(No Model.)

D. C. SUMNER.

CLOTH SHEARING MACHINE.

No. 265,644. Patented Oct. 10, 1882.

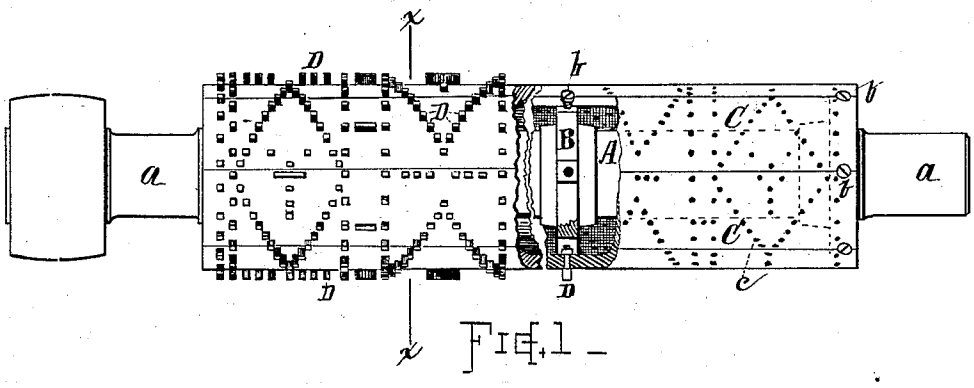


FIG. 1.

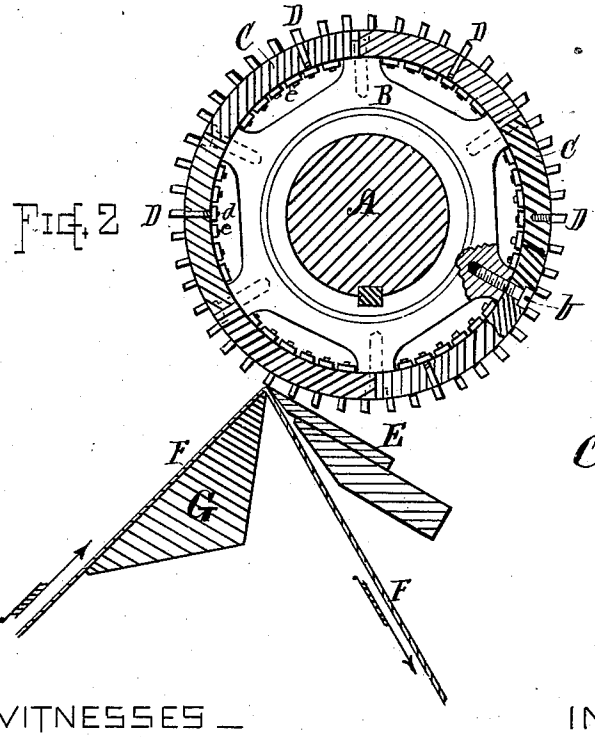


FIG. 2

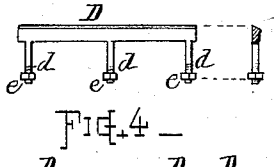
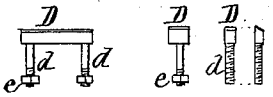


FIG. 4.



FIGS. 5, 6 & 7

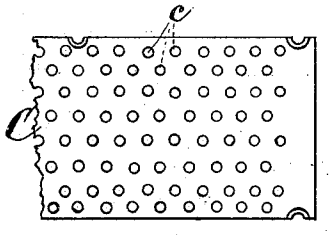


FIG. 3.

WITNESSES.

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CLOTH-SHEARING MACHINE.

SPECIFICATION forming part of Letters Patent No. 265,644, dated October 10, 1882.

Application filed January 3, 1882. (No model.)

To all whom it may concern:

Be it known that I, DWIGHT C. SUMNER, of New York, in the county of New York, and State of New York, have invented certain new and useful Improvements in Cloth-Shearing Machines; and I declare the following to be a description of my said invention sufficiently full, clear, and exact to enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

The object of my present invention is to provide a shearing-cylinder or revolver for cloth-shearing machines, the teeth or cutting-sections whereof can be individually adjusted or arranged at different positions for shearing various ornamental patterns on cloth, or for permitting independent removal of said teeth, so that the design or pattern can be changed without the necessity of constructing an entire new cylinder for each separate design. I attain this object by mechanism constructed substantially as shown in the accompanying drawings, and hereinafter described, the subject-matter claimed being hereinafter definitely specified.

Figure 1 is a part side part sectional view of a revolver or shearing-cylinder constructed in accordance with the principles of my invention. Fig. 2 is a transverse section of the revolver, the ledger-blade, and the cloth-supporting rest, showing their construction and relative location in regard to each other and to the cloth fabric when in the shearing-machine. Fig. 3 is a portion of one of the lags or bars of which the cylinder-surface may be composed. Figs. 4, 5, 6, and 7 are detail views, illustrating forms in which the independent cutting sections or teeth may be formed.

In the construction of my improved mechanism I employ a body-cylinder, which is provided with properly-arranged holes drilled into its shell or surface, and in said holes I arrange series of teeth or cutting-sections, formed and secured independently of each other and placed in such relation about the cylindrical surface as to produce a desired pattern upon the cloth when the revolver is operated in connection with the ledger-blade in a shearing-machine in the ordinary operation of such machine. These teeth or cutting-sections are secured in the body-cylinder in such manner that they can be removed when desired and rearranged in different order, so as to produce other designs or patterns, thereby adapting a single revolver for shearing a variety of patterns. The surface of the cylinder may be drilled or perforated over its entire surface when made, or the holes may be drilled therein, as required, for changing the arrangement of the teeth, as preferred. The diameter of the cylinder may be of such dimension as will give a circumference corresponding to the requirement of the various designs to be executed, or so as to contain the requisite number of teeth for cutting the required pattern, the length which such pattern occupies in its development upon the cloth depending on the speed of the revolver in relation to the speed at which the cloth is carried forward in the process of shearing.

The best method now known to me for the construction of my invention is illustrated in the accompanying drawings, where—

A denotes a central shaft, having the necessary journals *a a*, and provided with disks or supporting-plates B, to which are secured, by screws *b* or otherwise, a sufficient number of thin steel bars or lags C to form a shell for supporting the teeth or cutting-sections D, said lags being perforated or drilled with small holes *c*, in which the shanks *d* of the teeth are independently secured, preferably by means of nuts *e*, at the inner side of the lags, in the manner illustrated; or, if desired, by driving or screwing them into the holes *c*, or in other suitable manner. The lags C are properly fitted at their edges, and their exterior turned off and dressed to a uniform cylindrical surface. After the teeth are inserted they are properly ground to give them a sharp cutting or shearing edge.

The teeth D may be made from steel rods, or as small pins or studs, with squared top ends and screw-threaded shanks, as in Figs. 6 and 7; or they may be made as short blades and provided with two shanks, as in Fig. 5, or with three or more shanks, (see Fig. 4,) if a still longer cut is desired, the shanks of said latter form of teeth being located so as to fit the several holes *c* in the lags or cylindrical surface.

In Fig. 3 the lag is shown with its holes *c*

all drilled, while in Fig. 1 are shown only such holes as are needed for a single pattern. At the left of Fig. 1 the teeth are shown as arranged for pattern-work. The design, however, can be varied indefinitely from that here shown.

This revolver is mounted and operated in an ordinary shearing-machine similar to or of the class referred to in Letters Patent No. 205,281, dated June 25, 1878, the parts, construction, and operation of which being well known it is not necessary to illustrate or describe, its teeth D acting against the ledger-blade E to shear the nap-fibers off the cloth F as it is drawn over the edge of the supporting-rest G, the operations being performed substantially in the usual manner.

When it is desired to change the pattern the nuts or fastenings *e* are loosened, and the teeth or sections D removed from the cylinder and replaced in such order as will form the desired pattern.

What I claim as of my invention, and desire to secure by Letters Patent, is—

1. A revolver or cylinder for cloth-shearing machines, the cutters of which are formed as independent pins or teeth separately supported in the periphery of a cylindrical body in patterns or ornamental order, and adapted to be individually removed and rearranged in different order for changing the pattern or design, substantially as hereinbefore set forth.

2. The combination, with the ledger-blade and cloth-support in a cloth-shearing machine, of a revolver-cylinder and a series of cutting points or teeth independently supported in the periphery of said cylinder, and adapted to be removed, rearranged, or reset in different orders of adjustment for the production of different designs or styles of ornamentation, substantially as hereinbefore set forth.

3. In combination, substantially as described, the shaft A, provided with disks or supports B, the shell or lags C, having holes *c*, and the cutting teeth or sections D, supported independently in said lags or shell, as and for the purpose set forth.

Witness my hand this 27th day of December, A. D. 1881.

DWIGHT C. SUMNER.

Witnesses:
CHAS. H. BURLEIGH,
WALTER B. ALLEN.