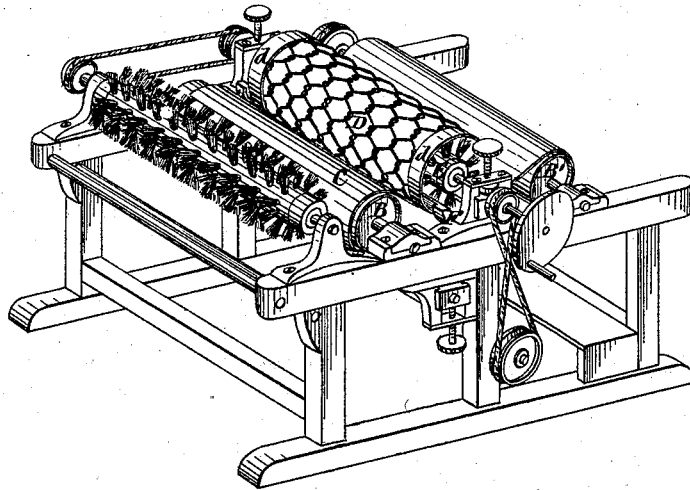


J. H. SMITH.  
PATTERN-CYLINDERS FOR CLOTH-FINISHING MACHINES.

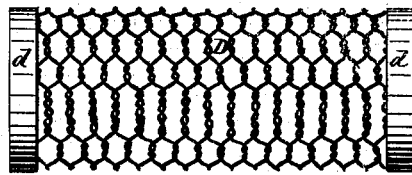
No. 194,057.

Patented Aug. 14, 1877.

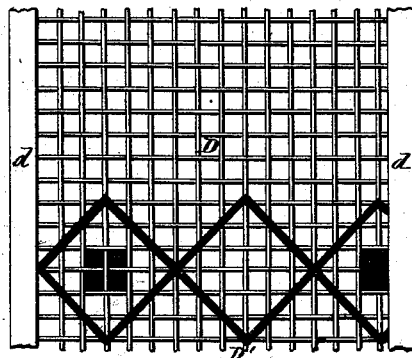
*Fig. 1*



*Fig. 2.*



*Fig. 3.*



*Attest:*  
*S. J. Masson*  
*W. R. Edelen*

*Inventor:*  
*James Harper Smith*  
by *E. E. Masson*  
*atty.*

# UNITED STATES PATENT OFFICE.

JAMES H. SMITH, OF SOMERVILLE, NEW JERSEY.

## IMPROVEMENT IN PATTERN-CYLINDERS FOR CLOTH-FINISHING MACHINES.

Specification forming part of Letters Patent No. **194,057**, dated August 14, 1877; application filed May 19, 1877.

*To all whom it may concern:*

Be it known that I, JAMES HARPER SMITH, of Somerville, in the county of Somerset and State of New Jersey, have invented certain new and useful Improvements in Pattern-Cylinders for Cloth-Finishing Machines; and that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 represents a perspective view of a cloth-finishing machine carrying one of my improved cylinder-patterns. Fig. 2 represents one of my improved pattern-cylinders in side view, and Fig. 3 represents a sample of wire-cloth to be used as pattern in cloth-finishing machines.

Pattern-cylinders for cloth-finishing machines have heretofore been made of thin metal, cut out according to various designs, to form openings through which the nap of cloth could be raised upon its surface where it was not protected by the stencil-plate. When the openings are large, with only small strips of metal left between them, the pattern stencil plate or cylinder soon wears away, and becomes broken and torn by the nap-raising brush, as the latter is often made of wire, and the stencils are made of sheets of very thin metal.

The object of my invention is to obviate this difficulty by making the patterns of metallic wire woven or twisted together, so as to present various designs and configurations that remain permanently set upon cloth submitted, in connection with said wire pattern, to the action of a nap-raising brush.

To enable others skilled in the art to make and use my invention, I will proceed to describe the same with reference to the drawings.

In Fig. 1 is represented, in perspective, a machine for finishing cloth similar in general construction to the one for which I obtained Letters Patent on the 19th of December, 1876,

but with one of my improved pattern-cylinders shown at D.

In this machine the cloth to be operated upon is supported by an endless elastic belt, C, passing upon two rollers, B B', and above it the pattern-cylinder D can revolve around a suitable stationary slotted guide or bearing, F. A revolving brush, E, within said cylinder acts upon the cloth, and raises the nap upon it where the surface of the cloth is not protected by the woven or netted wire of the pattern-cylinder.

The wire of which this pattern-cylinder is made can be of any suitable metal, and woven, twisted, or soldered together to form light designs with large or small openings.

The pattern is generally covered and secured at the edges by a thin metallic band or ring, d, to strengthen it and cause it to revolve more smoothly.

In the machine shown in Fig. 1 the wire-cloth pattern is cylindrical; but it is evident that endless belts taking other forms also, but made of wire woven or twisted together, could be used without departing from the spirit of my invention.

The lower portion of Fig. 3 shows an additional wire, D', of larger size, soldered upon the outside of the wire pattern, to produce deeply-sunk plaid or other designs upon the surface of the cloth in addition to the lighter design. A portion of the wire meshes or space between them can also be filled with solder or other metal to form still heavier designs.

Having thus described my invention, what I claim is—

In combination with a cloth-finishing machine, a pattern for figure-napping, made of wire-netting or wire-cloth, having meshes adapted to form designs of any desired configuration and depth or width, substantially as and for the purpose described.

JAS. HARPER SMITH.

Witnesses:

T. W. FRECH,  
E. E. MASSON.