

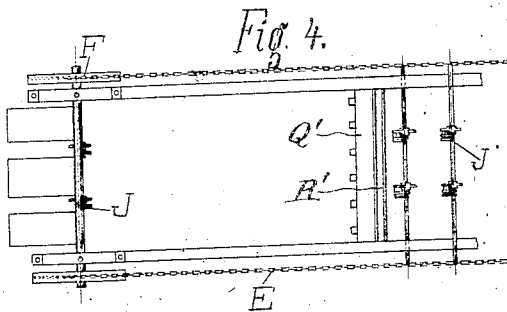
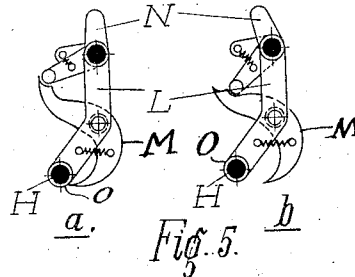
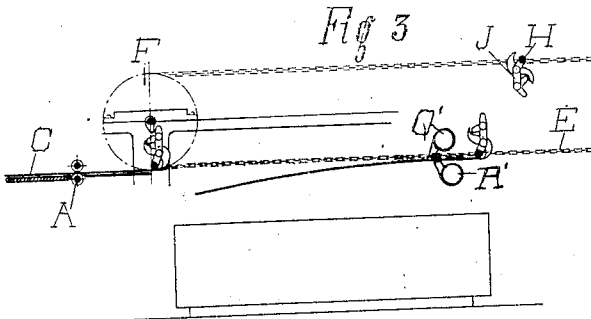
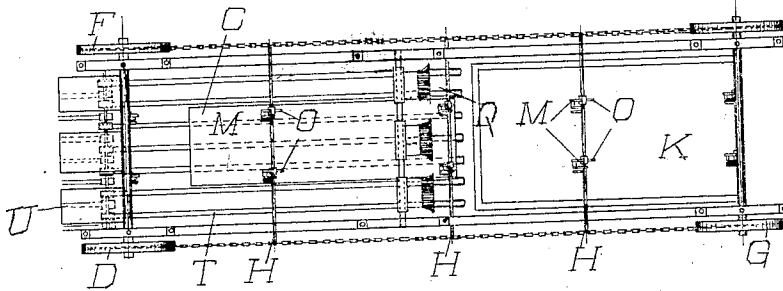
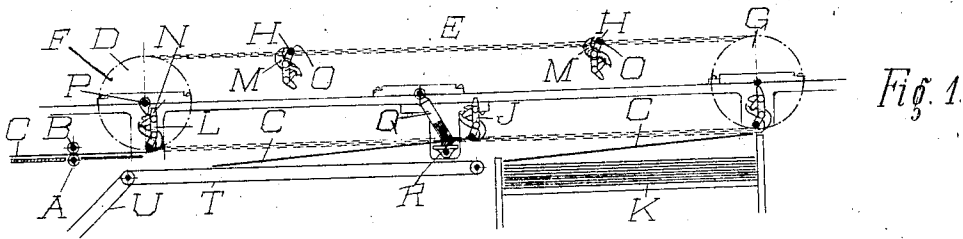
G. SPIESS.

DEVICE FOR USE IN CLEANING OR STRIPPING PAPER SHEETS IN SORTING OR SIMILAR MACHINES.

APPLICATION FILED MAR. 1, 1912.

Patented Sept. 24, 1912.

1,039,608.



Witnesses

C E Rawson

Ewd L. Tolson

Inventor:

Georg Speiss

By *Spencer Middleton Donaldson* *Spencer* Att'y.

UNITED STATES PATENT OFFICE.

GEORG SPIESS, OF LEIPZIG-RUEDNITZ, GERMANY.

DEVICE FOR USE IN CLEANING OR STRIPPING PAPER SHEETS IN SORTING OR SIMILAR MACHINES.

1,039,603.

Specification of Letters Patent.

Patented Sept. 24, 1912.

Application filed March 1, 1912. Serial No. 630,919.

To all whom it may concern:

Be it known that I, GEORG SPIESS, a subject of the Emperor of Germany, residing at Leipzig-Ruednitz, Germany, have invented certain new and useful Improvements in Devices for Use in Cleaning or Stripping Paper Sheets in Sorting or Similar Machines, of which the following is a specification.

One of the drawbacks connected with the working of paper sheet sorting machines consists in the accumulation of paper rags which are torn from the paper sheets, and pass beneath or between the traveling paper sheets whereby a choking or jamming action is exerted detrimentally affecting or impeding the progress of the sheets. According to the present invention this drawback is to be avoided by the provision laterally to the path along which the sheets are conveyed, of wiping or stripping devices by which such paper rags or other matters are prevented from passing with the sheets.

Two constructional forms of the invention are shown in the accompanying drawings in which:

Figure 1 illustrates diagrammatically one of the devices in elevation, and Fig. 2 in plan view, Fig. 3 shows an elevation, and Fig. 4 a plan view of the modified construction. Fig. 5 shows enlarged detail views of the grippers.

The sheet C fed from any suitable feeding mechanism to the rollers A B passes on to a conveyer D which consists of an endless band E traveling over guide pulleys F G on each side of the device. Each band may be constituted by a belt, a rope, a chain or the like. By arranging an endless band of this kind on each side of the table the conveyers thus formed may serve as carriers of transverse rods H secured to which are gripping devices adapted to carry the sheets C to the delivery point or pile former K.

The actual construction of the sheet gripping devices is immaterial for the purpose of the present invention. In the example referred to each gripping device comprises an arm L secured to the corresponding transverse rod H. Yieldingly connected with each arm L is a finger or dog M on the one hand and a bell crank lever N on the other hand as shown. The free end of this bell crank lever is adapted

to engage with one or the other of two recesses provided in the corresponding dog M, one of these recesses determining the closed position and the other the open position of the gripping dog.

In its closed position the gripping dog bears by means of its bent finger against the rod H or preferably against a rubber sleeve O which at this point is arranged on the rod so that the inserted paper sheet is firmly held by the dog on being pressed against the rubber support.

The conveyer travels at a lower speed than the fed-in paper sheets C. The gripping devices on arriving at the receiving points are first of all opened so that the sheet C which follows the nearest gripping device enters between the opened gripping dog and the rubber sleeve O. Immediately this has taken place a pressure exerted against the bell crank lever N of the gripping dog causes the latter to be closed by spring action. To this end the bell crank lever may be acted on by means of a cam P arranged on the shaft of the pulley F. The sheet C thus carried along by the gripping dog is caused to pass between wipers or strippers Q R which by preference are constructed in the form of brushes so as not to offer too great a resistance even to a relatively thin sheet. These wipers retain all paper rags until the gripping dogs have drawn the sheet right through the same and deliver it on the pile K. At this point the gripping dog must be opened and this is effected by the bell crank lever N being caused to bear against the shaft of the pulleys G whereby it is depressed.

The paper rags removed by the brushes in the example referred to, drop upon a conveyer T arranged underneath the gripper path and preferably moving in a direction opposite thereto. Where it is possible to arrange the conveyer T sufficiently low beneath the gripper path its movement may be in the same direction and the rags can be removed from beneath the wipers. In the construction illustrated the rags retained by the wipers are finally removed by a conveyer U to some convenient collecting point.

This device may also without difficulty be used for the sorting of faulty sheets if provision is made for a device adapted to open the gripping dogs prior to their reaching the delivery table for the purpose of re-

leasing the faulty sheet and cause it to drop on to a removing conveyer. In this case the conveyer may be caused to travel alternately in one or the other direction by the arrangement of an appropriate clutch so that the faulty sheets may be carried all in one direction and the rags in a direction opposite thereto if desired.

It is obvious that the removal of the sheets may be effected in one or the other direction by any other known means than those described.

In the place of the wiper arrangement shown in Figs. 1 and 2 air blast may be employed as shown in Figs. 3 and 4. In this case two blowers Q' and R' are arranged above and below the paper path respectively whereby an air current is blown on both sides of the paper sheets, thus removing any rags adhering thereto. Any suitable blowing device may be employed for this purpose.

The invention therefore enables the paper sheets not only to be completely sorted by separating the clean sheets from the faulty sheets, but at the same time to free the

whole of the sheets from any adhering rags or other matter and to collect such rags separately.

What I claim and desire to secure by Letters Patent is:--

In combination with a paper sorting or similar machine, a device for the removal of rags or other adhering matter from paper sheets comprising an endless chain conveyer, means for feeding the paper sheets onto said conveyer, gripping means carried by said conveyer, means for automatically opening and closing said gripping means, rag dislodging devices past which the conveyer carries said paper sheets, and means for receiving any rags or adhering matter arranged below said dislodging devices, substantially as described.

In testimony whereof he affixed his signature in presence of two witnesses.

GEORG SPIESS.

Witnesses:

RUDOLPH FRICKE,
FRITZ MÜND.