No. 674,272. Patented May 14, 1901.

C. M. KNIGHT.

EAR MUFF.

(Application filed Sept. 5, 1900.)

(No Model.)

Fig. 1.

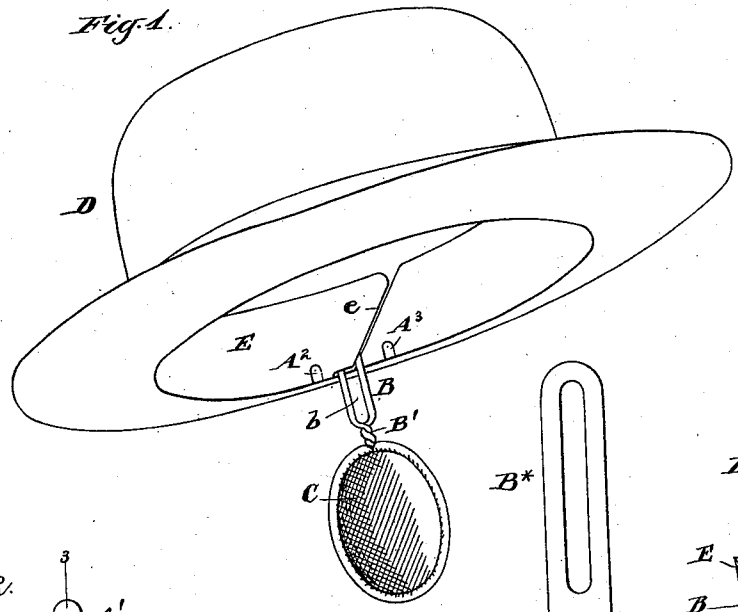


Fig. 2.

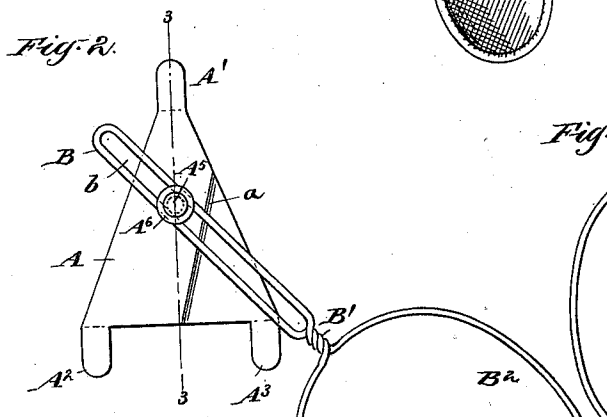


Fig. 3.

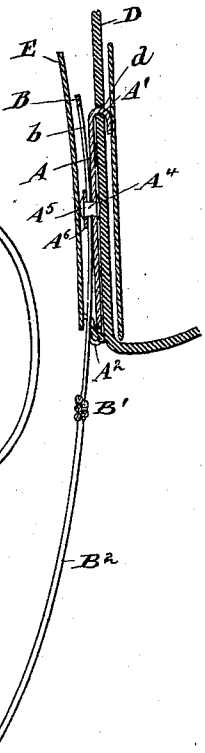


Fig. 6.

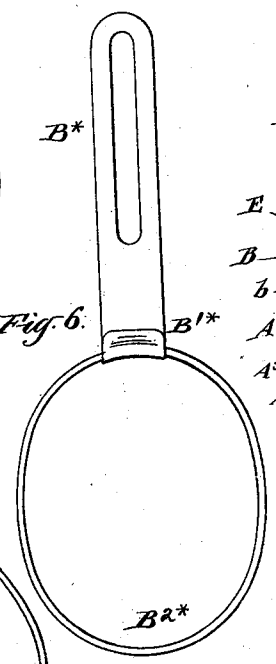


Fig. 4.

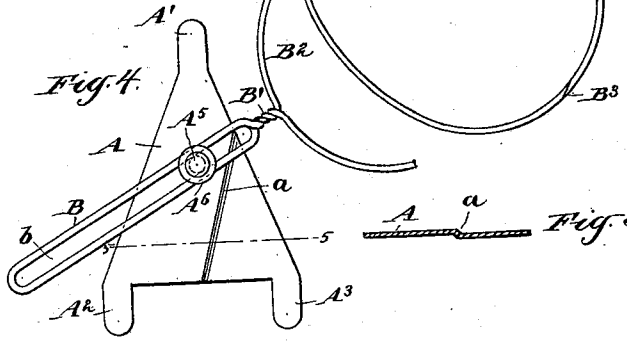


Fig. 5.

Witnesses:

J. B. Clautice

M. F. Boyle

Inventor:

Simpson M. Knight

By Thomas Drew Stetson

Attorney

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

CLIMPSON MOORE KNIGHT, OF BROOKLYN, NEW YORK.

EAR-MUFF.

SPECIFICATION forming part of Letters Patent No. 674,272, dated May 14, 1901.

Application filed September 5, 1900. Serial No. 29,036. (No model.)

To all whom it may concern:

Be it known that I, CLIMPSON MOORE KNIGHT, a citizen of the United States, residing in the borough of Brooklyn, in the city and State of New York, have invented a certain new and useful Improvement in Ear-Muffs, of which the following is a specification.

The improvement pertains to that class of ear-muffs which have levers pivoted to the hat, so that they can be turned down into position for covering the ears or turned up into the interior of the hat, so as to be of no effect, or they can be allowed to lie in the intermediate position. I have devised means for attaching pivots to the hat and provisions for allowing the ear muffs or shields to be adjusted vertically and independently.

In what I esteem the most complete form of the invention I cut the leather ordinarily termed the "sweat" obliquely at the places where the arms or turning parts carrying the ear-shields are to pivot and so adjust the whole that the sweat-leather lies between the pivot and the head of the wearer.

The following is a description of what I consider the best means of carrying out the invention.

The accompanying drawings form a part of this specification.

Figure 1 is a perspective view of a hat equipped with my invention with the turning part on the farther side turned downward into position for use. Fig. 2 is a face view of certain portions looking from the interior of the hat outward. Fig. 3 is a vertical section of certain portions. Fig. 4 is a view corresponding to Fig. 2, but showing the turning part swung upward out of use. Fig. 5 is a cross-section on the line 5 5 in Fig. 4. Fig. 6 is an interior view showing a modification.

Similar letters of reference indicate corresponding parts in all the figures where they appear.

The turning parts and the means for supporting and adjusting both are similar. A description of one will suffice for both.

A is a plate of rolled brass or other suitable material having the general triangular form shown in Figs. 2 and 4 and equipped with prongs A' A^2 A^3, adapted to confine it firmly in position in the hat.

A^4 is a rivet set near the center of the plate A. A washer A^6 is confined under the head A^5 to give a broader bearing on the loop which it is to confine. A slight offset extends across the plate A along the line *a*. (See Fig. 5.)

B is a loop of hard spring brass wire with parallel sides embracing the rivet A^4, so that the washer A^6, held by the head A^5, pressing on the outer face of this parallel loop holds it with considerable friction, but allows it to be adjusted longitudinally. The long hole or slot within the parallel loop B is marked *b*. The wire is twisted together and may be also touched with solder at the junction B' of the parallel loop B with a loop B^2, which I will term "circular," although it need not be an exact circle. I flatten the wire forming the parallel loop B by strong pressure in suitable dies. The ends of the wire are scarfed and brazed together at B^3.

C is easy-fitting fabric in one or more layers, sewed in position to extend across the circular loop or frame B^2, so as to form therewith the required defense for the ears against cold.

D is a hat, and E the sweat-leather therein. The hat may be of any ordinary or suitable construction, except that it has a small slit *d* in the crown at the proper height, one on each side, to receive a projection A' of the corresponding plate A. The sweat may be of the ordinary width and construction, except that a slit *e* is cut from the upper edge downward in the right position on each side to allow the wire frame to be partially turned in such slit, so as to stand upright or in variously-inclined positions, while the head of the wearer is protected from much contact therewith by the sweat-leather interposed. The main portion of this slit is inclined. The lower end extends parallel to the lower edge of the sweat. The upper end is broadened on one side, leaving a rounded instead of a sharp corner at the upper edge of the leather.

The attachment of the sweat to the hat may be effected in the ordinary manner by folding a little of the lower edge and sewing, thus making a continuous fastening extending around, as usual, with the exception that the sewing is omitted at two places to allow the projections A^2 and A^3 to be thrust through. The fastening is effected by introducing the plate A from above, folding in-

ward and upward the projections A^2 A^3 after they have been made to protrude through the openings in the sewing and then pressing them, so as to each embrace the sweat tightly at the bottom, and also thrusting the projection A′ out through its proper slit *d* in the hat-crown and folding this down and pressing it tightly. Thus the projection A′ takes a firm hold of the material of the hat D, and the projections A^2 A^3 take a firm hold of the folded lower edge of the sweat E. The offset *a* holds the turning part a little away, so that it does not rumple or abrade the sweat-leather. I propose in manufacturing these parts in the large way to give them a slight curvature, sufficient to correspond to the average head of the wearers for whom the hats are intended. The parts exactly curved to the proper slight extent for the ordinary-sized head will serve with the usual range of sizes above and below.

In turning the parts down for use all that is required is to spring them a little inward and turn or swing them into positions extending nearly or quite squarely downward from the pivotal point on each side of the hat. After this each is adjusted upward or downward by sliding on its pivotal rivet A^4 A^5, if they require any such adjustment, and being sprung out a little during the act of placing the hat on the head are ready to gently cover each ear and protect it.

When it is desired to throw the muffs out of use, the turning parts are sprung inward and again turned into the position where when the hat is again placed on the head the parallel loops B and circular loops B^2, with the fabric C in each of the latter, will be inclined upward within the hat and be of no effect.

Neither of the parts—the metallic nor the flexible materials C—is subject to any considerable strain or wear, and my devices may be in good condition when the hat is no longer useful. In such case the devices may be removed from the hat by partially straightening the projections A′ A^2 A^3 and are then ready to be attached and to serve usefully on another.

Modifications may be made without departing from the principle or sacrificing the advantages of the invention.

The washer A^6 may be dispensed with, taking care to make the head A^5 sufficiently large.

Instead of making the entire metal of the swinging or turning part from a single piece of wire it may be in several pieces, brazed or otherwise firmly connected. A desirable construction of this part is shown in Fig. 6, in which the parallel loop is cut from hard brass, the circular loop formed of a single piece of wire having the ends adjacent to the sheet metal and a firm junction effected. In such form the sheet metal is folded over upon the ends of the wire to make a still stiffer construction at that point. In Fig. 6, B^* indicates the parallel loop, B'^* the soldered junction, and B^{2*} the circular loop.

The whole turning part may be made of a single piece of sheet metal, the loop which carries the fabric being either cut by dies or otherwise to about the proper form, or they may be cut in some other form, as like a parallel loop, and subsequently bent or distended to the required approximately circular form.

The invention may be used for other purposes than as a muff to defend against cold. It may serve usefully in high winds or other emergencies to lock the hat on the head by engaging the frames B^2 under the ears, respectively.

When turned partially downward and left in the horizontal position, the turning parts may serve usefully in holding the hat on the head by the increased tightness of the hat due to the space for the head being partially filled.

The offsets *a* in the plates A may be omitted, a little more care being taken to avoid disturbing the sweat-leather in shifting the turning parts.

The sliding of the turning parts on the rivets A^4 or equivalent pivots is of advantage not only in adjusting when the turning parts are turned down for use, but also to accommodate different heights of hats or different tastes of wearers when they are turned up out of use.

The prongs A^2 A^3 may obviously be bent outward and engaged through holes in the hat concealed by the band instead of being engaged under the sweat-leather, if preferred.

Instead of taking hold of the sweat by the prongs A^2 A^3 alone, as shown, I can take hold of the sweat also by the upper prong, effecting this latter by simply folding the upper prong A′ inward over the upper edge of the sweat instead of extending it outward through the hat.

I claim as my invention—

1. As an improvement in ear-muffs, the combination with a plate A adapted for engagement with a hat, and a pivot A^4, of the parallel looped turning part B adapted to both turn and slide on such pivot and the wider loop or frame B^2, adapted to carry a fabric C, substantially as herein specified.

2. As an improvement in ear-muffs, the combination with a plate A adapted for engagement with a hat, and a pivot A^4, of the parallel looped turning part B adapted to both turn and slide on such pivot and the circular loop B^2 and slack fabric C extending across the latter, adapted to serve substantially as herein specified.

3. As an improvement in ear-muffs, the combination with a plate A adapted for engagement with a hat and sweat, and a pivot A^4, of the parallel looped turning part B adapted to both turn and slide on such pivot and the wider loop or frame B^2 adapted to

carry a fabric C, and also with a hat D and a sweat-leather E having a slit *e*, all arranged to serve substantially as herein specified.

4. As an improvement in ear-muffs, the combination with a plate A having an offset *a* and prongs adapted for engagement with a hat and sweat, and a pivot A^4, of the parallel looped turning part B adapted to both turn and slide on such pivot and the wider loop or frame B^3 adapted to carry a fabric C, and also with a hat D and a suitable sweat-leather, all arranged to serve substantially as herein specified.

In testimony that I claim the invention above set forth I affix my signature in presence of two witnesses.

CLIMPSON MOORE KNIGHT.

Witnesses:

J. B. CLAUTICE,

M. F. BOYLE.