

No. 711,416.

Patented Oct. 14, 1902.

O. BRADFORD.

ROLL FOR CUTTING EXPANDED METAL.

(Application filed Apr. 20, 1901.)

(No Model.)

Fig. 1.

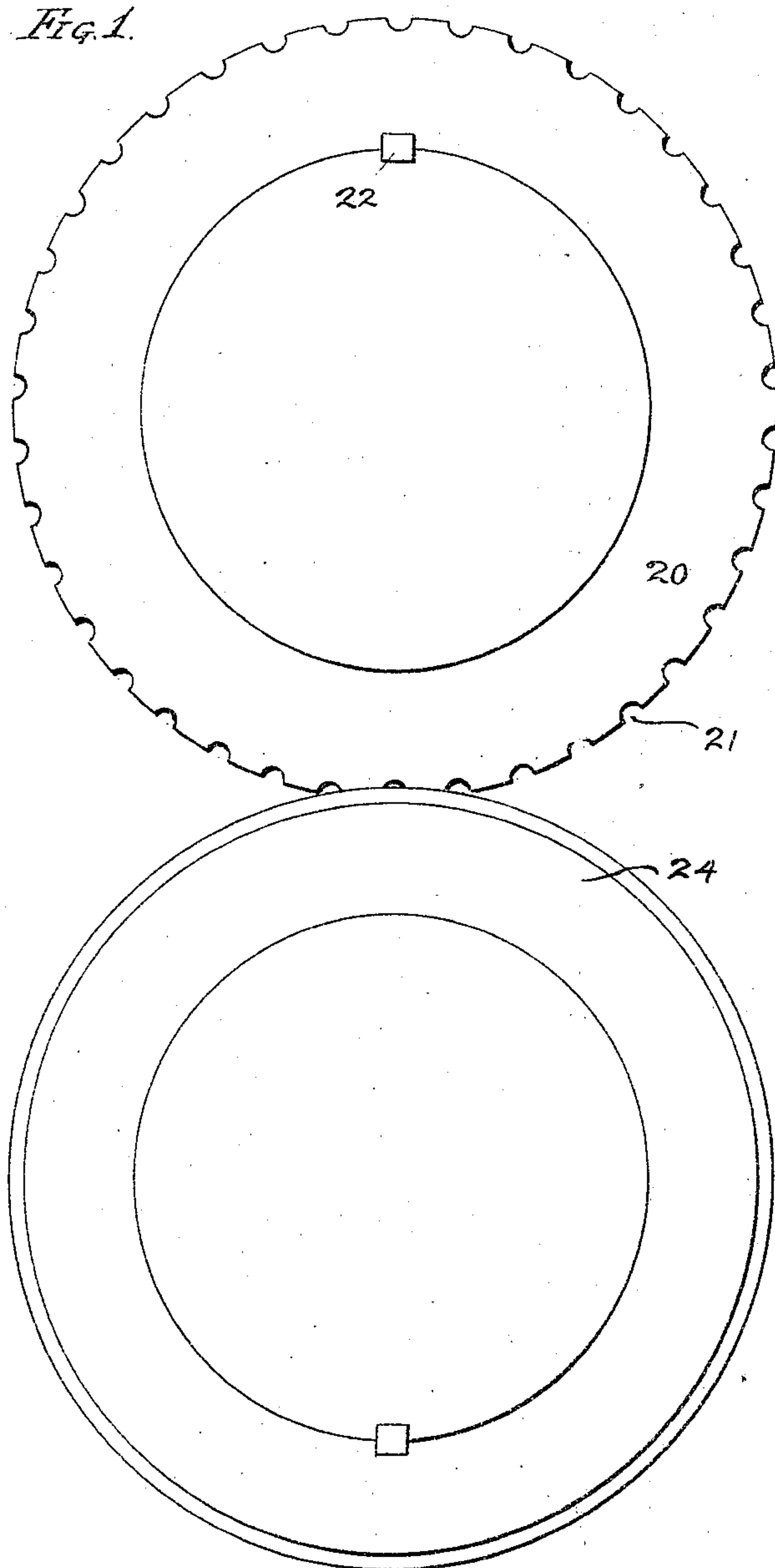


Fig. 2.

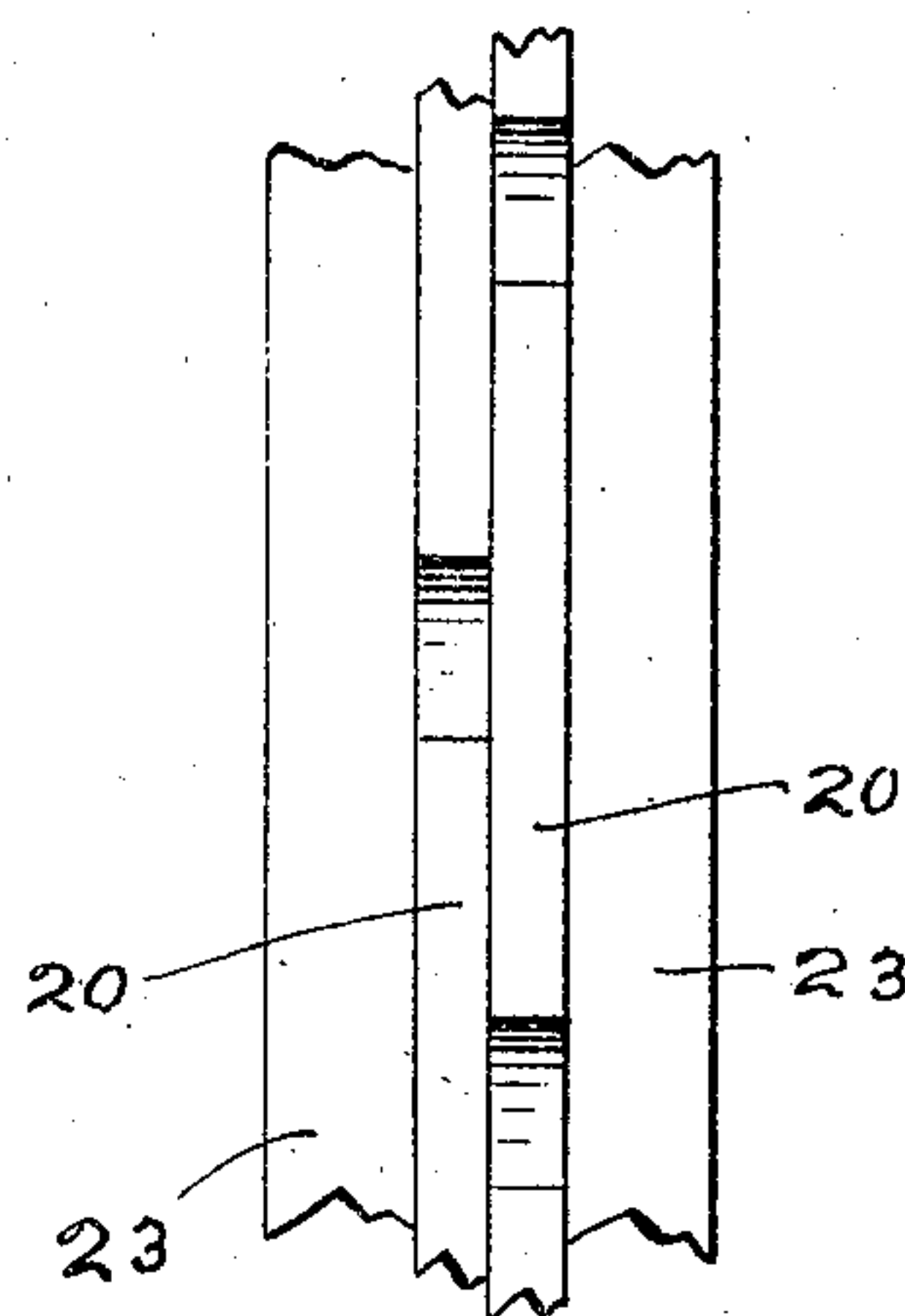
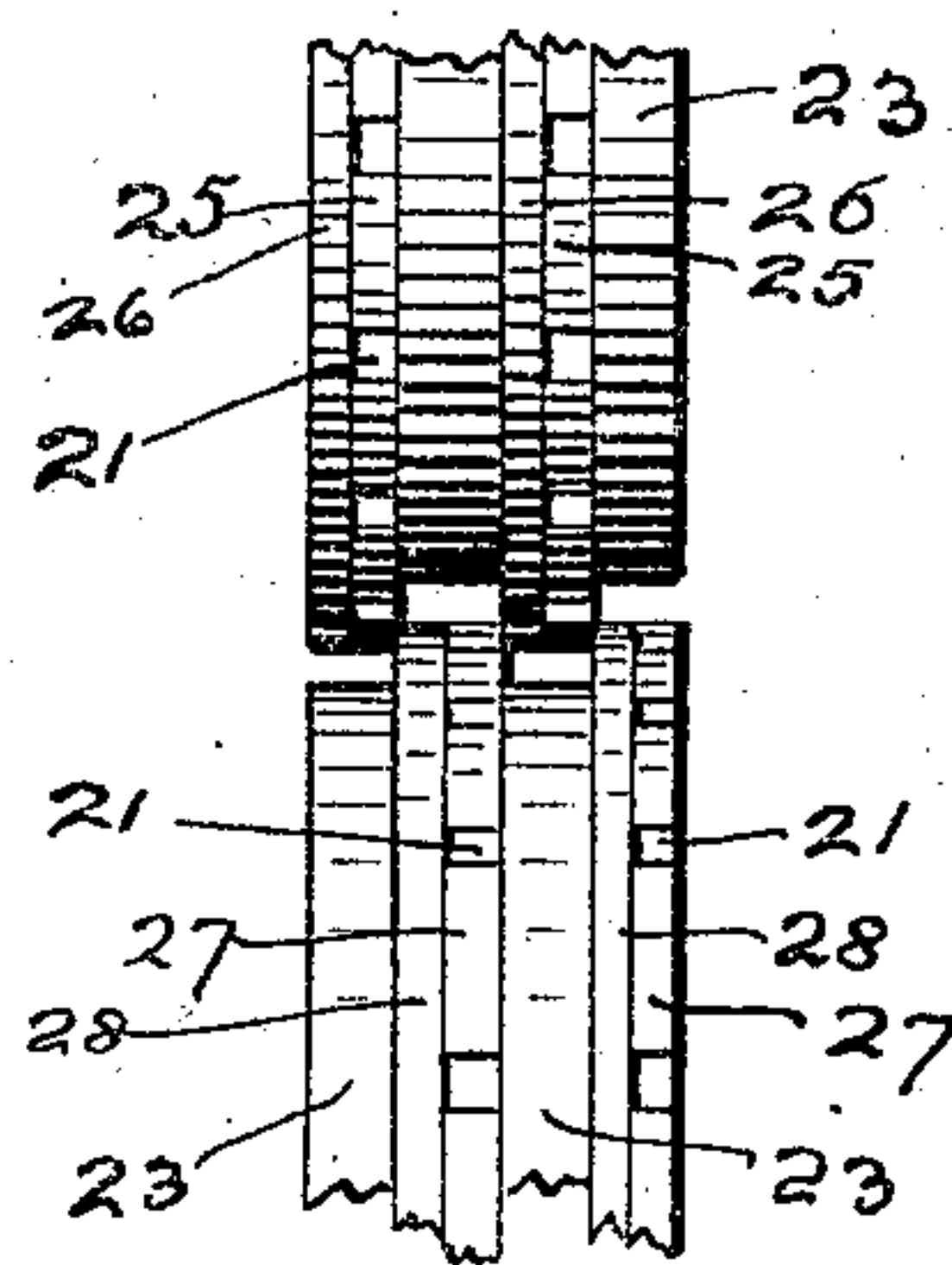


Fig. 3.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

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## ROLL FOR CUTTING EXPANDED METAL.

SPECIFICATION forming part of Letters Patent No. 711,416, dated October 14, 1902.

Application filed April 20, 1901. Serial No. 56,701. (No model.)

*To all whom it may concern:*

Be it known that I, OSCAR BRADFORD, a citizen of the United States, residing in Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Rolls for Cutting Expanded Metal, of which the following is a specification.

This invention relates to the rolls of machines whereby sheet metal may be cut or slit preparatory to expanding it. It is a modification of and in some respects an improvement upon the construction of the cutting-rolls shown in the patent to Lewis E. Curtis, dated April 9, 1901, and numbered 671,915. In the said patented construction the cutting-rings of both rolls are spaced apart, so that those of one roll may enter between the rings of the other roll, and their edges are square, forming right-angled cutting-corners all around their peripheries, except where the corners are interrupted by notches cut in the side faces of the rings and extending only part way through the rings in the direction of their thickness. These notches may be formed on both sides of the rings of one roll, or, if preferred, upon one side only of the rings of both rolls. In the Curtis construction both edges of the rings act as cutters at all times.

In my present invention instead of using rings of sufficient width to enable both corners to act as cutters at the same time, I make the rings thinner and in two parts instead of one and use them in pairs, giving them right-angled cutting-corners at both sides, but employing but one edge only of each ring of each pair at the same time. I also extend the notches by which the cutting action is interrupted entirely across such of the rings as require to be notched and from their peripheries inward in radial directions instead of forming them on the sides of the rings. As the rings are used in pairs, the notches upon one of them are arranged opposite an un-notched portion of the other, so that although both of them may be notched, yet no notch extends across both of them, and hence I thus obtain the same effect as is obtained by notching the rings on their sides instead of their peripheries and at the same time am enabled to provide the rings with interrupted

right-angled cutting-corners similar to those shown by Curtis. By my construction the rings are each given right-angled cutting-corners at both sides, so that by reversing them after the corners on one side are dulled the sharp corner on the other side may be brought into use before any sharpening, and both corners may be sharpened at the same time.

The invention will be more fully understood from the accompanying drawings, in which I show at Figure 1 a side elevation of the two coacting cutting-rings embodying my invention. Fig. 2 is a partial edge view of one of the cutting-rolls, showing a pair of cutting-rings. Fig. 3 is a partial edge view of a modified construction, showing portions of the rings upon both rolls.

Referring now to the construction shown at Figs. 1 and 2, 20 20 represent a pair of cutting-rings, both notched across their peripheries and radially inward, as shown at 21, the notches extending from side to side of the rings and the notches of one ring being staggered with reference to the notches of the other ring. The peripheries, except where they are interrupted by the notches, are at right angles to the side faces of the rings, so that both the outer corners of both rings will form sharp right-angled cutting-corners. The rings are keyed to the roll by key 22. As already stated, a pair of these rings takes the place of each Curtis ring, which cuts at both edges at the same time, while by my construction only one edge of each ring is acting at any one time. Being sharp at both corners, the rings can be reversed after the dulling of one corner, and thus bring a sharp corner into use without any sharpening. At the same time the rings can be sharpened in the same manner as the Curtis rings. Between the several pairs of rings I place spacing 23, which serve the same purpose as in the Curtis rolls. And where both of each pair of rings are notched as in Fig. 2, the opposing roll is provided with rings 24, with interrupted peripheries adapted to enter the spaces between the pairs 20. These rings 24 may be divided into pairs similarly to the notched rings, if preferred; but that is not necessary.

In the modified construction of Fig. 3 I



divide the cutting-rings of both rolls into pairs and notch in the manner described, only one ring in each pair. Thus in said figure, 25 and 26 represent a pair of the rings on the upper roll, and 27 and 28 the rings on the lower roll. All have right-angled cutting-corners, and the rings 25 and 27, being one of each pair, are provided with notches 21, while the other or mate rings 26 and 28 have continuous or uninterrupted peripheries. The pairs of rings are spaced apart by spacing-rings 23 in the same manner as in the other construction.

Of course it will be understood that I do not wish to be limited in my claims to the making of the rings described in one piece of metal nor to the making of the cutting-corners integral with the body of the rings.

I claim—

1. The slitting-roll for cutting expanded metal provided with a series of spaced cutters, each cutter consisting of a plurality of rings placed together side by side and the aggregate thickness of which equals the width of a strand in the slitted metal, the outer

corners of each cutter being adapted to coact with the cutters of an opposing roll in forming the slits, and one or more of the rings in each cutter being notched across the periphery so as to interrupt the cutting at proper points, substantially as specified.

2. The slitting-roll for cutting expanded metal provided with a series of spaced cutters, each cutter consisting of a plurality of rings placed together side by side and the aggregate thickness of which equals the width of a strand in the slitted metal, the outer corners of each cutter being adapted to coact with the cutters of an opposing roll in forming the slits, and one or more of the rings in each cutter being notched across the periphery so as to interrupt the cutting at proper points, in combination with said opposing roll having cutters coacting with those of the first-mentioned roll, substantially as specified.

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Witnesses:

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