No. 751,925. PATENTED FEB. 9, 1904.

A. G. KIDSTON-HUNTER.

GRADING, CLASSIFYING, AND DISTRIBUTING AURIFEROUS WASH IN GOLD SAVING.

NO MODEL. APPLICATION FILED FEB. 17, 1903.

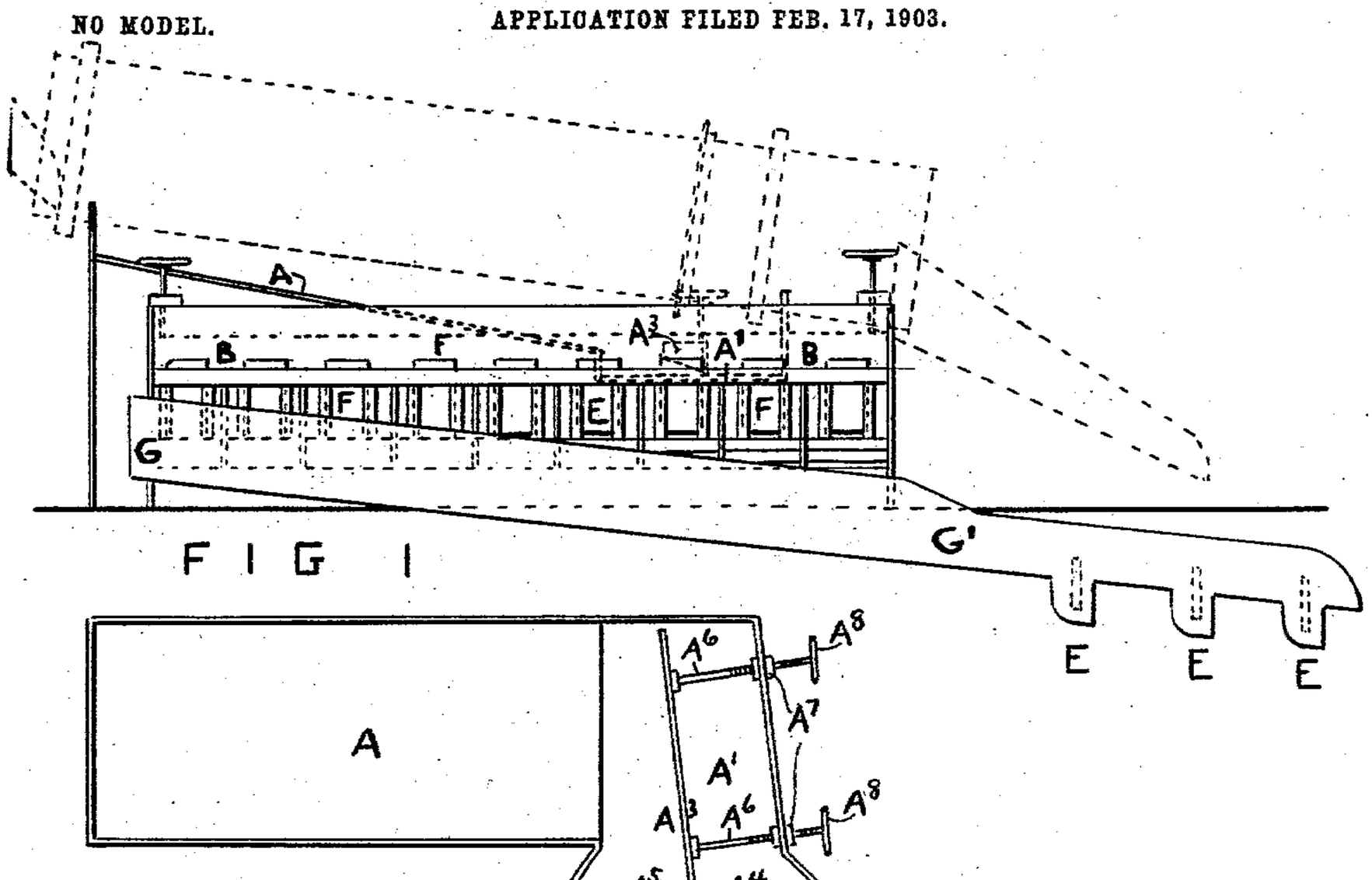

FIG 1

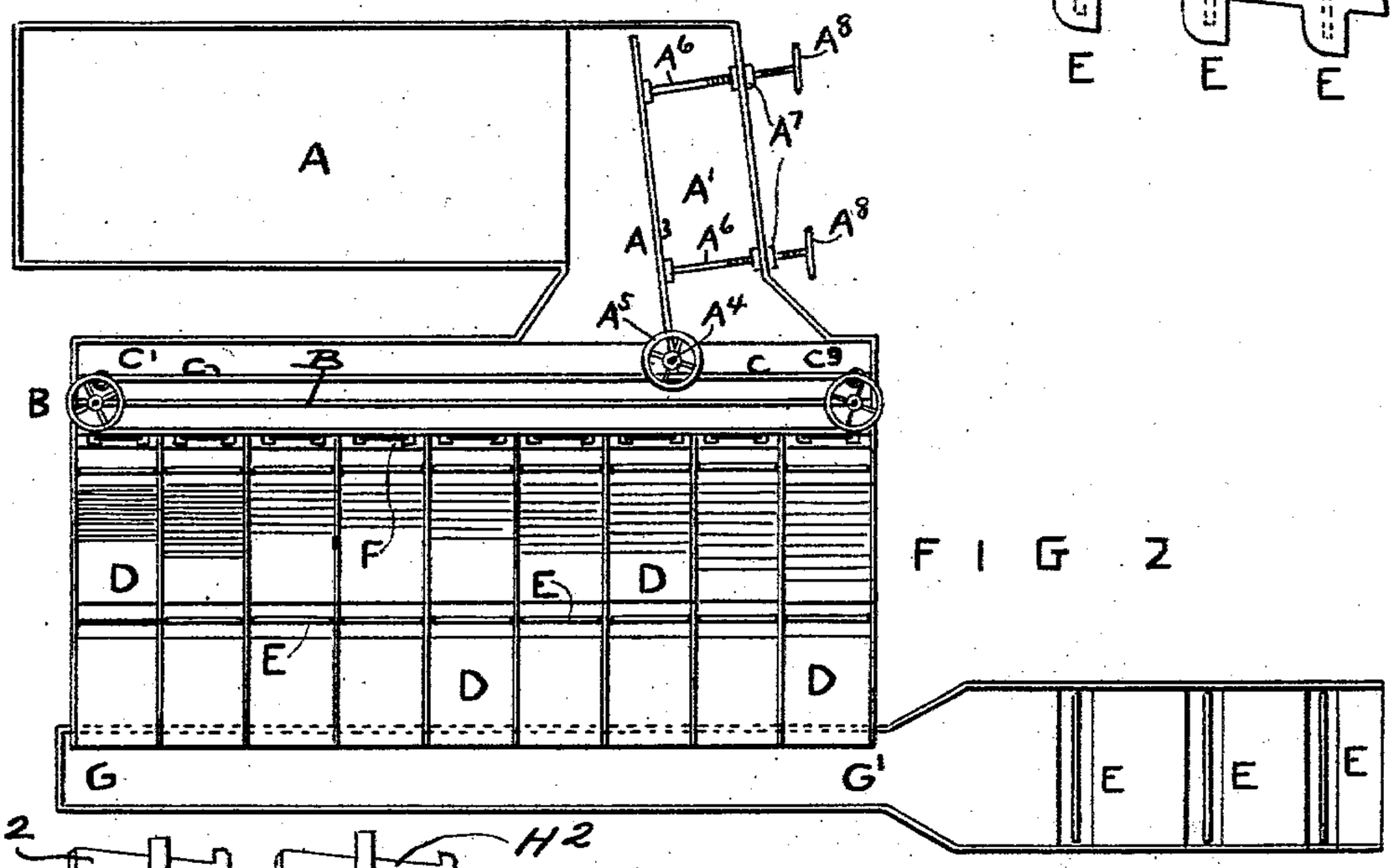

FIG 2

FIG 4

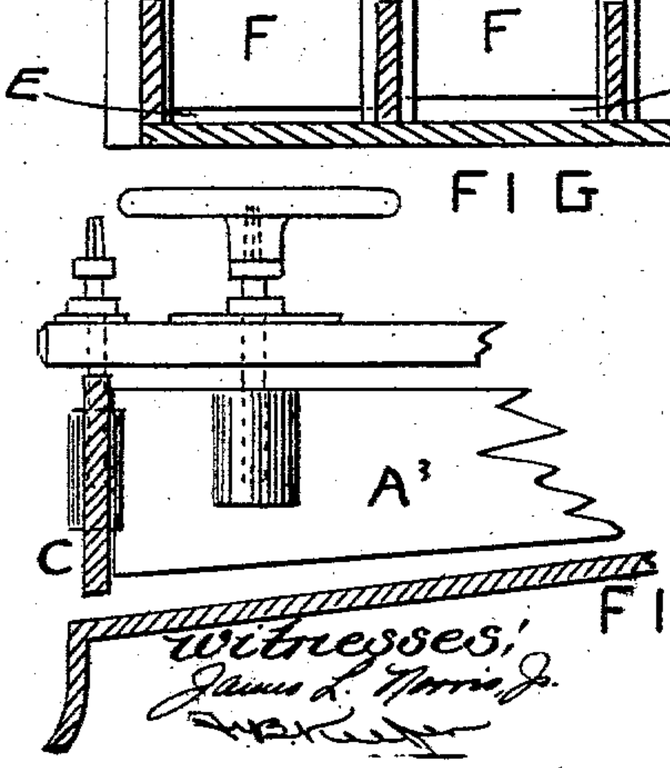

FIG 5

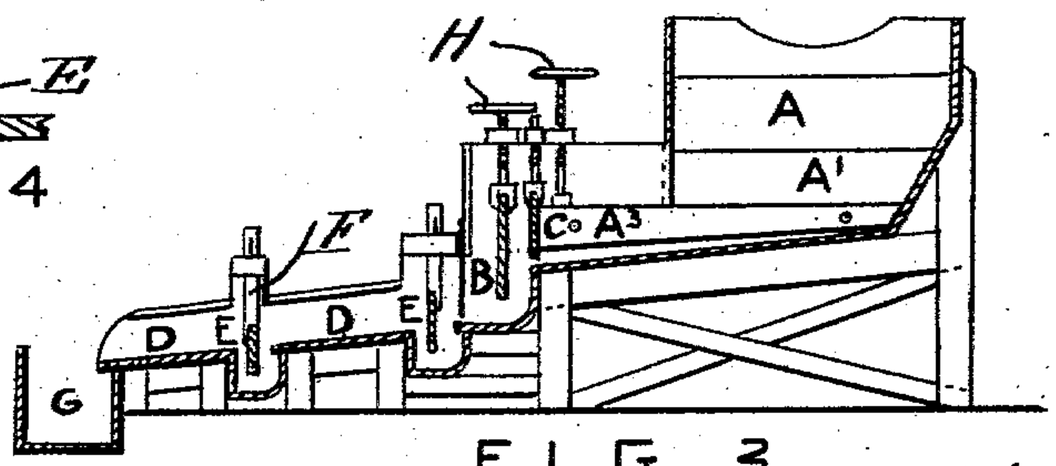

FIG 3

Witnesses,
James L. Norris Jr.

Inventor
Archibald G. Kidston-Hunter
By
James L. Norris.
Atty.

No. 751,925. Patented February 9, 1904.

UNITED STATES PATENT OFFICE.

ARCHIBALD GLEN KIDSTON-HUNTER, OF DUNEDIN, NEW ZEALAND.

GRADING, CLASSIFYING, AND DISTRIBUTING AURIFEROUS WASH IN GOLD-SAVING.

SPECIFICATION forming part of Letters Patent No. 751,925, dated February 9, 1904.

Application filed February 17, 1903. Serial No. 143,849. (No model.)

To all whom it may concern:

Be it known that I, ARCHIBALD GLEN KIDSTON-HUNTER, public analyst, a subject of the King of Great Britain, residing at 49 Moray Place, in the city of Dunedin, in the British Colony of New Zealand, have invented certain new and useful Improvements in Grading, Classifying, and Distributing Auriferous Wash in Gold-Saving, of which the following is a specification.

The object of this invention is to grade, classify, and distribute auriferous wash to obtain a better distribution and consequent separation between the coarser and finer portions of the wash, so that they may be practically separately treated on the tables, and can thus be better treated than when the wash, composed of mixed sizes, has to pass over the tables, and for this purpose the various orifices and passages through which the wash passes are made so as to be easily adjustable as needed, some for fine and some for coarser wash. These tables are designed to receive roughly-screened wash usually as comes from mining-screens to save the gold and to allow the remainder to go to the tailings. The screen delivers the wash onto a large table or chute, where it passes by gravitation through a cross-chute, in which it is graded, and then it is further classified and assembled in a long chute, the coarser portions going to one end and the finer to the other, and then it passes to the tables and the distributing-wells and finally to the chute that leads to the tailings. This chute is widened after passing the tables and is furnished with distributing-wells similar to those on the tables for catching any particles that may pass them. The whole of these chutes, tables, and wells may have mattings, plush, or other approved gold-saving material, and the wells may have mercury as well as or instead of the matting or plush.

The grading and classifying boards are adjustable to the required height, as well as the distributing-boards over the wells, so that the long boards may be adjusted rather higher at the end where the coarse material passes as needed, and the short ones may be kept full without choking.

Referring to the accompanying drawings, Figure 1 is a side elevation of the chutes and tables with the position usually occupied by the revolving screen dotted. Fig. 2 is a plan of the same. Fig. 3 is a cross-section of the tables, showing the grading and distributing apparatus. Fig. 4 is a sectional detail view showing the mechanism for adjusting the distributing-boards. Fig. 5 is a sectional detail view showing the mechanism for adjusting the grading and classifying boards.

A is the large table or chute, into which the screened wash is delivered and from which it passes to the grading-chute A′. In this chute the grading-board A^3 is fixed, preferably, close to the bottom of the top end portion and is adjustable as to height at the lower end, as shown in Fig. 2, said adjustment being secured through the medium of a screw-shaft A^4, to which is connected a hand-wheel A^5. The said board is also longitudinally or laterally adjustable through the medium of screw-shafts A^6, suitably connected with the board and working in threaded nuts A^7, suitably secured in one of the walls of the table, said shafts carrying at their outer ends hand-wheels A^8, by which they may be turned. It is found that the coarser portions of the wash pass under this board when it is sufficiently high to allow of their so doing and that the fine portions rebound and pass back toward the other end, (marked C′,) the coarser portions going toward C^3. The whole of the wash then passes under the adjustable board C C and into the long well and under the adjustable board B B and to the tables, and as the wash is separated some tables treat coarser wash than others. The wash passes through the sliding doors F F F to the tables D D D, and it is obvious that any table can be closed for cleaning down or streaming down.

In various places on the tables D D are the distributing-wells E E, each furnished with an adjustable door. (See Fig. 4.) The doors F F preferably slide in the usual manner.

From the tables D D the wash passes to the chute, going to the tailings G G′, the finer portions coming from the end G and the coarser from the part marked G′. This chute is widened out after passing the tables and is furnished with distributing-wells E^2, similar

to those in the tables, and after leaving these the wash goes to the tailings at the end of the chute G G'. The tables are divided to suit the usual coverings for saving gold, any approved matting or covering being used.

It will thus be seen that the wash is graded by the adjustable grading-board A^3, is classified by the adjustable boards C and B and wells E, and is collected and distributed evenly on the tables and chute by the distributing-wells and their adjustable doors F. The doors are preferably adjusted by such means as the screw arrangement shown, where handles or wheels H can be used on one or the other, as needed, and if taken away prevent tampering. The shorter boards are preferably adjusted by wedges H^2, as shown in Fig. 4.

I am aware that tables resembling mine have been in use; but I am not aware that the wash has been graded, classified, and distributed, as by my invention, where the coarser portions are treated practically separately from the finer portions and where the whole is adjustable to prevent choking, while keeping all the parts fully at their work.

In this invention any suitable sizes or materials may be used.

Having described my invention, what I claim, and desire to secure by a patent of the United States of America, is—

1. An apparatus of the class described, comprising an inclined table, a grading-chute disposed at the lower end thereof, a vertically and laterally adjustable grading-board arranged within the chute, a table provided with wells, and means for controlling the passage of the material from the grading-chute to the wells.

2. An apparatus of the class described, comprising an inclined table, a grading-chute disposed near the lower end thereof, a vertically and laterally adjustable grading-board arranged in the chute, a table provided with a plurality of wells, means for controlling the passage of the material from the chute to the wells, adjustable classifying-boards arranged between the table and the wells, and a tailings-chute also provided with wells.

3. In an apparatus of the class described, an inclined table, a grading-chute arranged near its lower end, a vertically and laterally adjustable grading-board coacting with the chute, a table provided with a plurality of wells, means for controlling the passage of the material from the first-named table to the wells, a tailings-chute, and means for controlling the passage of material from the wells to the tailings-chute.

4. In an apparatus of the class described, an inclined table, a grading-chute arranged near its lower end, a vertically and laterally adjustable grading-board coacting with the chute, a table provided with a plurality of wells, means for controlling the passage of the material from the first-named table to the wells, a tailings-chute, and adjustable boards for controlling the passage of material from the wells to the tailings-chute.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

ARCHIBALD GLEN KIDSTON-HUNTER.

Witnesses:
HENTON MACAULAY DAVEY,
ELIZABETH ANN DAVEY.