

G. SPIESS.
PAPER SORTING MACHINE.
APPLICATION FILED JULY 14, 1915.

1,277,658.

Patented Sept. 3, 1918.
2 SHEETS—SHEET 1.

Fig. 1.

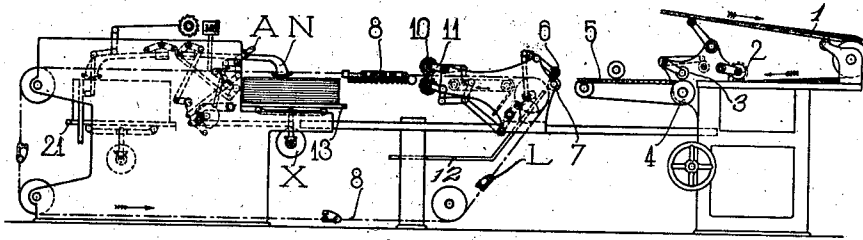
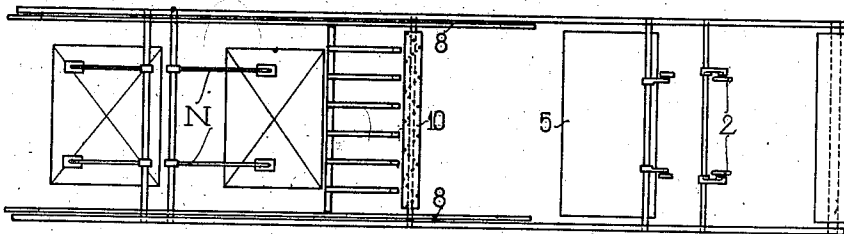


Fig. 2.



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Fig 3

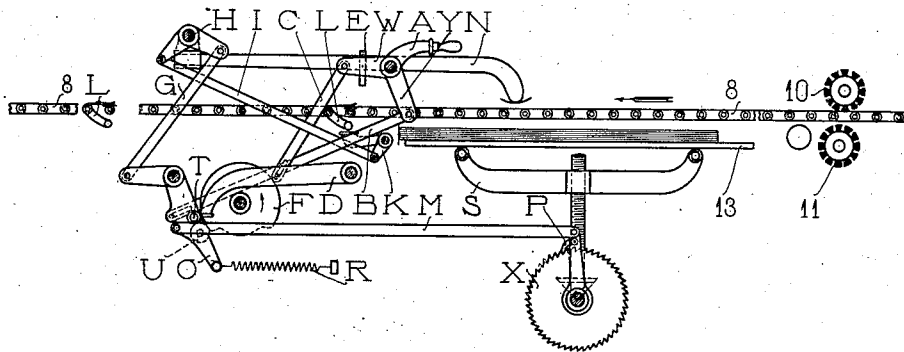


Fig 4

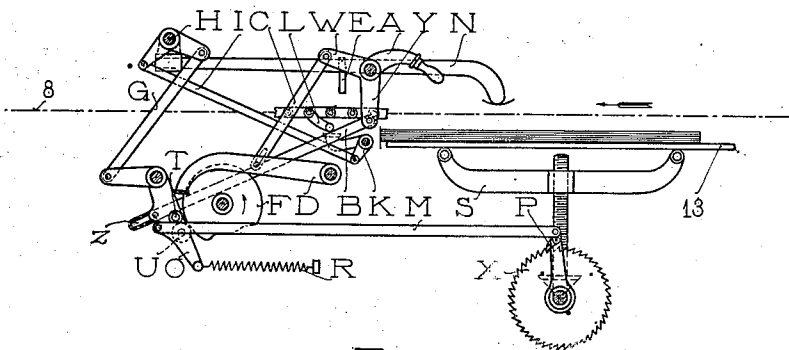
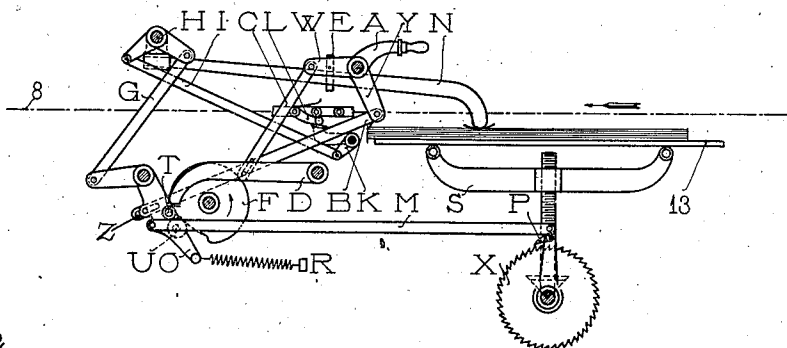


Fig 5



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UNITED STATES PATENT OFFICE.

GEORG SPIESS, OF LEIPZIG-REUDNITZ, GERMANY.

PAPER-SORTING MACHINE.

1,277,658.

Specification of Letters Patent.

Patented Sept. 3, 1918.

Application filed July 14, 1915. Serial No. 39,814.

To all whom it may concern:

Be it known that I, GEORG SPIESS, a subject of the Emperor of Germany, residing at Leipzig-Reudnitz, Saxony, have invented
5 new and useful Improvements in Paper-Sorting Machines, of which the following is a specification.

The present invention has reference to improvements in paper sorting machines, and relates more specifically to means in
10 connection with the ordinary machines for rough-sorting or grading, sequentially fed sheets of paper, for additionally fine-sorting the paper in regard to color shades, doublings, creases, and the like irregularities;
15 and the invention essentially consists of a special, partly manually and partly automatically actuated, device for throwing out any sheet defective in the above indicated
20 respect, and for properly piling the defective sheets.

In the paper sorting machines now in use the sheets, separated singly from a bank of sheets, are first freed of scraps and the like
25 by a wiping or brushing device; they are then passed over an inspection table and finally piling. This pre-sorted pile is then manually sorted over again for lesser defects.

It is the special purpose of the present invention to produce a machine in which this additional sorting by manual labor also is effected in the machine whereby a practically useful sorting machine is provided.
35 This has been primarily attained by providing between the first course of observation and the end of the piling table an additional course of observation over which the roughly sorted sheets, after being freed of
40 the scraps are passed for the purpose of effecting a finer sorting of the sheets so that the sheets not coming up to the standard are separated and piled to be used for special purposes where standard sheets are not
45 required.

In order to make this invention more readily understood, I will now describe it in detail with reference to the accompanying drawings, in which:

Figure 1 represents a diagrammatic front elevation of the complete machine; Fig. 2 shows a plan thereof; Figs. 3, 4 and 5 represent front elevations of the sheet ejecting mechanism proper in different operative
55 positions.

The invention is to be employed in connection with a machine having preliminary sorting means at one end and stacking means at the other end.

According to the present invention, immediately after having been thus mechanically cleaned, those sheets which have defects in coloring or other irregularities, or in any other way do not come up to the
60 standard, but which can still be used for other purposes, are passed above an intermediate pile table 13 and are dropped thereon. The perfect sheets are carried on by the grippers and are finally deposited on the
65 pile table 21.

In this manner the sheets are perfectly sorted and graded, and the defective sheets are at once properly piled by themselves, thus saving all after-sorting and repeated
70 handling.

In order to render it possible to use the pile table 13 for sheets of various sizes this pile table has on its front sheet supporting means so that the sheets freed from scraps
75 always rest against the same stops of this pile table.

In the Figs. 3-5 is shown, on an enlarged scale, the mechanism for ejecting the defective sheets. A cam disk F is continuously rotated in suitable manner and
85 intermittently actuates the rock lever O, the roller U of which contacts with the cam disk. A spring R tends to retain the parts in operative contact. To the upper end of this rock lever a bar or rod G is
90 pivoted with one end while its other end is pivoted to the one arm of a bell crank lever H, to the other arm of which is linked the bar or rod I, through which finally the grip tripper K is actuated. A second roller T
95 on the rock lever O in the position of rest coöperates with the locking arm D, which is controlled from the three-armed hand lever A, W, Y by means of the interposed link C. When the hand lever is depressed,
100 the locking arm D is raised and the rock lever O is freed.

The operation of the machine is as follows:—When a defective sheet passes the intermediate point of observation, the operator
105 depresses the hand lever A; the correspondingly raised arm W is then locked in the upper end-position in any suitable manner, for instance by a spring catch E, the locking lever D is lifted (Fig. 4) and the
110

rock lever is free to be operated by the rotating cam disk. When now the roller U drops into the recess in the disk O, the bar or rod G is pulled downwardly and the grip
 5 tripper K is moved into the path of the traveling gripper L, causing the latter to open and to release the sheet, which then drops unto the pile table 13. To the rock lever O is further linked a bar or rod M to
 10 the free end of which is pivoted the pawl P which coöperates with the ratchet wheel X, through which the gear train for adjusting the support S for the pile table 13 is actuated.

15 When the sheet has been deposited, the rock lever O is oscillated back to its initial position (Fig. 3) and all other parts also resume their initial position. The hand lever A, whose arm Y is linked to the rock
 20 lever O by means of a connecting rod B with lost motion at Z, is automatically shifted back again into its inoperative position, and simultaneously the locking lever D is dropped into the position where it locks the
 25 rock lever against being operated by the cam disk.

What I claim is:—

1. In a paper sorting machine, an intermediate sorting and piling device comprising
 30 a course of observation a pile support

with mechanism coacting therewith for selecting, separating and piling imperfect sheets of paper including manually operated means for actuating the said mechanism.

2. In a paper sorting machine, an intermediate sorting and piling device comprising
 35 a course of observation with mechanism for selecting, separating and piling imperfect sheets of paper, a device for manually starting the mechanism for ejecting
 40 the defective sheets, and means for automatically operating and locking the same.

3. In a paper sorting machine, an intermediate sorting and piling device comprising
 45 a course of observation with mechanism for selecting, separating and piling imperfect sheets of paper, a hand lever for manually starting the mechanism for ejecting the imperfect sheets, means for automatically operating and locking the same,
 50 a pressure foot adapted to descend upon and adjust the forming pile, and means for returning the pressure device into its initial position.

In testimony whereof I affix my signature
 55 in presence of two witnesses.

GEORG SPIESS.

Witnesses:

RUDOLPH FRICKE,
 MARGARETE FRITSCHE.