Таким образом, было выявлено, что главными критериями оптимизации печатного процесса являются определенные и стабильные значения ЕПК оттисков, обеспечивающие их подобие оригиналу благодаря подбору оптимальных печатно-технических свойств запечатываемых материалов при стабильных режимах работы оборудования.

Проведенное исследование установило, что при печати тиражей нельзя ориентироваться на получение исключительно колориметрических характеристик оттисков, т. к. непредсказуемо изменяется их графическая структура и нарушается подобие оригиналу.

Результаты работы представлены в виде методологии по качественной и количественной оценке графических и цветовых параметров изображений, с учетом свойств запечатываемых материалов в условиях рассматриваемого печатного процесса.

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IMPROVEMENT OF SHEET SEMIFINISHED ITEMS' FEEDERS IN PRINTING AND POSTPRESS EQUIPMENT

In the production of printed materials (books, brochures and packings) is widely exploited equipment, staffed by high-speed feeders of semi-finished items with bottom output. For this, mechanical, pneumatic and servomechanisms are used. Moving the semi-finished products from the feeder magazine to the processing area occurs in several steps.

Despite many years of experience in operating of feeders, they have reserves for improvement. The use of a pneumatic drive, according to [1], is not always possible due to the high cost, uneven

operation, the difficulty of providing synchronous and smooth movement of semi-finished products.

Servo drives are still quite expensive, and the use of software control is not always justified economically. In addition, to reduce the discreteness of the necessary executive linkage's motion law, it is necessary to complicate the drive control system.

The mechanical drives of the semi-finished product horizontal displacement based on combined linkage mechanisms [2], wherea pusher carries out the sheet semi-finished product from the magazine, are metal consuming because of the considerable dimensions of the swinging links.

To create optimal-rational characteristics of the motion of the executive link with the pushers, the combined mechanisms [3] have proved themselves well. Thanks to them, it is possible to achieve a significant reduction in the initial and peak accelerations, as well as the overall dimensions of the mechanism.

A number of devices are known well, for example, described in [4], in which the movement of the pusher is given by combined cam-lever mechanisms in which the change in the motion law provides a link with a variable length. However, the technical solutions also have drawbacks. For example, the presence of rocker pairs reduces the mechanism'sefficiency due to friction between the rocker and the rocker rock; the necessity to move the control roller on different cams while the forward and reverse strokes makes it complex, as well as presence of a geometric constraints in the synthesis of such mechanisms.

There was proposed to improve the feeders of semi-finished products in the printing, post-press and packaging equipment by introducing into their structure a new, productive, reliable operation device equipped with a mechanism for removing items in accordance with the technologically grounded law of motion. The device works as follows (Fig. 1).

Semi-finished products (for example, book or brochure blocks) come from a previous operation on a conveyor and accumulate in the feeder shop of a trimmer. Pushers of the developed device carry out the horizontal movement of the bottom block on a table *13* into the zone of further processing. The device is driven from the shaft *1*, which rotates at a constant angular velocity. The shaft *1* gives a rotational motion with a variable speed to the crank *7* through the carrier*2*, connecting rod *3* and the twin arms rocker*4*.

Changing the angle between the rigidly shaft fixed carrier *2* and the crank *7* is possible due to the fact that last one is freely placed on the shaft *1*. The movement of the crank *7* is corrected by a curved groove *6* in which the roller *5* moves. The two-arm rocker *4* with the roller *5*is able to swing on the crank *7*.

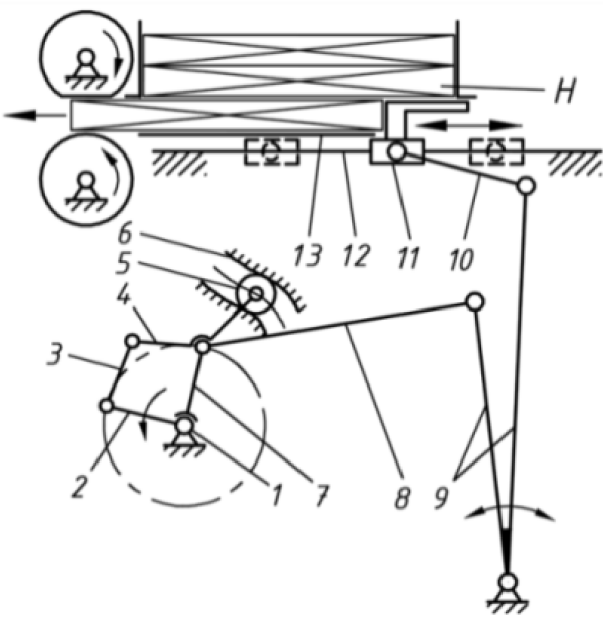

Fig. 1. Kinematic scheme of the mechanism with the input link'smotioncorrection

The transformed rotational motion of the crank *7* is transmitted via the connecting rod *8* to the double-arm rocker *9*, then through the rod *10* to the carriage 11 with the pushers fixed thereon.The carriage *11* performs horizontal reciprocating motion along the guide *12*. The pushers drives the lower block *H* along the table *13* into the area of its gripping by the belt conveyor rollers.

The method of geometric and kinematic synthesis of the proposed mechanism is developed. The conducted analytical studies according to the methodology [5] showed that in order to obtain the technologically necessary law of motion of the pushers, it is necessary to determine the transformed law of motion of the driven crank *7* by inverse detour of the mechanism.

One of the main tasks of the combine mechanism's synthesis is to create a theoretic profile of the fixed control cam *6*, which will provide the necessary correction of the motion of the intermediate links. Subject to necessary is distancing from jamming.

The developed mechanism favorably differs from the one mentioned in [3] under the same technical conditions. It is more compact, the general correction during the cycle of motion is pro-

vided by single motion programming carrier, the mechanism has a higher efficiencydue to the lack of rocking pairs. The programming carrier can be a servo-based design.

The extended feeders can provide more productivity for printing, post-press and packing-make machines with high reliability indicators.

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ДИЗАЙН І КОНСТРУКТИВНІ ОСОБЛИВОСТІ КНИГИ У СУЧАСНОМУ МЕДІЙНОМУ ПРОСТОРІ

Кожна форма має власний сенс. Кожна людина створює власний сенс, форму і призначення — напевно ці слова можуть стати лейтмотивом творців книги. Дизайн книжки (за аналогією з архітектурою) визначає призначення, місце, матеріал [1].

Зрозуміло, що поява все нових і нових мультимедійних та Інтернет-технологій суттєво обмежили інформаційну та пізнавальну функції друкованих медіа, проте книга — це продукт