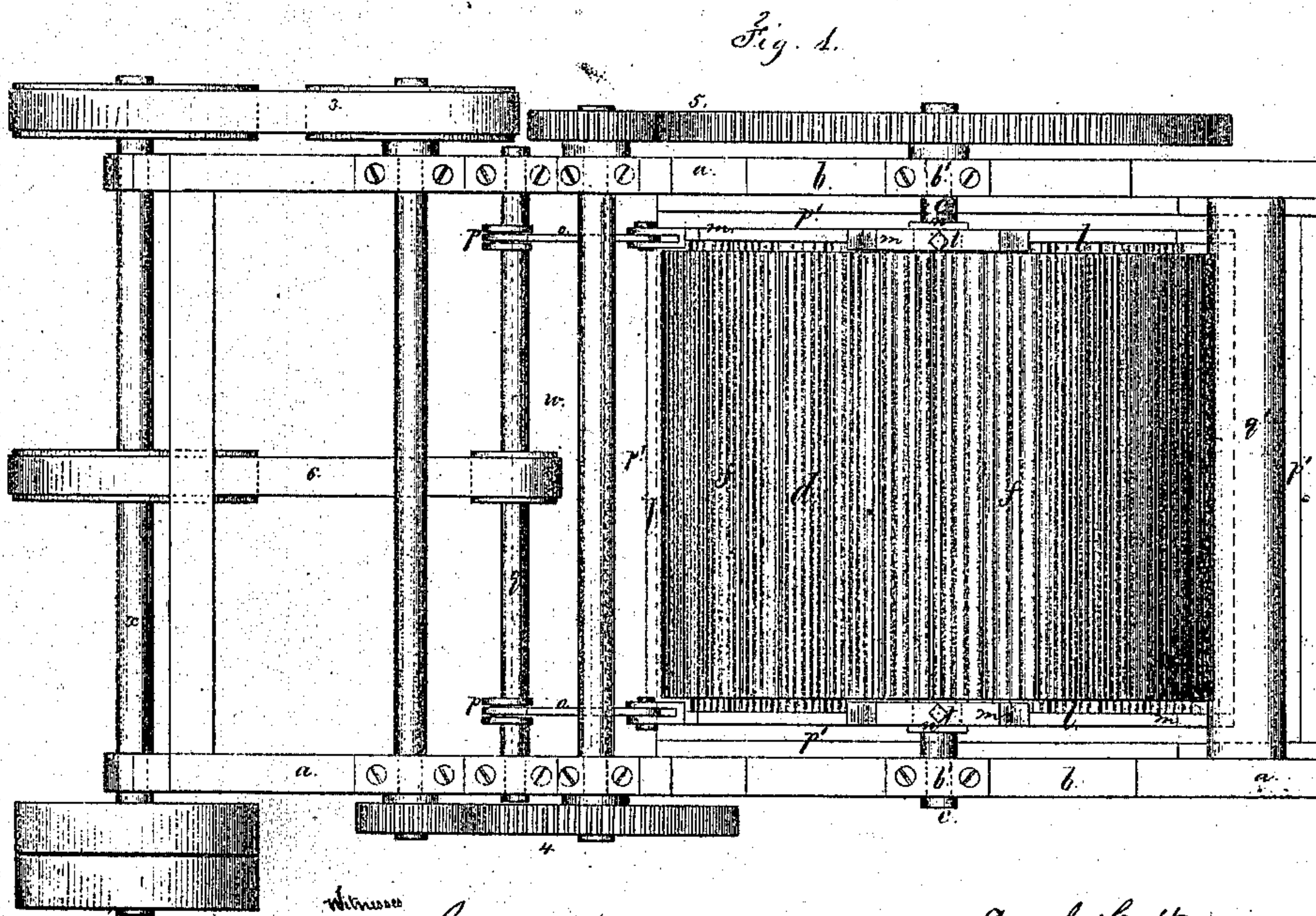
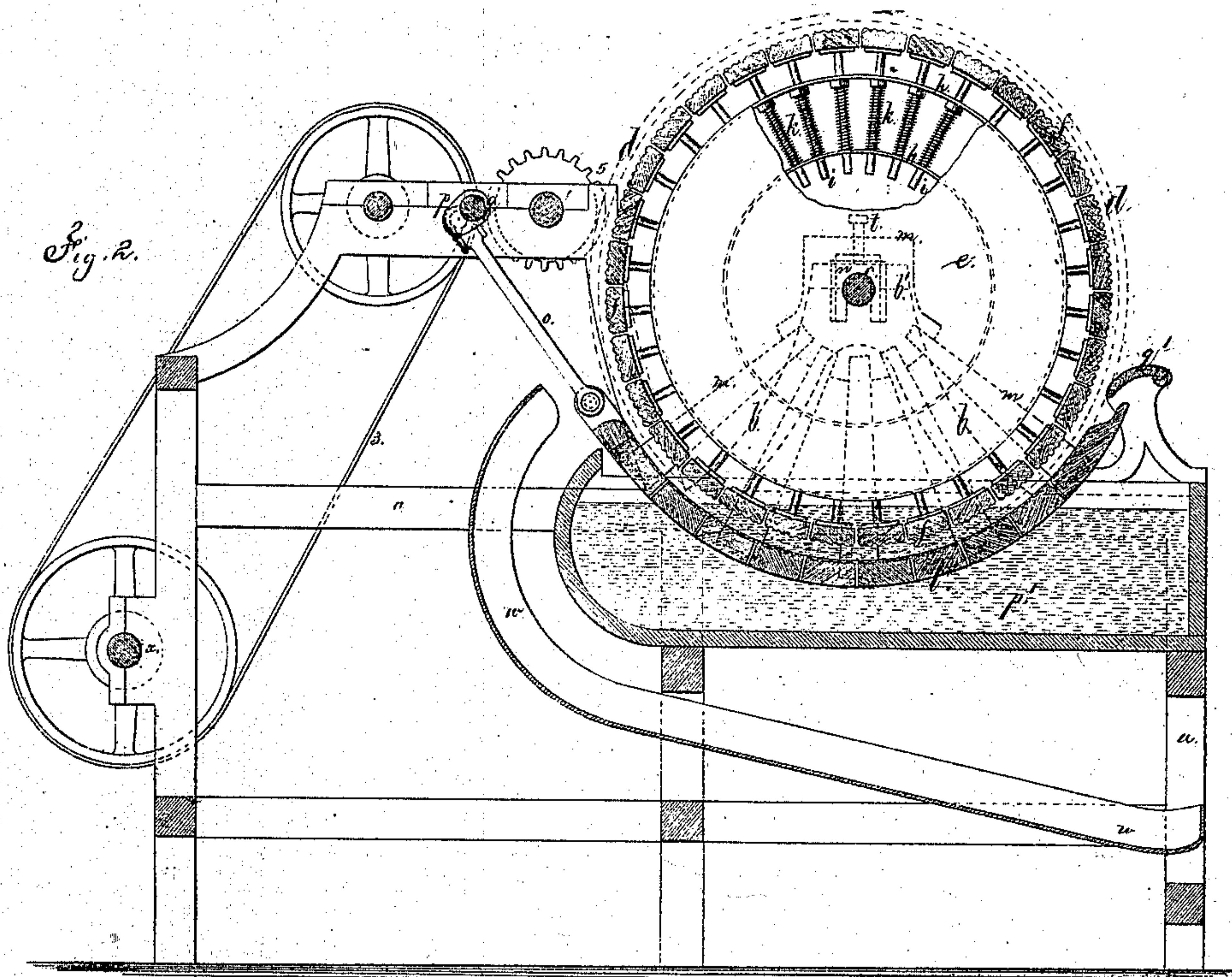


A. Cattaneo,
Felting Machine.

No. 104,424.

Patented. June 21 1870.



Witness
Chas. H. Smith
Geo. A. Walker

Angelo Cattaneo,
per Lemuel W. Perrell
att'y

United States Patent Office.

ANGELO CATTANEO, OF NEWARK, NEW JERSEY, ASSIGNOR TO HIMSELF
AND HENRY LEFORT, OF SAME PLACE.

Letters Patent No. 104,424, dated June 21, 1870.

IMPROVEMENT IN MACHINES FOR FELTING HATS.

The Schedule referred to in these Letters Patent and making part of the same

To all whom it may concern:

Be it known that I, ANGELO CATTANEO, of Newark, in the county of Essex and State of New Jersey, have invented a certain new and useful Improvement in Machines for Felting Hat-Bodies, &c., and the following is hereby declared to be a full and correct description of the same.

The object of this invention is to felt hat-bodies, &c., by a rubbing and working operation by machinery, in a manner similar to the operation performed by hand, in felting and shrinking such articles; and

Said invention consists in passing the articles to be felted between a revolving cylinder of yielding slats and a segmental shell, (also composed of slats,) to which a short, quick, oscillating or reciprocating movement is given.

The slats, both of the cylinder and shell, being corrugated, said shell acts as a rubber, to detain and rub the articles passing between said cylinder and shell, and felts such articles by said rubbing action in a very even and uniform manner, in consequence of the yielding action of the cylinder slats, and but little or no hand-labor will be required upon the hats after coming from the machine.

In the drawing—

Figure 1 is a plan of my said machine, and

Figure 2 is a vertical longitudinal section of the same. The head of the cylinder of slats is represented as broken away, to show the parts more clearly.

a is the frame of the machine, with the standards *b b* rising from the upper part of the same, and fitted with boxes *b'*, to receive the shaft *c* of the cylinder *d*. This cylinder *d* is composed of the heads *e e* and slats *f f*, and said slats are corrugated lengthwise of the cylinder.

The heads *e* are formed with the ring flanges *h h*, to receive the guide-rods *i i* of the slats *f*, and said slats are pressed outwardly by the springs *k k*, around said guide-rods *i*. These springs allow the slats to yield or give when acting on the articles to be felted.

Beneath this cylinder of slats is the segmental shell or rubber *l*, and said shell is composed of corrugated slats, as seen in fig. 2; and these slats are set in frames *m m*, at the ends of said shell, and said frames are fitted with the adjustable sliding boxes *n n*, to set

over the shaft *c*, and on this shaft said shell and frame are suspended, and oscillate as motion is communicated to the same by the links *o o* and cranks *p* on the shaft *q*.

The shell *l* and lower part of the cylinder *d* are submerged in water in the trough *p'*, and said water is kept at the proper temperature by steam heat, and for this purpose steam-pipes may pass into said trough or tank in any convenient manner.

The hat-bodies or other articles to be felted are fed to the machine over the table *q'*, and between the cylinder *d* and shell *l*, and by said cylinder *d* will be passed along and over the shell *l*; but, during their passage between said cylinder and shell, such articles will be subjected to a rubbing action against said cylinder, caused by the reciprocating movement of said shell, and such rubbing action will felt or full the articles under operation in the most even and perfect manner, and such operation will be similar to that performed on the same by hand.

The articles, as passed over the end of the shell *l*, fall onto the inclined table or chute *w*, and pass to the front of the machine, to be removed from the same, or passed through the machine again, if necessary.

The shell *l* may be adjusted nearer to or further from the cylinder *d* by means of the screws *t*.

Motion may be communicated to the cylinder *d* in any desired way. I have shown the shaft *x*, to which power may be applied, and by the belt 3, and gearing 4 and 5, rotation is given to said cylinder.

A belt, 6, and pulleys, give motion to the shaft *q*.

I claim as my invention—

1. The revolving cylinder of yielding slats, in combination with the adjustable suspended oscillating shell of slats and the water-box, substantially as and for the purposes specified.

2. The chute or trough *p'*, to return the hats, arranged in relation to the aforesaid cylinder and shell, in the manner and for the purposes specified.

Signed by me this 25th day of April, A. D. 1870.
ANGELO CATTANEO.

Witnesses:

CHAS. H. SMITH,
GEO. T. PINCKNEY.