> H<sup>3</sup> over each of the openings D or spouts E.

Passing now to the essential feature of our invention; F, F, indicate removable spouts, which, according to our preferred construction, are made, as shown, of two parts, one adapted to rest in the opening D of each pot, and formed so that their projecting ends  $f'$  will register with each other and form a continuous trough like spout to connect the pots. The inwardly extending ends  $f$   $f$  are preferably carried well back into the pot so that they will balance the weight of the outwardly extending ends. The removable spouts are not in any wise secured, either to the pots or to each other, but the joints between the spouts and the openings D and between the ends  $f'$  of the spouts are luted with clay as indicated at G and G'. It will readily be seen that this means of connecting the pots enables us to connect them very rapidly and easily, and also to disconnect them with the least possible trouble, for, although the spout may be at some of its joints cemented either to the pot or to the registering spout, one or more of the three joints will be practically uncemented, or cemented very lightly, so that it can readily be broken when it is desired to



separate the connected pots and obviously when the spout is made in two parts as shown, the joint formed between the end  $f'$  will part with the greatest ease, as there is absolutely  
5 no mechanical engagement at that point. While we prefer this divisional construction of the spouts, the use of a separable spout made in one piece presents considerable advantages and is within the scope of our in-  
10 vention.

Having now described our invention, what we claim as new, and desire to secure by Letters Patent, is—

15 1. The combination with two or more matte pots of substantially equal height arranged on a level with each other and in series with a furnace, of a removable spout connecting two successive matte pots near but below the top edges thereof.

20 2. The combination with two or more matte pots each having notched openings as D near the top edge which are adapted to register with each other, of removable divisional spouts

F, F, each adapted to fit in one of the notched openings D and having outer ends  $f$  adapted  
25 to register with each other as described.

3. The combination with a matte pot having a notched opening in its edge, as D, of a removable spout adapted to fit in said opening  
30 so as to extend outside of the pot in one direction, and inside the pot in the other direction to balance the outward extension of the spout.

4. The combination with two matte pots each having a notched opening D in its edge,  
35 of removable spouts F, F, adapted to fit in said openings, each spout extending in one direction inside and in the other direction outside of the pot in which it is situated, and having edges as  $f$  adapted to register with  
40 corresponding edges on the other spout.

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