J. M. Pratt.

Cloth Napping Mach.

No. 957. Patented Oct. 3, 1838.

Fig. 4.

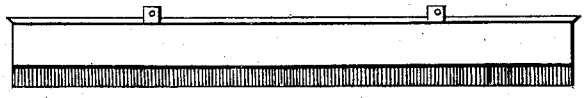


Fig. 3.

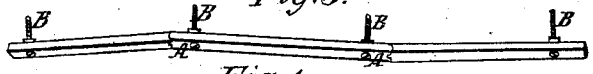


Fig. 1.

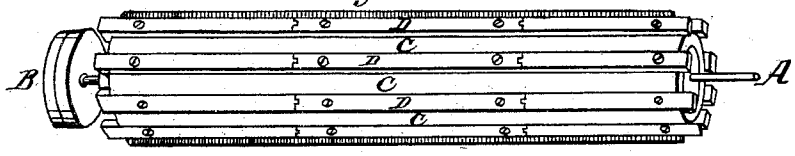
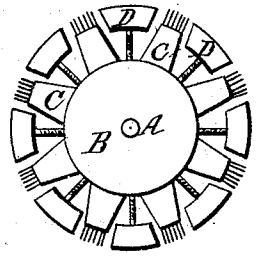


Fig. 2.



UNITED STATES PATENT OFFICE.

JOHN M. PRATT, OF DUDLEY, MASSACHUSETTS.

IMPROVEMENT ON HURD'S PATENT METALLIC NAPPER FOR NAPPING CLOTH.

Specification of Letters Patent No. 957, dated October 3, 1838.

To all whom it may concern:

Be it known that I, JOHN M. PRATT, of Dudley, in the county of Worcester and Commonwealth of Massachusetts, have invented a new and useful Improvement on Hurd's patent metallic napper for napping broadcloths and all other cloths on which a nap is usually raised by the application of teazels or cards; and I do hereby declare that the following is a full and exact description of the same.

The construction of the entire machine, with my improvement, will appear from the drawings hereunto annexed.

Figure 1, exhibits a side view of the whole machine. It is in the form of a cylinder, and receives a rotary motion from the shaft A, to one end of which are attached a tight and a loose pulley B, and motion is communicated to the machine by means of a belt applied to the tight pulley, and the motion may be stopped by sliding the belt upon the loose pulley. The side view of the machine, presents the alternate rows or flats of metallic points as C, C, and the gages, D, D, interposed between them.

Fig. 2 represents an end view of the machine. A, is the end of the cylinder which may be of metal or wood; and B, is the end of the shaft. C, C, are the ends of the rows or flats of metallic points, and D, D, the ends of the gages.

Fig. 3, represents one of the gages separate and entire. They may be of metal or wood. The one represented in this figure is made of three pieces connected by joints at A, A. The gage is attached to the cylinder by means of the screws B, B, B, B, and by means thereof the gage or any part of it, may be elevated or depressed at pleasure. This having the gage in parts will be mainly useful in raising the nap on broadcloths;— in the manufacture of narrower cloths, no such joints in the gage will be necessary, but it may be one straight entire piece.

Fig. 4, represents a single row of the metallic points, as attached or soldered to a piece of tin or other elastic metal, in the form of a common hair comb. These pieces of tin with the metallic points fastened to them as above described, are soldered to a plate of tin or other metal, this plate of tin or other metal is placed upon and fastened to the cylinder, and thus is formed a row or flat of the metallic points, answering to the flat of teazels used for the same purpose. The number of these combs, or pieces of tin with metallic points to constitute a flat, may be varied at pleasure;— in the model accompanying the drawings, the number is six. The width of the pieces of tin and the length of the metallic points, may also be varied at pleasure, so as to make the same more or less elastic and yielding as the kind of manufacture may require.

The object of the invention, is to supersede the use of teazels in raising a nap on woolens. In the original invention by Hurd, the practical difficulty is, that the metallic points are inserted by means of solder between solid and permanent pieces of metal, so that the points are wholly unyielding, and thus cut the nap. My improvement in this particular, consists in attaching the metallic points to the pieces of tin or other elastic metal, so that the points will not only be elastic and yielding, but will be kept free and separate, and thus the work will be done without cutting the nap, and in a manner fully equal, if not better, than the work done by teazels.

The other improvement in my machine, is the gage. By means of this gage the cloth or any part of it, may be let down more or less upon the metallic points, and thus the work, or any part of it, proceeds faster or slower at pleasure. The length of the gages must depend upon the width of the cloth to be manufactured, and, as before suggested, when the cloth is narrow there will be no need of any joints in the gage, and a less number of screws will be necessary for its regulation.

The operation of my machine, except in the particulars before indicated, is much like that of the ordinary teazel gig machine. The cylinder is turned by means of a belt applied to the fast pulley at the end of the shaft, and the cloth is let upon the cylinder, after the gages are properly adjusted, much as it is let upon the common gig; the object of the invention being to supply what has been regarded a great desideratum in the manufacture of woolens, a substitute for the teazel. In the operation of raising the nap, the work may be kept perfectly equalized by the aid of the gage; and by such a management of the gage, added to the free, clear and perfect operation of the metallic points, work of the best character will be produced.

What I claim as my invention, and desire

to secure by Letters Patent is: an improvement of Hurd's patent metallic napper, to wit:

1. Not the soldering of the points or pins to pieces of tin or other metal, but the mode herein described of fastening and forming the points or pins into flats, so as to preserve their elasticity, and give them play between the gages.

2. Not the placing of gages between the flats, but the mode of regulating the gages, as herein before described, so as to equalize and perfect the operation of napping.

In witness of all which I have hereunto set my hand this twenty second day of November A. D. 1837.

JOHN M. PRATT.

Witnesses:

THOMAS BOTTOMLY,

SALEM TOWNE.