

(No Model.)

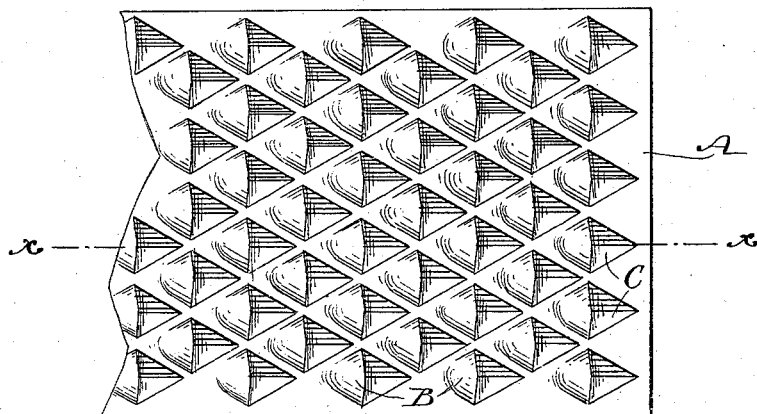
P. S. STOKES.

RASP.

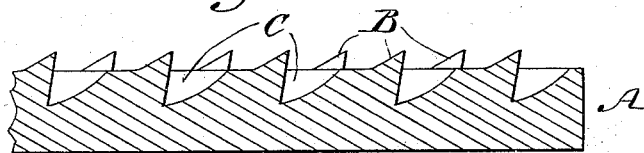
No. 383,999.

Patented June 5, 1888.

*Fig. 1.*



*Fig. 2.*



WITNESSES:

*John H. Deemer*  
*C. Sedgwick*

INVENTOR:

*P. S. Stokes*  
BY *Munn & Co*  
ATTORNEYS.

# UNITED STATES PATENT OFFICE.

PHILIP S. STOKES, OF TENNENT, NEW JERSEY.

## RASP.

SPECIFICATION forming part of Letters Patent No. 383,999, dated June 5, 1888.

Application filed February 28, 1888. Serial No. 265,568. (No model.)

*To all whom it may concern:*

Be it known that I, PHILIP S. STOKES, of Tennent, in the county of Monmouth and State of New Jersey, have invented certain new and useful Improvements in Rasps, of which the following is a full, clear, and exact description.

This invention relates to a rasp wherein the teeth are raised from the surface of the plate by means of a punch; and the object of the invention is to provide a rasp having perfectly-formed and uniform teeth of the usual length raised from recesses of less depth than in rasps cut in the usual manner, thus making each tooth of the required strength, possessing the required amount of metal, while the recess is comparatively shallow. I accomplish this by curving the bottom of the recess in forming the tooth.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in both the figures.

Figure 1 is an enlarged plan view of a part of a rasp made in accordance with my invention, and Fig. 2 is a sectional elevation of the same, taken on the line *x x* of Fig. 1.

A represents the body or plate of the rasp, B the teeth thereof, and C the recesses formed in the body by punching up the teeth.

In forming the teeth the cutting tool or

punch is applied to the surface of the body A at nearly a right angle, and is then forced into the plate, and at the same time the punch is gradually lowered to an acute angle with the surface of the plate. In this manner the bottom of the recess C is curved, so that a greater quantity of metal is forced into each tooth than would otherwise be the case with the same depth of cut. The advantage of this is the teeth are brought to a very sharp point or edge without curling or turning. Each tooth is re-enforced by surplus metal forced into the tooth, and the recesses C, being shallow and curved at the bottom, prevent clogging of the rasp when in use.

Having thus fully described my invention, I claim as new and desire to secure by Letters Patent—

1. As an improved article of manufacture, a rasp formed with teeth B and recesses C, curved at the bottom, substantially as described.

2. As an improved article of manufacture, a rasp having its teeth B punched up from curved recesses C, whereby each tooth is re-enforced by extra metal and the recess made shallow, substantially as described.

PHILIP S. STOKES.

Witnesses:

B. L. HERBERT,  
CHARLES RYNO.