

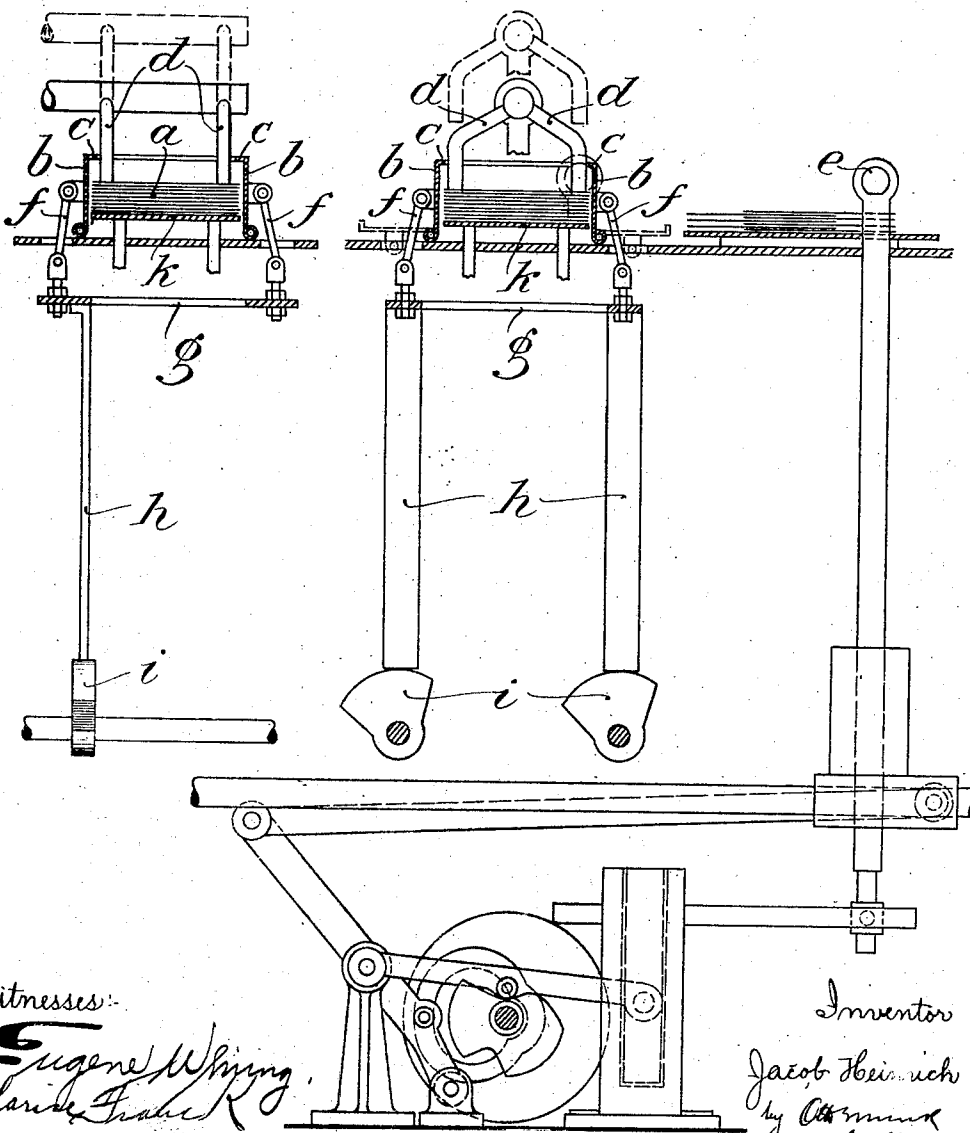
J. HEINRICH.
 APPARATUS FOR PNEUMATICALLY SEPARATING SHEETS.
 APPLICATION FILED MAY 22, 1913.

1,069,009.

Patented July 29, 1913.

Fig. 2

Fig. 1



UNITED STATES PATENT OFFICE.

JACOB HEINRICH, OF NUREMBERG, GERMANY, ASSIGNOR TO THE FIRM OF METALL-PAPIER-BRONZEFARBEN-BLATTMETALLWERKE AKTIENGESSELLSCHAFT, OF MUNICH, GERMANY.

APPARATUS FOR PNEUMATICALLY SEPARATING SHEETS.

1,069,009.

Specification of Letters Patent.

Patented July 29, 1913.

Application filed May 22, 1913. Serial No. 769,328.

To all whom it may concern:

Be it known that I, JACOB HEINRICH, of Nuremberg, Germany, have invented certain new and useful Improvements in Apparatus for Pneumatically Separating Sheets, of which the following is a specification.

This invention relates to apparatus for separately removing sheets from a pile, as for example from a pile wherein sheets of metal foil alternate with intermediate sheets of other material, the sheets of foil being removed from the pile in one direction, and the intermediate sheets being removed in another direction.

The object of the invention is to provide apparatus of this class, which operates with greater precision than has hitherto been attained, the apparatus having means whereby the pile of sheets is re-adjusted after each lateral withdrawal of a sheet or sheets, and means whereby sheets accidentally lifted from the pile, and then dropped, are guided back to the pile.

The invention is illustrated in the accompanying drawing, in which—

Figure 1 is a vertical section of the apparatus, and Fig. 2 a section perpendicular to the plane of Fig. 2.

In the drawing *a* designates the pile of sheets, which is supported on a table *k* surrounded by four walls *b*, the latter being hinged at their bottom edges so that they can be rocked outward into horizontal position as indicated by broken lines in Fig. 1. The walls *b* have wipers *c* at their upper edges, consisting of inwardly directed narrow flanges. A vertically movable suction appliance *d* is arranged above the table, so that it can be lowered on to the pile to pick up the top sheet by suction; broken lines in the drawing indicate the raised position of the suction appliance *d*. A second suction appliance *e* is arranged to move to and from the table for the purpose of removing sheets in a lateral direction. The appliances *d* and *e* operate alternately, and in the case of a pile of metal foil sheets alternating with intermediate sheets of other material, the appliance *d* removes the intermediate sheets, and the appliance *e* removes the foil sheets.

The walls *b* are connected by links *f* to a vertically movable frame *g*. The latter has downwardly directed arms *h* which ride on cams *i*, so that by the rotation of the cams

the frame is alternately raised and lowered, and rocks the walls *b* by means of the links *f*. The operations are timed so that the walls *b* are vertical while the suction appliance *d* is ascending with a sheet removed from the pile, and that the walls rock down into horizontal position just in time to allow the approaching appliance *e* to move over the pile for the purpose of picking up the next sheet and laterally removing same. As soon as the appliance *e* has receded sufficiently, the walls are again erected, and by lightly touching the sides of the pile, or the edges of such sheets as have been displaced, they re-adjust the sheets on the table *k*. If a sheet of foil accidentally adheres to a sheet which the appliance *d* is lifting from the pile, this foil will be loosened and detached by the wipers *c*, and drops back on to the pile, guided by the walls *b*.

The suction whereby both the appliances *d* and *e* act may be produced by means of a single continuously working pump.

What I claim as my invention and desire to secure by Letters Patent of the United States is:—

1. In apparatus for removing single sheets from a pile, the combination with a support for the pile, of means movable toward and away from said pile for alternately completely inclosing and exposing all sides of said pile, a plurality of means adapted respectively to raise the single sheets from said pile and move single sheets alternately away from said pile, and means for operating said first named means.

2. In apparatus for separately removing sheets from a pile, the combination of a support for the pile, a horizontally movable suction appliance for laterally removing sheets from the pile, a vertically movable suction appliance for vertically removing sheets from the pile, hinged walls arranged laterally of said support, and adapted to be erected at the sides thereof around the pile, and means for alternately erecting and lowering said walls.

3. In apparatus for separately removing sheets from a pile, the combination of a support for the pile, a horizontally movable suction appliance for laterally removing sheets from the pile, a vertically movable suction appliance for vertically removing sheets from the pile, hinged walls arranged

laterally of said support, and adapted to be erected at the sides thereof around the pile, wipers on said walls, adapted to engage the edges of sheets lifted by said vertically moving suction appliance, and means for alternately erecting and lowering said walls.

4. In apparatus for separately removing sheets from a pile, the combination of a support for the pile, a movable suction appliance for laterally removing sheets from the pile, hinged walls arranged laterally of said

support, and adapted to be erected at the sides thereof around the pile, a vertically movable frame, links connecting said walls to said frame, and means for alternately raising and lowering said frame.

In witness whereof I have signed this specification in the presence of two witnesses.

JACOB HEINRICH.

Witnesses:

OSCAR BOCK,

RALPH W. FOX.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."