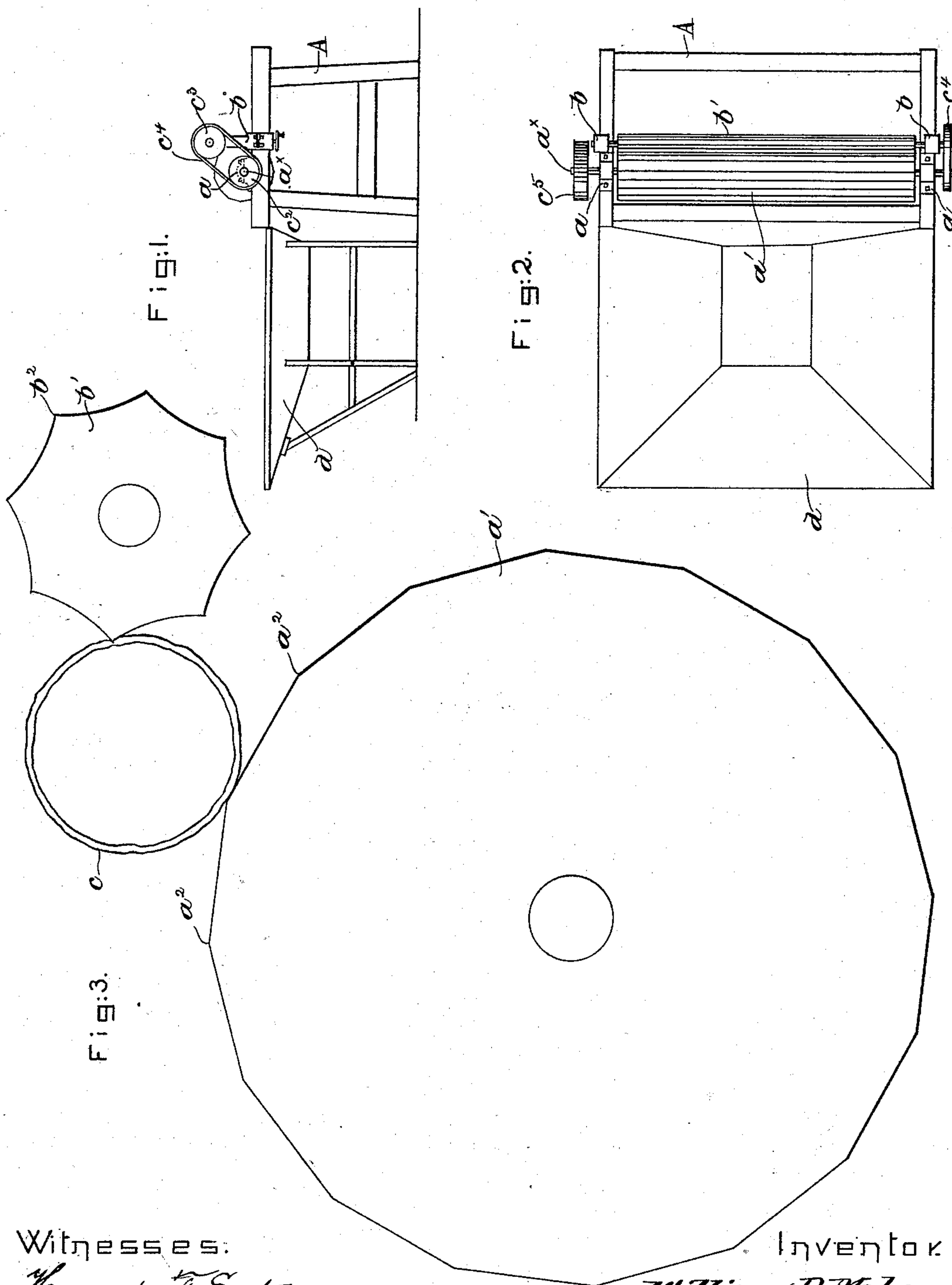


(No Model.)

W. P. MAHONEY.  
MACHINE FOR STARTING HAT BODIES.

No. 406,658.

Patented July 9, 1889.



Witnesses:  
*Howard F. Eaton.*  
*Frederick L. Emery.*

Inventor:  
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*by Crosby & Gregory*  
*Attys*

# UNITED STATES PATENT OFFICE.

WILLIAM P. MAHONEY, OF NEWBURYPORT, MASSACHUSETTS, ASSIGNOR OF  
ONE-HALF TO CHARLES H. FOLSOM, OF BROOKLYN, NEW YORK.

## MACHINE FOR STARTING HAT-BODIES.

SPECIFICATION forming part of Letters Patent No. 406,658, dated July 9, 1889.

Application filed September 25, 1888. Serial No. 286,344. (No model.)

### *To all whom it may concern:*

Be it known that I, WILLIAM P. MAHONEY, of Newburyport, county of Essex, State of Massachusetts, have invented an Improve-  
5 ment in Machines for Starting Hat-Bodies, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

10 This invention relates to machines employed in the manufacture of felt hats, and is an improvement upon the machine shown and described in another application, Serial No. 257,298, filed by me December 8, 1887.

15 In the manufacture of felt hats the hat is taken from the former and wrapped in cloth, and then immersed in hot water and rolled or manipulated to start the interlocking of the fiber for the formation of felt. This preliminary  
20 step in hat-making is commonly and most effectually carried on by hand; but the hand process is slow and tedious.

My present invention has for its object to provide a simple yet effective machine for  
25 treating felt hats, the said machine acting upon the felt in substantially the same manner as when treated by hand.

My invention in starting-machines for hat-bodies therefore consists, essentially, in the  
30 combination, with a roller having its periphery of other than round shape to form ribs or edges, of a second roller, preferably of smaller diameter and having its periphery of other than round shape to form edges or ribs and  
35 located above the larger roller to form a pocket for the reception of the hat-bodies to be treated and rotating at a greater speed than the first roller, substantially as will be described.

40 Figure 1 is a side elevation of a starting-machine embodying my invention; Fig. 2, a top or plan view of the machine shown in Fig. 1, and Fig. 3 a detail on an enlarged scale of the operating-rollers.

45 The frame-work A, of suitable shape to support the working parts, is provided with suitable boxes  $a$ , for the journals of the shaft  $a^x$  of a roller  $a'$ , of considerable size and having its periphery of other than round shape, to  
50 form edges or ribs  $a^2$ .

The frame-work A has secured to it up-  
rights  $b$ , having bearings for a second roller  $b'$ , preferably of less diameter than the roller  $a'$ , the roller  $b'$ , having its periphery of other  
55 than round shape to form edges or ribs  $b^2$ , preferably made more prominent than the ribs or edges on the roller  $a'$ . The roller  $b'$  is located above and to one side of the center of the roller  $a'$ , to form or leave a pocket in  
60 which the roll  $c$  of hats to be treated is placed, as clearly shown in Fig. 3.

The shafts of the rollers  $a'$   $b'$  are respectively provided, as shown, with pulleys  $c^2$   $c^3$ ,  
connected by a belt, chain, or band  $c^4$ , to produce rotation of the said rollers in the same  
65 direction, the shaft  $a^x$  of the roller  $a'$  being provided with a belt-pulley  $c^5$ , which in practice is connected by a suitable belt (not shown) to a counter or other shaft.

In operation the hat-bodies are scalded or  
70 immersed in water contained in the tank  $d$ , of usual construction, and are then placed in the pocket between the rollers  $a'$   $b'$ , as shown in Fig. 3, where they are rolled and tumbled. The sharp edges or ribs on the rollers  $a'$   $b'$   
75 nip or squeeze the hat-bodies for substantially an instant and then let go, whereupon that portion of the felt acted upon by the said ribs or edges tends to spring back or resume  
80 its normal position or condition. In this way the squeezing action of the hand operation of starting felt bodies is approached by machinery, whereby a better effect or result is obtained than heretofore by starting-machines.  
85

After the hat-bodies have been manipulated, as above described, they are removed from the machine and further treated in felting and sizing machines in ordinary manner.

It will be noticed that the surface speed of  
90 the roller  $a'$  is greater than the roller  $b'$ , whereby the roll of hats is maintained in position to be acted upon by the ribs on the said rollers, as the said roll of hats becomes smaller or of less diameter.  
95

I claim—

1. In a starting-machine for hat-bodies, the combination, with a roller having its periphery of other than round shape to form ribs or  
100 edges, of a second roller having its periphery



of other than round shape to form edges or  
ribs and supported in fixed bearings above  
the first roller to form a pocket for the recep-  
tion of the hat-bodies to be treated, and ro-  
5 tating at a greater speed than the first roller,  
whereby a squeezing action is obtained, sub-  
stantially as described.

2. In a starting-machine for hat-bodies, the  
combination, with a roller having its periph-  
10 ery of other than round shape to form ribs or  
edges, of a second roller of smaller diameter  
and having its periphery of other than round  
shape to form edges or ribs and supported in

fixed bearings having its center above the  
periphery of the larger roller to form a pocket 15  
for the reception of the hat-bodies to be  
treated, and rotating at a greater speed than  
the larger roller, substantially as described.

In testimony whereof I have signed my name  
to this specification in the presence of two sub- 20  
scribing witnesses.

WILLIAM P. MAHONEY.

Witnesses:

JAS. H. CHURCHILL,  
M. RAY.