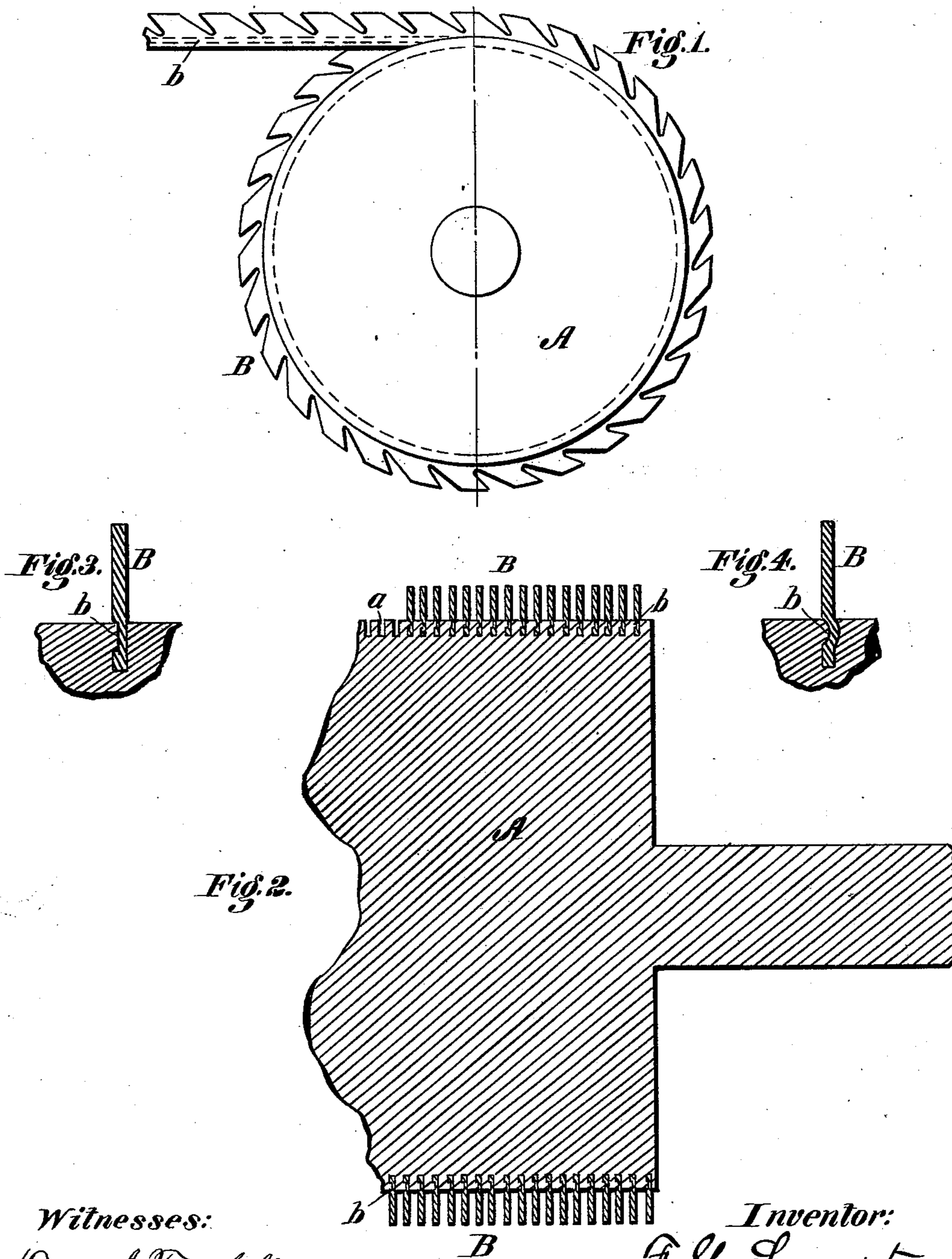


F. G. & A. C. SARGENT.  
Burring Cylinder.

No. 207,447.

Patented Aug. 27, 1878.



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# UNITED STATES PATENT OFFICE.

FREDERICK G. SARGENT AND ALLAN C. SARGENT, OF GRANITEVILLE,  
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## IMPROVEMENT IN BURRING-CYLINDERS.

Specification forming part of Letters Patent No. **207,447**, dated August 27, 1878; application filed  
June 8, 1878.

*To all whom it may concern:*

Be it known that we, FREDERICK G. SARGENT and ALLAN C. SARGENT, of Graniteville, county of Middlesex, State of Massachusetts, have invented certain Improvements in Cylinders for Burring and Carding Machines, of which the following is a specification:

Our invention relates to improvements in that class of burring-cylinders which consists of a toothed metal strip or wire seated in a grooved roll or cylinder; the invention consisting in providing the toothed strip with a longitudinal groove, into which the metal of the cylinder is depressed or upset for the purpose of holding the strip in place, the construction of the strip with a groove therein permitting the lines of wire to be brought much closer together than is possible under the ordinary mode of construction.

Grooved cylinders having the toothed strip wound therein have been in common use for many years, the strip being made with a flange on one or both sides at the base, and secured by forcing the metal down thereon. Under this mode of construction great difficulty has been experienced on account of the impossibility of winding the successive coils as closely together as the necessities of the case demanded, it being found impossible under the ordinary mode of construction to arrange the successive lines of teeth as closely together as desired.

The object of our invention is, mainly, to overcome this difficulty, and to admit of the successive coils being wound closely together, in order to bring the lines of teeth in close proximity to each other; and this result we secure by substituting for the extended flange on the strip a groove formed therein, this construction permitting us to use thinner strips than usual, and consequently to make the grooves narrower and bring the successive coils closer together than could heretofore be done.

Figure 1 represents an end elevation of our improved cylinder, showing one end of the strip uncoiled; Fig. 2, a longitudinal central section of the same; Fig. 3, a cross-section of the strip and cylinder on an enlarged scale;

Fig. 4, a modification of the same, which affords a better and more secure fastening of the strip than usual, but which does not possess fully the advantages of the strip shown in the other figures.

In the drawing, A represents the roll or cylinder, provided with the usual groove or grooves *a*, and B represents the toothed strip or wire, having its outer edge notched or serrated to form a series of teeth, as usual, and having near its inner edge a continuous longitudinal groove or indentation, *b*. The strip has its inner grooved edge inserted into the grooves of the cylinder, as shown, and is secured by upsetting or forcing down the metal of the cylinder in such manner as to fill the groove *b*, as shown in Figs. 2 and 3.

As shown in Figs. 1, 2, and 3, the strip is made of uniform or substantially uniform thickness from the outer to the inner edges, so that it is reduced in thickness at the point where the groove is formed.

When the strip is to be wound closely upon the cylinder there should be no projection or protuberance on the back opposite the groove.

It will be seen that, when constructed, as shown in Fig. 3, with the groove in one side and the flat face on the other, the strip may be inserted into a very narrow groove in the cylinder, and that consequently the grooves of the cylinder and the successive coils of wire may be brought very close together.

When the winding of the strip closely upon the cylinder is no object, the metal may be allowed to project on the side of the strip opposite the groove, as shown in Fig. 4, so that, when secured within the cylinder it will be held not only by the metal engaging in the groove *b*, but also by the metal engaging over the protuberance or projection. The protuberance or rib on the rear side may be formed by forcing up the metal in the act of rolling the groove in the opposite side.

The strip thus constructed may be made at a less cost than those of the ordinary form, and will be found to have an extremely firm hold in the cylinder.

In place of the continuous groove *b*, a line of short indentations or grooves may be en-

ployed; but it is preferred to make the groove continuous, as shown. The groove *b* may be of a round or angular form in cross-section, as preferred.

Having thus described our invention, what we claim is—

1. A toothed metal strip for a burring-cylinder, constructed, as shown, with the grooves or indentations *b* in its side.

2. The flat toothed strip B, having on one side a flat or substantially flat side face, with

a longitudinal groove or indentations, *b*, therein, substantially as shown and described.

3. In combination with the grooved cylinder A, the toothed strip B, having the groove or indentations *b* in one side and the corresponding protuberance on the opposite side.

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