

*S. C. Ketchum,
Felting Machine.*

No. 14,960

Patented May 27, 1856.

Fig. 2.

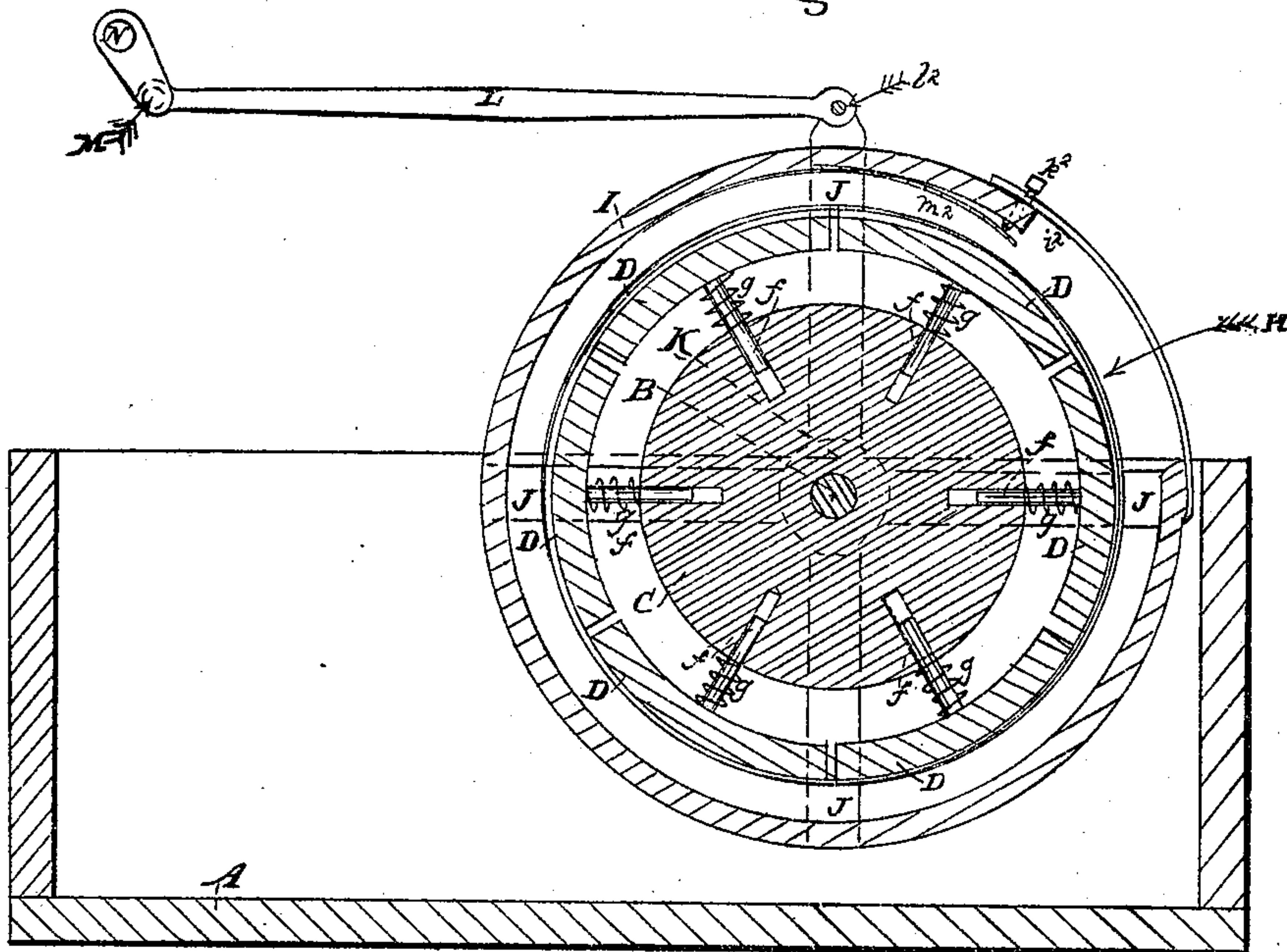
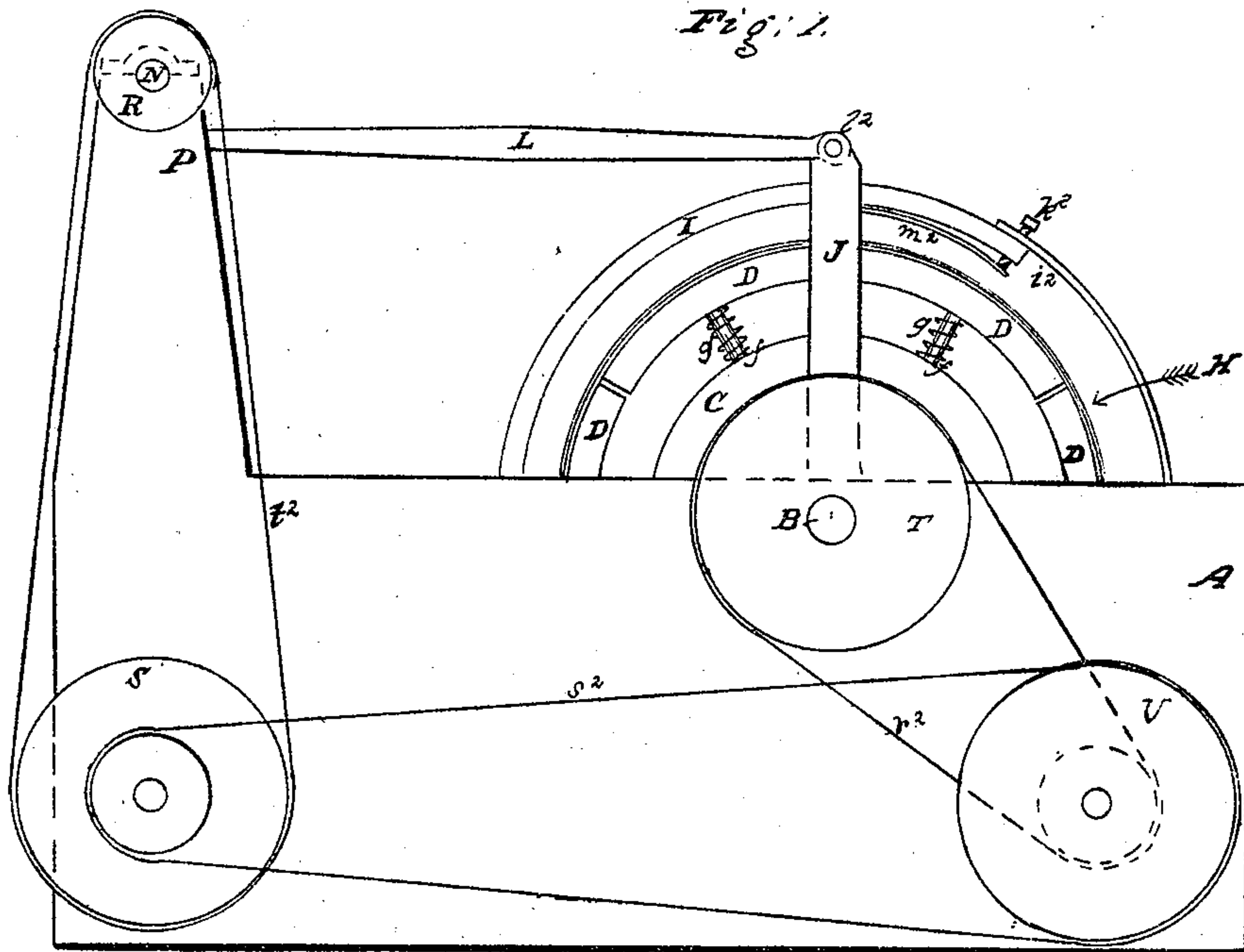


Fig. 1.



UNITED STATES PATENT OFFICE.

SAMUEL C. KETCHUM, OF BROOKLYN, NEW YORK.

MACHINE FOR SIZING HAT-BODIES.

Specification of Letters Patent No. 14,960, dated May 27, 1856.

To all whom it may concern:

Be it known that I, SAMUEL C. KETCHUM, of Brooklyn, Kings county, State of New York, have invented certain new and useful
5 Improvements in Machinery for Sizing Hat-Bodies; and I do hereby declare the following to be a full description of the same, reference being had to the accompanying drawings, forming a part of this
10 specification, the same letters of reference wherever they occur referring to like parts.

Figure 1 is a side elevation of the machine. Fig. 2 is a longitudinal cut section of the same.

15 Letter A, is a representation of a water box, which also answers the purpose of a frame upon which cylinder and rubber is adjusted.

Letter B, is a main cylinder shaft, secured in suitable boxes transversely of the
20 water box. Upon this shaft is secured a drum C, on the periphery of which is secured an elastic or adjustable shell D, formed of six or more or less number of segments
25 of a circle so as to form a complete shell surrounding the periphery of the drum C. This shell is held in its place by means of two or more or less number of pins *f*, *f*, in each segment, and having their opposite
30 ends secured into the drum. On these pins between the under side of the shell and face of the drum are spiral springs *g*. The object of this arrangement of the pins, springs and shell, is to obtain an elastic, or self ad-
35 justing rubber bed, upon which the roll of felt would receive a constant elastic pressure throughout the entire circumference of the shell, though constantly varying in size, in consequence of its rolling action.

40 Upon the face or outer surface of the shell, is a covering of duck cloth H. This made be made of any other suitable cloth, or of india rubber. The object of the use of it is to preserve a uniformity of surface, so
45 that the roll of felt will not be likely to be stopped by the abrupt edges of the unequally depressed edges of the segments, while carrying around at the same time various sized rolls of felt.

50 Letter I, is a rubber case, made of metal

or wood, and surrounding the periphery of the shell, except for a small space *i*², as a throat way for the introduction of the roll of felt. This case is supported by means of
55 arms J, secured to a hub K, running loose upon the shaft B, the object of which is to keep the case always at a relative distance from the shell.

On the inner side of the outer case just at the upper edge of the throat (*i*²) is se-
60 cured by its back edge a compressor plate *m*², the object of which is, by means of the set screws *k*, to contract the space between the shell and rubber case to give the roll of
65 felt more work just at the point of leaving the machine than on entering.

Letter L, is a connecting rod, having one end attached to a pin *l*², secured to the upper side of the case I, and the opposite end
70 to a crank center pin M, in a shaft N, supported upon a suitable frame work or standard P, at the back end of the water box. The object of this connecting rod L, is to give a vibratory motion to the rubber
75 case I, simultaneously with rotating motion of the drum, and thereby give to the roll of felt while passing through the machine a rolling and working motion somewhat anal-
80 ogous to that given to a roll of felt by the hand operation in sizing up hat bodies.

Letters, R, S, T, and U, and *r*² *s*² and *t*² are a series of pulleys and bolts for giving the proper motion and speed to the moving parts of the machine.

Having now described my invention and
85 its construction, I will proceed to state what I claim and desire to secure by Letters Patent of the United States.

What I claim therefore is—

The use of the combination of the elastic
90 shell D, (upon the revolving drum or cylinder C,) with the vibratory rubber case I, surrounding the same, when made and arranged for the purposes substantially as hereinbefore set forth.

SAMUEL C. KETCHUM.

Witnesses:

CHARLES S. BARRITZ,
W. S. JONES.