

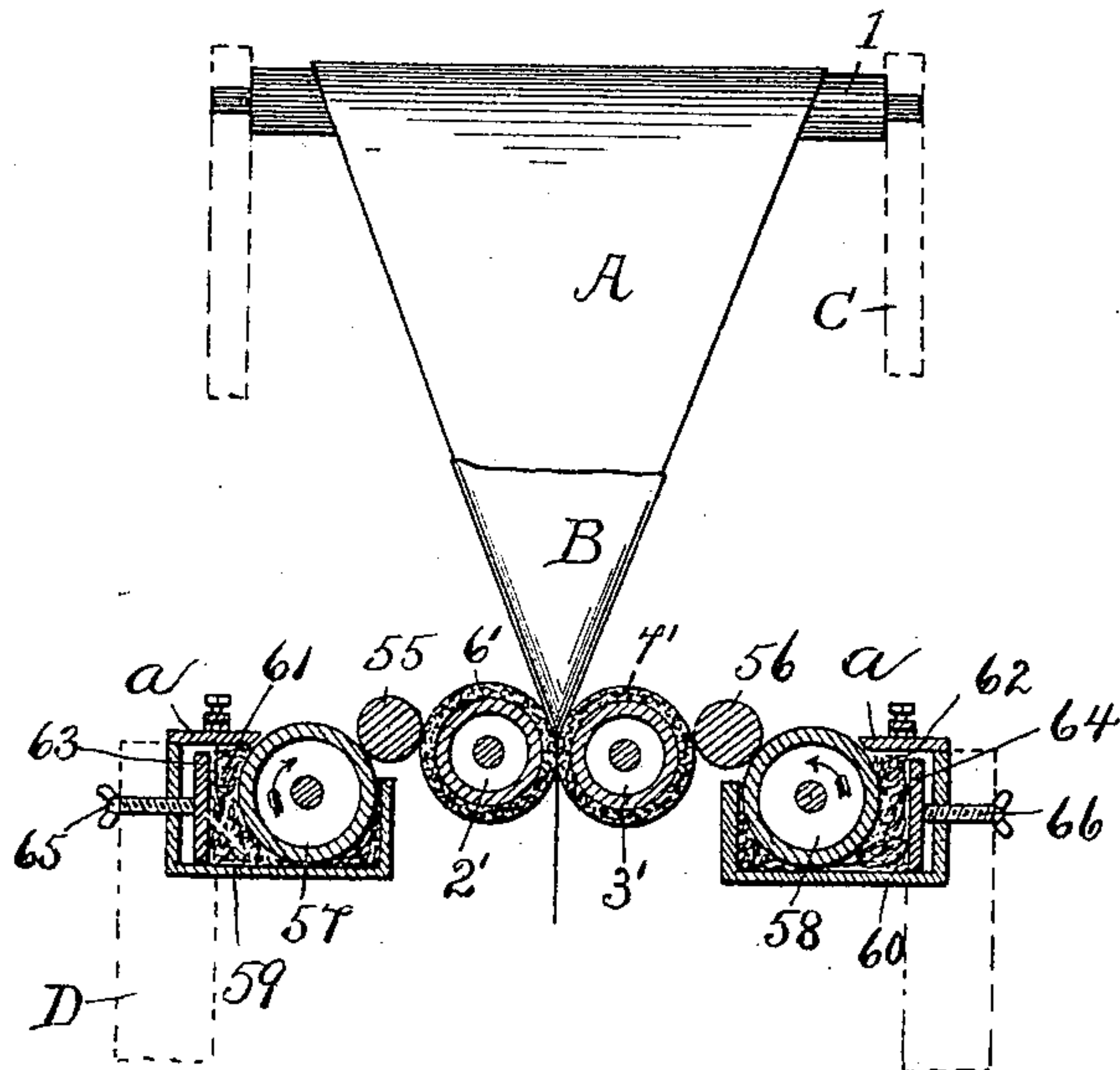
(No Model)

J. L. FIRM.  
FOLDING MACHINE.

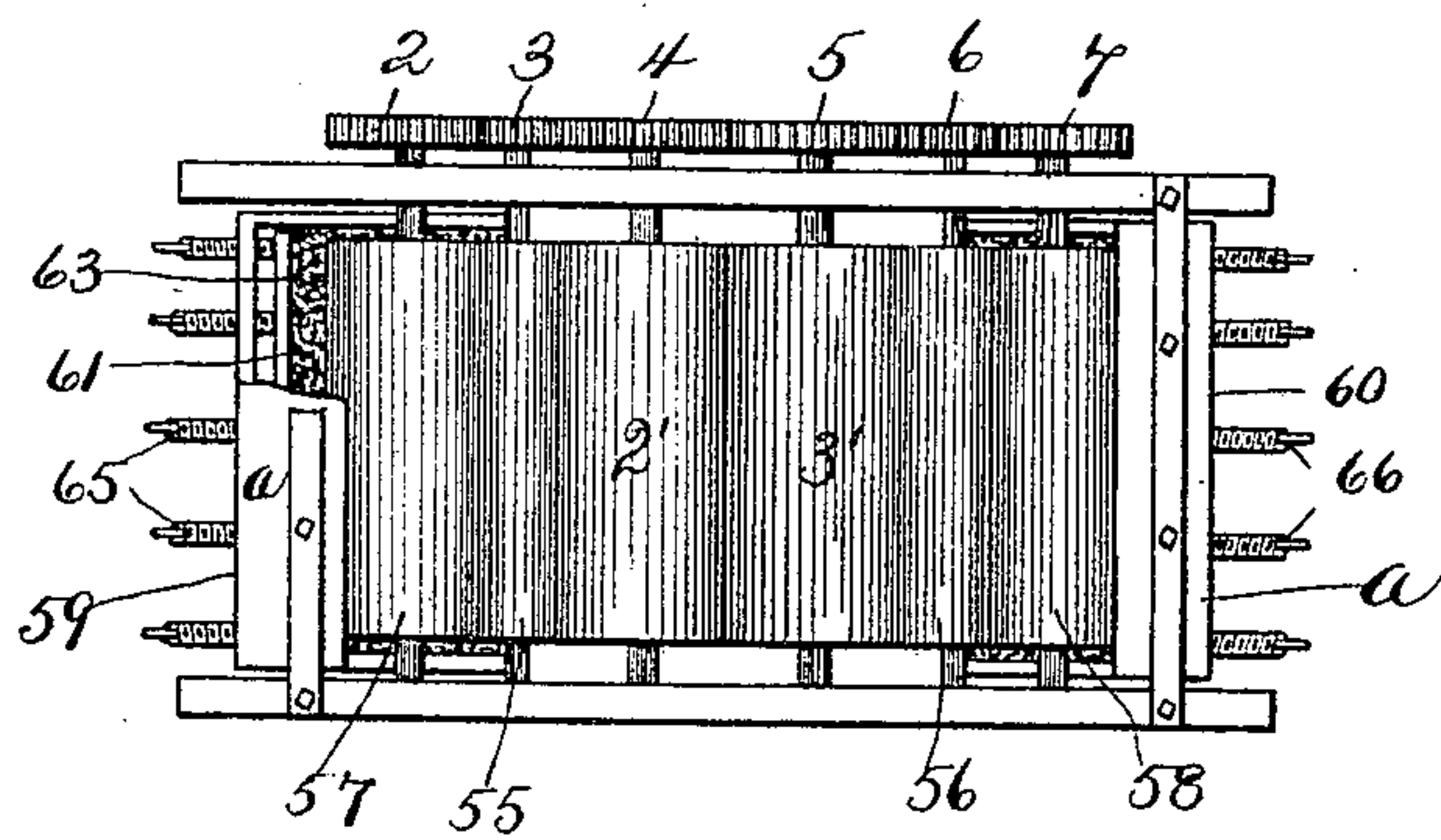
No. 582,729.

Patented May 18, 1897.

*Fig. 1.*



*Fig. 2.*



Witnesses.  
Will W. Douglas  
Carrie L. Acker

Inventor  
Joseph L. Firm.  
By Albert Popkin  
His Attorney

# UNITED STATES PATENT OFFICE.

JOSEPH L. FIRM, OF JERSEY CITY, NEW JERSEY, ASSIGNOR TO THE GOSS  
PRINTING PRESS COMPANY, OF CHICAGO, ILLINOIS.

## FOLDING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 582,729, dated May 18, 1897.

Application filed March 13, 1897. Serial No. 627,413. (No model.)

*To all whom it may concern:*

Be it known that I, JOSEPH L. FIRM, a citizen of the United States, residing at Jersey City, in the county of Hudson and State of New Jersey, have invented certain new and useful Improvements in Folding-Machines; and I do 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 appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

My present invention relates to improvements in folding-machines for folding a web of printed paper longitudinally, as will be hereinafter described, and specifically pointed out in the claims.

The object of this invention is to provide an improved mechanism for removing the offset from a folded web of printed paper, and I accomplish the purposes of the invention by the means or mechanism illustrated in the accompanying drawings, wherein—

Figure 1 is a front elevation of a V-shaped folder mechanism and a transverse section of the rollers of the offset mechanism. Fig. 2 is a plan view of the offset mechanism.

Referring to the drawings, A designates a V-shaped folder adapted to fold in longitudinal direction a web or sheet of paper B, the web passing over the roller 1, journaled in a supporting-frame C, and from thence about the V-shaped folder and between the folding-rollers 2' 3', substantially as shown in the drawings. The folding-rollers 2' 3' are located at the apex of the V-shaped folder and are covered with a detachable jacket 6' 7', in order that as the coverings become stained or worn the rollers may be lifted from their bearings and the jackets removed and replaced by new ones. The coverings or jackets 6' 7' may be of any suitable textile material adapted to serve the purpose.

55 56 designate set-off rollers journaled to contact with and lie parallel to the folding-rollers, substantially as shown in the drawings. These set-off rollers are preferably of smaller diameter than the folding-rollers, and serve the purpose of transferring the offset

from the folding-rollers, and the offset-rollers being deprived of adhering ink by the lubricated roller, through the agency of which the set-off rollers are lubricated on their surfaces, and thus prevent the ink from sticking to the folding-rollers.

57 58 designate lubricating-rollers suitably journaled in casings or boxes 59 60, located at the respective ends of the supporting-frame D, a cross-plate *a* being secured over each casing, with its inner edge lying contiguous or in contact with the roller to remove any surplus of material tending to adhere to the face of the roller. In the casings of the rollers 57 58 is deposited a proper quantity of cotton-waste 61 62, saturated with oil, which is thus applied to the rollers as they rotate in it, the continuous supply of the oil being insured and regulated by follower boards or plates 63 64, arranged in the casings to adjustably bear against the waste by means of screws 65 66, let through the ends of the respective casings, as shown in the drawings.

The respective rollers are provided with coacting gearings 2 3 4 5 6 7 and are arranged removably in their bearings, any suitable means being employed to effect this object.

The operation of my invention is as follows: The web B having been printed passes over the roller 1 to the longitudinal folder A and is folded by the passage between the jacketed folding-rollers 2' 3', the fresh ink being transferred by this passage to the surface of the rollers, which in turn have the adhering ink taken therefrom by the set-off rollers 55 56, and these latter rollers being cleansed and kept clean by the action of the lubricated rollers 57 58.

What I claim is—

1. In combination in a longitudinal folder, a V-shaped folding-frame, a pair of folding-rollers located at the apex of the said frame and provided with removable coverings, a pair of set-off rollers journaled in contact with the folding-rollers to take the set-off therefrom, lubricating-rollers journaled to contact with each of the set-off rollers, a casing for each of the last-named rollers to turn in, a lubricated material deposited in the casings, follower-boards to compress the said material, and screws to adjust the follower-



boards, substantially as and for the purpose specified.

2. In combination in a longitudinal folder, a V-shaped folding-frame, a pair of folding-  
5 rollers located at the apex of said frame, a pair of set-off rollers journaled in contact with the folding-rollers to take the set-off therefrom, rollers journaled to coact with each of the set-off rollers, a casing for each  
10 of the last-named rollers to turn in, a lubri-

cating material deposited in the casing, follower-boards to compress said material, and screws to adjust the follower-boards, substantially as and for the purpose specified.

In testimony whereof I affix my signature 15  
in presence of two witnesses.

JOSEPH L. FIRM.

Witnesses:

LEONARD B. SMITH,  
JAMES O. SMITH.