T. W. BRACHER.

Machines for Producing Brims on Sweat-Bands for Hats and Caps.

No. 210,985. Patented Dec. 17, 1878.

Fig. 1.

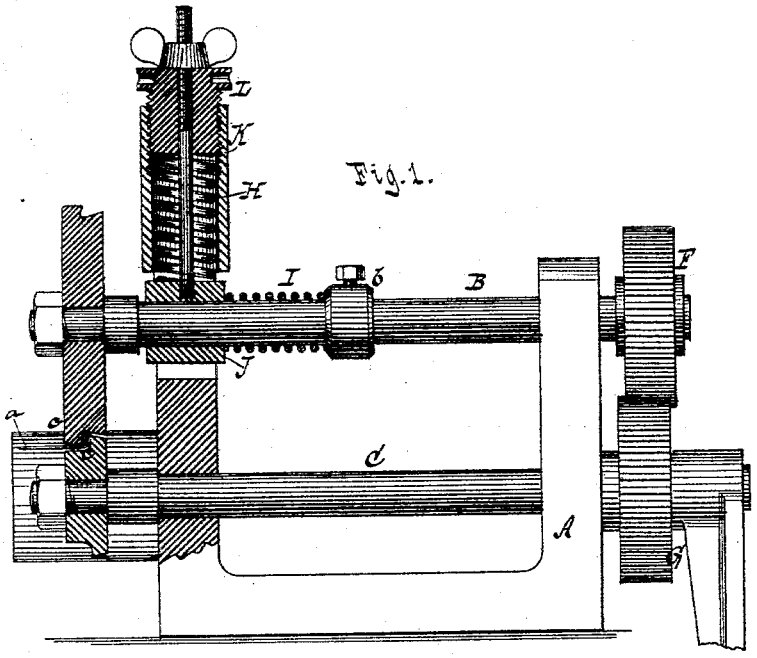
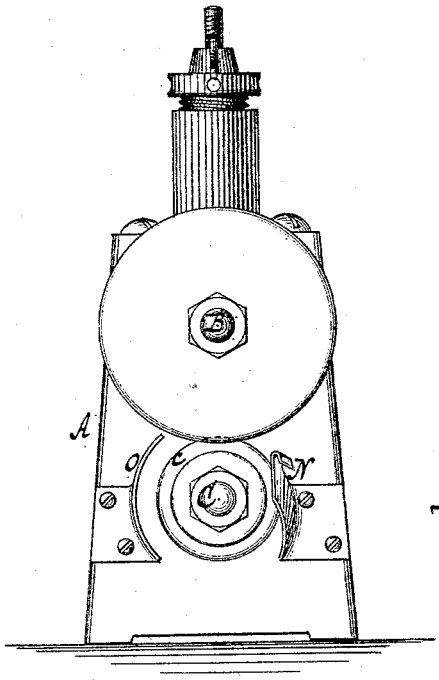


Fig. 2.



Witnesses
Otto Stupland
Wm Miller.

Inventor
Thomas W. Bracher
by
Van Santvoord & Hauff
his attys.

UNITED STATES PATENT OFFICE.

THOMAS W. BRACHER, OF NEW YORK, N. Y.

IMPROVEMENT IN MACHINES FOR PRODUCING BRIMS ON SWEAT-BANDS FOR HATS AND CAPS.

Specification forming part of Letters Patent No. **210,985**, dated December 17, 1878; application filed November 9, 1878.

To all whom it may concern:

Be it known that I, THOMAS W. BRACHER, of the city, county, and State of New York, have invented a new and useful Improvement in Machines for Producing Brims on Sweat-Bands, which improvement is fully set forth in the following specification, reference being had to the accompanying drawing, in which—

Figure 1 represents a side view of my machine, partly in section. Fig. 2 is an end view thereof.

Similar letters indicate corresponding parts.

The object of my invention is to bend or turn over permanently the edge of a sweat-band for hats, and thereby to form a brim on such edge of the band to lie on the brim of the hat.

My invention consists in a machine constructed of two wheels, which are adapted to receive the bent edge of a sweat-band between them, and to stretch or lengthen such edge, so that it becomes fixed. The two wheels referred to are geared together to revolve at different superficial velocities, in order to produce the desired action on the edge of the band, and with the same are combined two springs, one of which serves to compress the faces of the wheels in a direction opposite to their shafts, and the other to compress the same parallel thereto, so that the wheels act upon the band with a yielding pressure, and adapt themselves to its shape or to any sinuosities in the material. With the bending-wheels are also combined a band-guide and deflector, serving, respectively, to conduct the sweat-band to and from the wheels.

In the drawing, the letter A designates the machine-frame, and B C are two shafts, which have their bearings in said frame, and on which are mounted the bending-wheels D E. The faces of these wheels D E are so shaped that the bent edge of a sweat-band, *a*, can be brought between them—that is to say, they are each provided with a shoulder, *c;* and the wheels are geared together by cog-wheels F G, or other suitable means, in such a manner that one revolves at a different surface-speed from the other.

By this arrangement of the wheels D E they are caused to stretch or lengthen the bent edge of the sweat-band as it is passed between them, and by this action on the edge of the band it becomes permanently bent at right angles, or less, to the face of the band.

In order to improve the shape of the bent edge of the leather, and to insure the retention of its shape, I fold the same, and combine therewith a spring or reed in any suitable manner; but this spring or reed is not indispensable.

When a spring or reed is used one of the wheels D E is provided with a recess, *d*, to receive the same. The angle to which the edge of the sweat-band is brought is determined by the angle of the shoulders *c* of the wheels D E, and can obviously be varied. The wheels D E are made detachable from their shafts, so that different wheels can be used.

The letters H I designate two springs acting on the shaft B of the upper bending-wheel. The spring H serves to force the shaft B downward, and by this means the faces of the wheels D E are compressed in a direction at right angles to their shafts, while the spring I serves to force the shaft B sidewise or lengthwise, whereby the faces of the wheels are pressed together in a direction parallel to their shafts.

The spring H bears upon a box, J, in which the shaft B is mounted, and it is inclosed by a sleeve, K, which is secured to the machine-frame, and with which is preferably combined a set-screw, L, for regulating the tension of the spring. The spring I is coiled on the shaft B, and bears on the box J at one end, while it acts upon a collar, *b*, secured to the shaft B at its other end. The two springs, however, can be arranged in other ways without departure from my invention.

For the purpose of guiding the sweat-band to and from the wheels D E, I attach to the machine-frame, adjacent to the wheels, a band-guide, N, and a deflector, O, as shown in Fig. 2, whereby the operation of the machine is facilitated and improved.

The band-guide N consists of a sheet-metal strip bent to the form of a hook, which receives the bent edge of the sweat-band in it, while the deflector O is composed of a sheet-metal strip bent to a segmental shape.

If desired, a wheel can be substituted for the sheet-metal strip composing the band-guide N or the deflector O.

The process of producing a brim on a sweat-band by the method described forms an important feature of my invention.

What I claim as new, and desire to secure by Letters Patent, is—

1. A machine for producing brims on sweat-bands for hats, consisting of two wheels, which are adapted to receive the bent edge of a sweat-band between them, and to stretch the same, so that it becomes fixed, substantially as described.

2. The combination, with two wheels adapted to receive the bent edge of a sweat-band between them, of two springs, one of which serves to compress the faces of the wheels in a direction at right angles to their shafts, and the other to compress the same in a direction parallel thereto, substantially as described.

3. The combination, with two wheels adapted to receive the bent edge of a sweat-band between them and to stretch the same, of a band-guide and a deflector, substantially as and for the purpose described.

4. The method, substantially as herein described, of producing a brim on a sweat-band by bending over one edge of the sweat-band, and passing such bent edge through between rollers adapted to stretch the same.

In testimony that I claim the foregoing I have hereunto set my hand and seal this 8th day of November, 1878.

T. W. BRACHER. [L. S.]

Witnesses:
W. HAUFF,
CHAS. WAHLERS.