G. SPIESS.

SHEET ASSORTING MECHANISM.

APPLICATION FILED DEC. 23, 1912.

1,071,272.

Patented Aug. 26, 1913.

FIG.1.

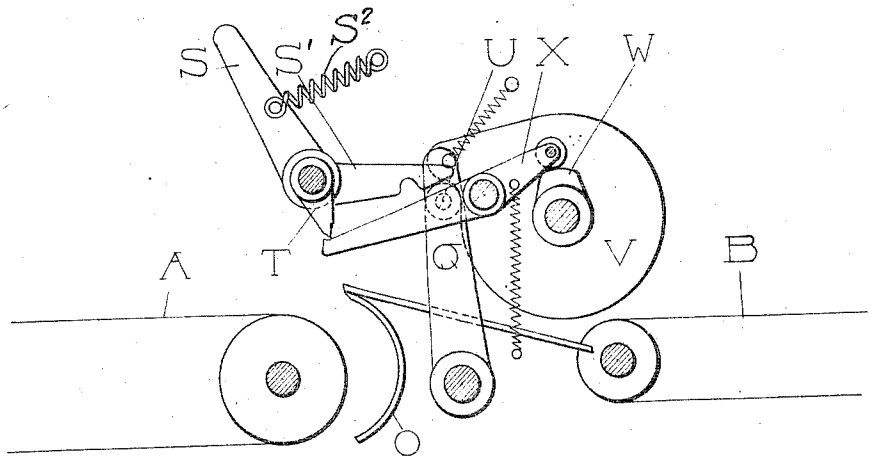


FIG.2.

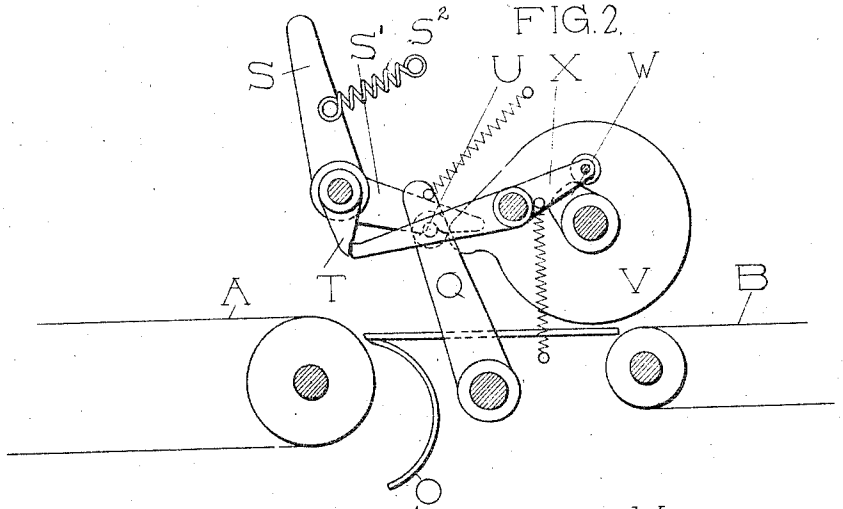
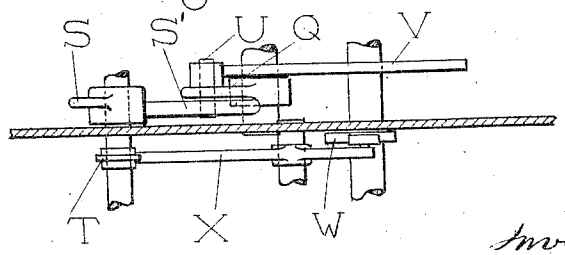


FIG.3.



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UNITED STATES PATENT OFFICE.

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SHEET-ASSORTING MECHANISM.

1,071,272. Specification of Letters Patent. Patented Aug. 26, 1913.

Application filed December 23, 1912. Serial No. 738,152.

To all whom it may concern:

Be it known that I, GEORG SPIESS, a subject of the German Emperor, residing at Leipzig-Reudnitz, in the Kingdom of Saxony, Germany, have invented certain new and useful Improvements in Sheet-Assorting Mechanisms, of which the following is a specification.

In assorting paper sheets fed into printing presses, plaiting machines or the like, there is a bridge arranged at a suitable place which is manually controlled by the attendant in order to direct defective sheets into a waste box. If this bridge is adjusted at improper time, as, for instance, at the time the preceding sheet has been partly placed on the bridge, a disturbance of the work would occur. On the other hand, the attendant is unable at one and the same time to examine the sheets and adjust the bridge in proper time into and out of operation. These drawbacks are to be obviated by the present invention, in which two rotary cams control the adjustment of the bridge in such a manner that one operates a locking or stop mechanism for the bridge adjusting mechanism and the other operates the bridge adjusting mechanism itself.

My invention is illustrated in the accompanying drawing in which similar reference letters denote corresponding parts and in which—

Figures 1 and 2 show in a more or less diagrammatic view the two positions of the mechanism and Fig. 3 is a top plan view thereof.

The cut up sheets are fed from a suitable feeding mechanism (not shown) over the path or conveyer A and if the sheets do not show any defects they are transferred over the bridge O to a conveyer B into a printing press, plaiting machine or the like (not shown). If a defective sheet runs over the conveyer A, the attendant by the adjustment of the bridge causes the defective sheets to drop into the waste receptacle (not shown). For the adjustment of the bridge, I employ an adjusting arm Q, and for the operation of the latter, I employ a manually operated lever S. Fixed on the pivot of the lever S is a hook shaped or notched arm S′ which is adapted to engage a pin U projecting from the adjusting arm Q in order to secure the latter in its rest position and to lock the bridge in closed position (Fig. 2).

A projecting finger or nose T fixed to the spindle or pin of the lever S cooperates with one arm of a double armed lever X and while resting against it serves as a safety device for the locking mechanism, in that it prevents an untimely swinging of the lever S and consequently the disengagement of the notched lever S′ from the pin U of the bridge adjusting lever Q. For the release of the locking mechanism on one hand and for the adjustment of the bridge into the closed position on the other hand, I employ two cams arranged on a mutual shaft. Of these cams, the cam W serves to operate the lever X through the medium of a roller carried by the lever X, while the cam V serves to swing the adjusting arm Q and consequently the bridge into its initial position in which it automatically becomes locked.

The levers Q and X are actuated by springs which tend to constantly hold them in contact with the circumference of the respective cams. Under these circumstances the hand lever S whereby the opening of the bridge is to be brought about can only then be operated, when the cam W has lifted the lever X (Fig. 1) and released the hand lever S (Fig. 1), so that the latter can be swung to cause the notched or hooked lever S′ to disengage the pin U of the bridge adjusting lever Q. The cam W is so adjusted, that the swinging of the locking arm S′ can take place only at that moment when a new sheet arrives at the bridge. The attendant at the moment he notices a defective sheet on the conveyer A can grasp the lever S, so that at the moment when the cam W lifts the locking arm X (Fig. 1) he can depress the said lever S against the tension of the spring S^2 thereof and release thereby the adjusting arm Q of the bridge. At that moment the bridge under the tension of a spring opens and the defective sheet is allowed to drop into the waste receptacle. As the cams continue to revolve the cam V permits the arm Q to move back into the initial position (Fig. 2). In the meantime the attendant has released the lever S which by the spring S^2 returns automatically into its initial position and becomes locked therein by the engagement of

the lever X with the finger T. Of course the arm S may, by suitable means, be made to operate automatically.

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

1. In combination with sheet conveyers spaced apart from one another, of an automatically operated bridge adapted to normally over-bridge the space between the two conveyers, a locking mechanism to secure the bridge in closed position, a safety device for said locking mechanism and two constantly driven cams of which one operates the safety device to release the locking mechanism and the other returns the bridge into closed position.

2. The combination with sheet conveyers spaced apart from one another, of a spring actuated swinging bridge adapted to normally over-bridge the space between the said two conveyers, a manually controlled locking mechanism for said bridge adapted to be normally secured in locking position, a safety device for said locking mechanism and two constantly driven cams of which one is adapted to release said safety device at a certain period and the other is adapted to subsequently return the bridge into closed position so that the bridge may be released by hand.

3. The combination with sheet conveyers spaced apart from one another, of a spring actuated swinging bridge over-bridging the space between the said conveyers, a manually controlled spring actuated locking mechanism for said bridge adapted to be normally secured in locking position, a safety device for said locking mechanism and two constantly driven cams of which one at a certain period is adapted to release the said safety device so that the bridge may be released by hand, and the other at another period is adapted to return the said bridge into closed position.

4. The combination with sheet conveyers spaced apart from one another, of a spring actuated bridge over-bridging the space between the said two conveyers, of a manually operated handle or lever, including a locking arm for said bridge, a saftey device comprising a double armed lever and a projection connected to said handle and cooperating with said lever, said projection being adapted to rest against said double armed lever, and two constantly revolving cams of which one is adapted at a certain period to release the said double armed lever from engagement with the said projection permitting the manual operation of the locking mechanism by the said handle and the other cam is adapted to subsequently return the said bridge into closed position.

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

GEORG SPIESS.

Witnesses:
RUDOLPH FRICKE,
DORIS KRAHL.