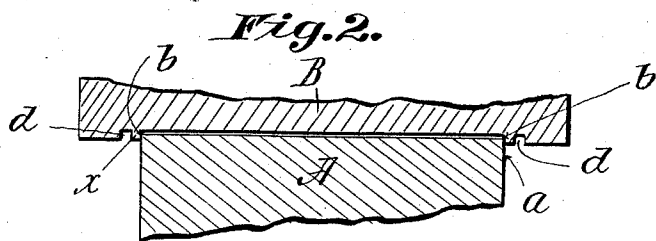
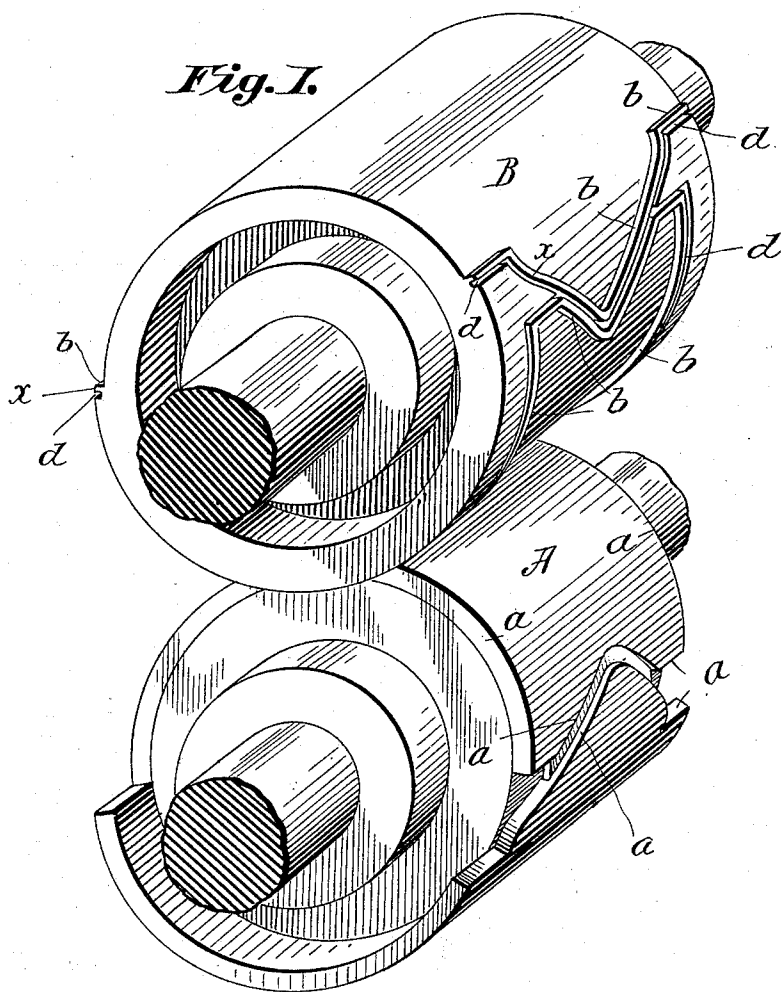


(No Model.)

J. A. HESS.
CUTTING ROLLS.

No. 518,647.

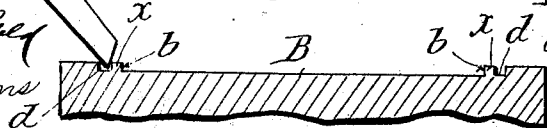
Patented Apr. 24, 1894.



Witnesses:

J. M. Garfield
H. J. Clemons

Fig. 3.



Inventor,

John A. Hess,

per

Chapin & Co.
ATTYS.

UNITED STATES PATENT OFFICE.

JOHN A. HESS, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO THE
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CUTTING-ROLLS.

SPECIFICATION forming part of Letters Patent No. 518,647, dated April 24, 1894.

Application filed July 13, 1893. Serial No. 480,335. (No model.)

To all whom it may concern:

Be it known that I, JOHN A. HESS, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented new and useful Improvements in Cutting-Rolls, of which the following is a specification.

This invention relates to improvements in rotary cutting rolls for paper, cloth, rubber, sheet metal or any other material and applies only to cutting shapes and not to continuous slitting.

Referring to the accompanying drawings, Figure 1 represents a perspective view, and Figs. 2 and 3, both vertical sections.

The bottom roll, A, in which the shape of blank to be cut is worked, is of cast steel hardened. In this roll the outline of the blank forms cutting-edges. The top roll, B, is counter, or reverse of A, the cutters of which fit in depressions worked in roll A. All the cutting edges of the top roll overlap those of the bottom roll.

In working, the movement described by the side cutters is that of an ordinary rotary shear, while that of the cross cutters is that of spur gearing, the whole describing a shearing cut.

The accompanying drawings illustrate a pair of rolls for cutting out envelope blanks.

A represents the bottom roll of hardened steel with cutting edges, *a, a*.

B represents the top roll with corresponding cutting edges, *b, b*. These cutters are not hardened, and in them is formed a groove, *d*, running parallel and close to the cutting edge, *b*, thereby forming the rib, *x*, which is for the

purpose of sharpening the cutters after they shall have become dull by continued use. This is done by means of a "set" made for the purpose and shown in Fig. 3.

The operation is as follows: By means of a hammer used on the "set," the rib, *x*, is set or bent in toward cutting edge, *a*, on roll, A, and is set or bent so as to slightly overlap said edge, *a*, so that in revolving the rolls, the cutting edge, *a*, which, as aforesaid, is hardened, will shear off that which overlaps on said edge, *x*, thereby making a close, sharp edge.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a pair of cutting rolls, the construction of the part of the one thereof,—which has the cutting edge to pass with a shear cut down past the border of a corresponding depression in its fellow-roll,—with a groove at a slight distance to the rear of the cutting edge or face, whereby a narrow rib is constituted, on one side of which is said cutting face, substantially as described.

2. In a pair of cutting rolls, the construction of the part of the one thereof,—which has the cutting edge to pass with a shear cut down past the border of a matching depression in its fellow-roll,—in the form of a narrow rib on one side of which is said cutting edge, and which rib may be set over to take up wear, substantially as described.

JOHN A. HESS.

Witnesses:

JOHN A. WIEDERSHEIM,
R. H. GRAESER.