

No. 742,641.

PATENTED OCT. 27, 1903.

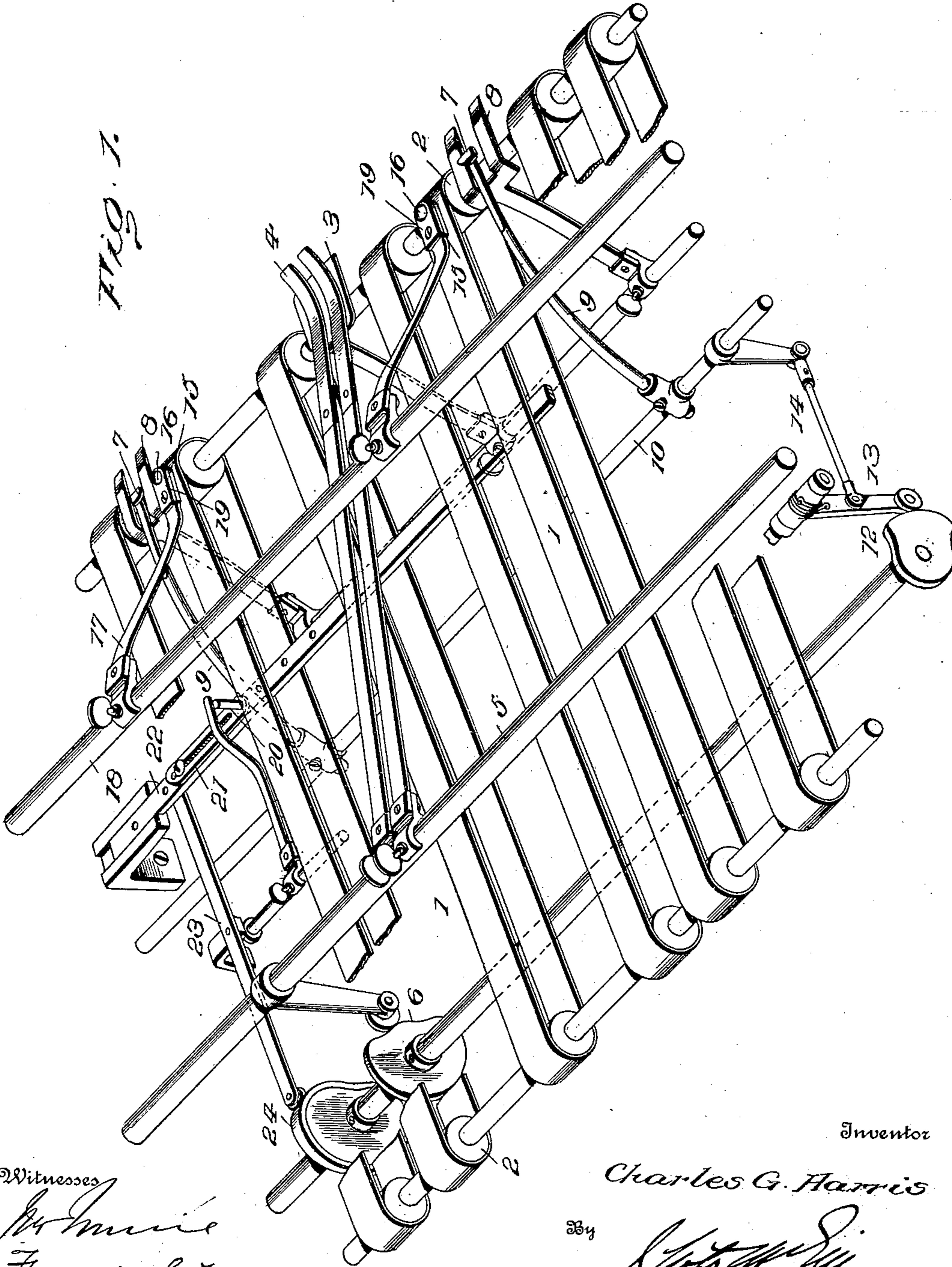
C. G. HARRIS.

BLANK OR STOCK REGISTER FOR PRINTING PRESSES.

APPLICATION FILED MAY 29, 1902.

NO MODEL.

2 SHEETS—SHEET 1.



Witnesses

*Francis S. Maguire*

Inventor

*Charles G. Harris*

By

*Attorney*

No. 742,641.

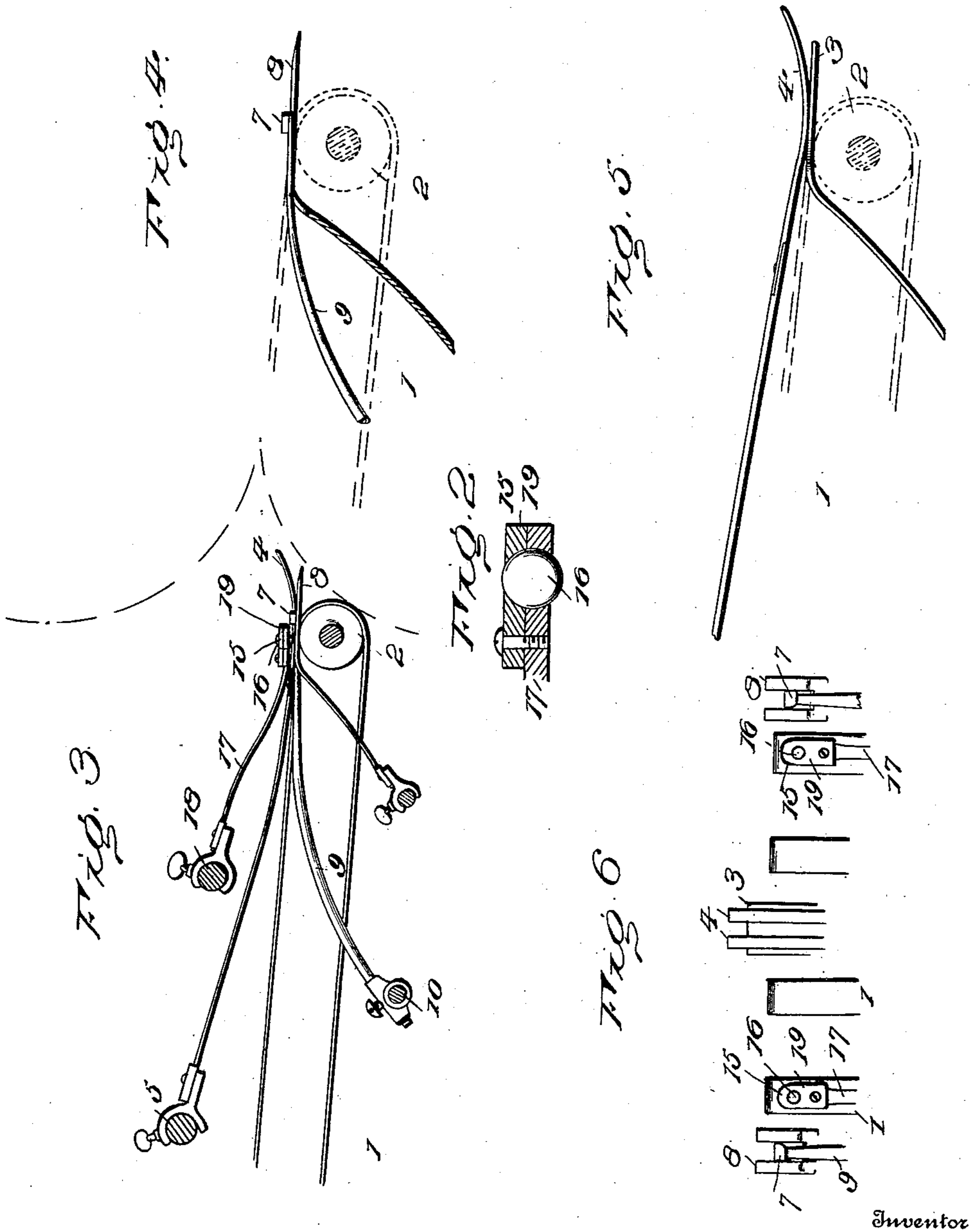
PATENTED OCT. 27, 1903.

C. G. HARRIS.  
BLANK OR STOCK REGISTER FOR PRINTING PRESSES.

APPLICATION FILED MAY 29, 1902.

NO MODEL.

2 SHEETS—SHEET 2.



Witnesses  
*Francis S. Maguire*

Charles G. Harris  
By *Charles G. Harris*  
Attorney

# UNITED STATES PATENT OFFICE.

CHARLES GRANT HARRIS, OF NILES, OHIO, ASSIGNOR TO THE HARRIS  
AUTOMATIC PRESS COMPANY, OF NILES, OHIO, A CORPORATION OF  
OHIO.

## BLANK OR STOCK REGISTER FOR PRINTING-PRESSES.

SPECIFICATION forming part of Letters Patent No. 742,641, dated October 27, 1903.

Application filed May 29, 1902. Serial No. 109,527. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES GRANT HARRIS, of Niles, in the county of Trumbull and State of Ohio, have invented certain new and useful Improvements in Blank or Stock Registers for Printing-Presses; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it ap-

10 pertains to make and use the same.  
The object of this invention is to provide simple and highly-efficient means for insuring the proper register of stock, such as envelop-blanks, preliminary to being taken up

15 by the impression-cylinder of a printing-press.  
A further object is to provide improved means for contacting with or holding the stock to a proper registered position, such means

20 allowing the stock to be easily moved in any necessary direction in effecting the register at every point.  
The invention will be hereinafter fully set forth and particularly pointed out in the

25 claims.  
In the accompanying drawings, Figure 1 is a view in perspective with parts broken away, showing my improved registering mechanism. Fig. 2 is an enlarged vertical sectional view

30 of one of the paper-holders. Fig. 3 is a side elevation. Fig. 4 shows one of the stops. Fig. 5 shows the holding-finger enlarged. Fig. 6 is a diagrammatical view with parts broken away.  
35 Referring to the drawings, 1 designates a conveyer composed of a series of endless belts passed over rollers 2, their upper flights traveling forward and downward for conveying the stock forward to a point to be taken up

40 by the gripper of the printing-press impression-cylinder. (Not shown.) At the center of the forward end of the conveyer, intermediate two of the belts, is a plate 3, upon which the stock is designed to rest prior to being

45 engaged by the gripper, it being held down to such plate by spring-fingers 4, adjustably secured to a rock-shaft 5, actuated by a cam 6 to lower the fingers into engagement with the stock just prior to and during the time of

engagement of the gripper with the advanced 50 edge of the stock-blank.

7 7 designate two forward stops with which the stock engages for the forward register. They are preferably in the form of small blocks having their inner edges curved or 55 rounded, so that when either tapered edge of an envelop-blank flap contacts with a rounded edge the blank may still travel forward to proper register, its progress being arrested only when the straight edges at the inner 60 termination of the flap register with the flat faces of the stops. These stops are located in slotted plates 8, over which the stock travels, and are mounted on the forward ends of arms 9, carried by a rock-shaft 10, which 65 shaft is intermittently partially rotated to raise and lower the stops above and below the plane of plates 8 by a cam 12, engaging an arm 13, connected by a link 14 to shaft 10. The lowering of the stops allows the stock to 70 pass thereover as it is taken up by the impression-cylinder.

15 15 designate the blank or stock holders, consisting each of a ball 16, loosely mounted in an opening of an arm 17, adjustably se- 75 cured on a cross-rod 18, the ball being designed to bear slightly against the upper flight of the endless belt, over which it is located. These balls rest upon two belts in close proximity to the forward stops and contact 80 with the stock as it is being moved to register and until entirely withdrawn by the grippers. They are held in place in the forward approximately horizontal portions of the arms 17 by removable plates 19, formed with open- 85 ings opposite to and corresponding with those in the arms, the balls projecting a slight distance through said openings. These balls, while bodily held in one position, are thus free to rotate in any direction by the movement of 90 the stock with which they are in contact—that is to say, while the balls hold the stock down to the belts they at the same time allow of a limited rebound in the forward feeding thereof and an immediate return with the 95 belts, as well as a side movement or a diagonal movement forward and to one side—to effect a proper register, the stock itself having

the tendency to register with both the forward stops. To positively insure proper register, I provide a side registering device, which is shown as consisting of a lug or post 20, extending from a plate 21, adjustably secured to a cross-rod 22, extended transversely of and preferably between the flights of the belts. A lever 23, connected at one end to this cross-rod, is engaged at its other end by a cam 24, the action of which is to move the lug inward, so as to engage the edge of the stock and shift the latter laterally to proper register, the forward movement being given thereto by the belt.

In practice the stock, such as envelop-blanks, is fed onto the endless belts by any suitable means or by hand, one sheet or blank at a time being carried forward into engagement with the forward stops. If the engagement is with but one stop, or even though there be but an imperfect engagement with either, the stock will be held against the belts by one or both of the balls 16, while its further conveying to proper register is accomplished. The side registering device acts on the stock if it be within the range of travel of lug 20. As the stock is properly positioned over the plate 3 the spring-fingers 4 are lowered to retain it until grasped by the gripper, whereupon the fingers will be raised and the stops 7 lowered out of the way.

The advantages of my invention are apparent to those skilled in the art. The quick and accurate register of the blanks or other stock is rendered possible by the universally-movable bearings or contacts, which allow the stock to be moved transversely as well as forwardly and in both directions at the same time, offering no obstacle to its travel to proper register, no matter in which direction it may be moved. Independently of the side registering device the stock will, if the blanks be all of exactly the same size, readily travel in a proper register by being held down to the belts by the balls. The curvature of the inner ends of the forward stops

insures the proper engagement of envelop-blanks with such stops, even without the aid or coöperation of the side registering device.

I claim as my invention—

1. An envelop-blank-registering device comprising a series of endless belts, forward stops having inner opposite rounded edges, for the purpose stated, and means for holding the blanks to the belts while being moved to register with said stops, as set forth.
2. An envelop-blank-registering device, comprising a series of endless belts, forward stops having inner opposite rounded edges, for the purpose stated, and contacts for holding the blanks to the belts having each a loosely-mounted ball, said contacts being located near said stops and designed to engage the stock while it is being moved to register, as set forth.
3. The combination with the conveyer, forward stops having inner opposite rounded edges, and means for retracting the stops, of means for bearing down on the stock, contacts having loosely-mounted balls for holding the stock to the conveyer while it is being moved to register, a side registering device, and means for operating the same, substantially as set forth.
4. The combination with the conveyer, the forward stops having rounded edges, and means for retracting the stops, of contacts having loosely-mounted balls for holding the stock to the conveyer while it is being moved to register, a transversely-movable rod, means for actuating the same, a plate having an upright lug, and means for adjustably holding said plate to said rod, substantially as set forth.

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

CHARLES GRANT HARRIS.

Witnesses:

J. R. GILBERT,  
F. G. ALLEN.