March 4, 1969 O. KOLESKE 3,430,637

PIN CURL CLIP

Filed July 26, 1967

Fig. 1.

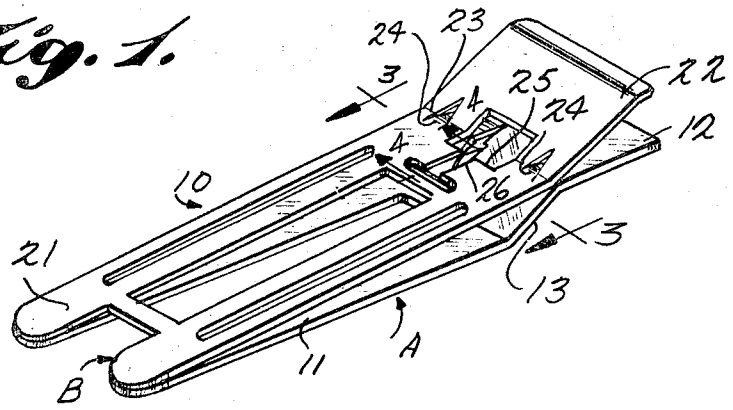


Fig. 2.

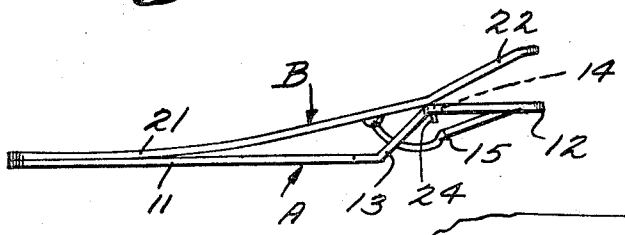
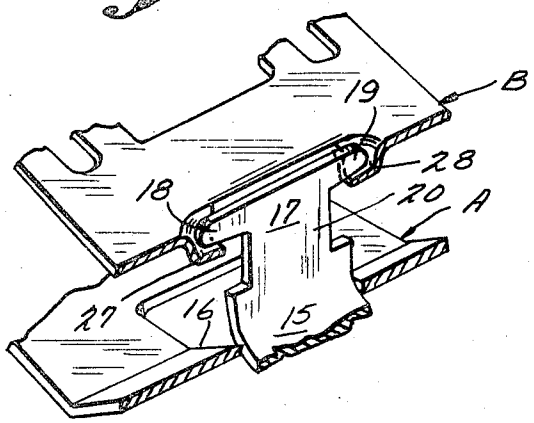


Fig. 3.



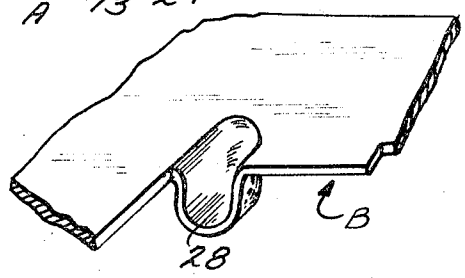


Fig. 4.

INVENTOR.
OTTO KOLESKE
BY
Cushman, Darby & Cushman
ATTORNEYS

United States Patent Office 3,430,637 Patented Mar. 4, 1969

3,430,637

PIN CURL CLIP

Otto Koleske, Sunbury, Pa., assignor to Wilson Manufacturing Corporation, Sunbury, Pa., a corporation of New York

Filed July 26, 1967, Ser. No. 656,120
U.S. Cl. 132—46 8 Claims
Int. Cl. A45d 8/20; A44b 21/00

ABSTRACT OF THE DISCLOSURE

A clamp having a pair of jaws and handle portions on each of the jaws which, when moved toward each other, cause the jaws to open. A spring formed from the material of one jaw and operatively connected to the other jaw in a specific manner to hold the clamp assembled and to cause the jaws to close when pressure on the handles is released.

This invention relates to two-piece clamps of the type wherein a spring tongue is integrally formed with one of the pieces and extends across the fulcrum or pivot point of the clamp to engage the other piece to hold the pieces assembled as well as urge them toward one another into clamping position.

The present clamp is adapted for various uses and, in particular, as a pin curl clip to be used in setting women's hair.

Clamps of this general type which are already on the market have a spring tongue made as an integral part of one of the clamp pieces by stamping it therefrom. This tongue usually has its free end sharply bent to form a hook or edge which will engage a surface on the other clamp piece to furnish the means for holding the pieces of the clamp together and to anchor the spring so it can urge the clamp pieces toward one another to perform the clamping function.

Spring tongues having the sharply bent hook or edge have proved unsatisfactory as it is difficult to bend the spring material and it often requires a special tool. Another problem encountered when the tongue is bent in this manner is the weakening of the metal at the point of the bend so that breakage in this area is not uncommon.

It is therefore an object of the invention to provide an improved clamp which will have a spring tongue struck from the material of one of the clamping pieces with the free end of the tongue provided with means, to lock with a surface on the other clamp piece, without forming any bends in the material of the tongue.

It is a further object of the invention to provide a simple two-piece clamp which can easily be manufactured without the expensive dies which were formerly needed to bend the hook portions on the end of the spring tongues.

Yet another object of the invention is to provide the free end of the spring tongue with laterally extending portions which will readily engage with means on the other piece of the clamp to lock the pieces together so the clamp can perform its function.

Still another object of the invention is to provide the clamping piece which does not have the tongue struck therefrom with detent means to cooperate with laterally extending means on the end of the spring tongue to hold the clamp assembled and anchor the free end of the tongue so it will bias the clamping pieces toward one another.

Another object of the invention is to provide a two-piece clamp wherein one of the pieces has a spring tongue struck therefrom to extend across the pivot of the clamp and is secured to the other piece of the clamp in such a manner that there are no protuberances extending above

the outer surfaces of the clamp to become entangled with either the hair or clothes of the user.

Still another object of the invention is to provide lateral means on the free end of the spring tongue which will cooperate with detent means on the other clamping piece in such a manner as to permit the clamping pieces to be easily assembled by merely depressing the spring tongue slightly while the pieces are moved longitudinally toward each other.

These and other objects of the invention will be apparent from the following specification taken in conjunction with the drawings wherein like numerals are used throughout to distinguish like parts and wherein:

FIGURE 1 is a perspective view of a clamp embodying an illustrative application of the invention;

FIGURE 2 is a side elevation of the clamp shown in FIGURE 1;

FIGURE 3 is a fragmentary section taken along line 3—3 of FIGURE 1; and

FIGURE 4 is a fragmentary section taken along line 4—4 of FIGURE 1 with the portion of the spring tongue omitted.

Referring to the drawing, the two-piece clamp is generally shown at **10** and comprises a bottom member A and a top member B. The bottom member has a clamping jaw surface **11** and a handle surface **12** which are connected by an intermediate angular portion **13**. Adjacent the intersection of the handle surface and angular portion, there is provided at each side of the clamping piece, a socket or aperture **14** for a purpose which will be described hereinafter.

A spring tongue **15** is struck from the material of the bottom piece with the root of the tongue being in the handle surface. The tongue extends downwardly from the lower face of the handle and then bends outwardly toward the clamping surface then upwardly through an opening **16** in the angular portion to terminate in a free end somewhat above the upper face of the angular portion. The tongue at its free end is provided with a head **17** comprising ear portions **18** and **19** which extend laterally outward from the tongue equal distances from the longitudinal center line of the tongue. Immediately behind the head there is provided a narrow necked portion **20** in the tongue **15**.

The upper member B comprises a clamping surface **21** and a handle surface **22** angularly and upwardly displaced from the clamping surface to provide a laterally extending pivot line **23**. Spurs **24** are provided at each side of the member B to cooperate with the sockets **14** to hold the upper and lower members laterally aligned when the clamp is assembled. An opening **25** is provided in the handle surface of the upper member and is of a width to readily receive the head portion of the spring tongue. A slot **26** of narrower width than the opening **25** extends from one end thereof toward the clamping surface and terminates with laterally positioned detents **27** and **28** at each side thereof. The depth of the detents is sufficient to receive the ears **18** and **19** and not have any portion of the outer surface of the head extending above the upper surface of member B, as clearly shown in FIGURE 3. It is to be understood that the outer surface of the head is substantially flush with the outer surface of member B.

To assemble the clamping pieces A and B, the head **17** is positioned in opening **25** and a slight upward pressure is applied to the tongue **15** to cause the necked portion **20** thereof to move upward and align itself to enter the slot **26** with the underside of the ears of the head riding on the upper surface of the clamp member B. The pieces are then moved longitudinally toward each other until the ears **18** and **19** drop into the detents **27** and **28** at which time the spurs **24** will be located in the sockets

or apertures **14**. The clamp will now be fully assembled and be held in this position by the locking action of the ears and detents. The cooperation between the ears and detents will also act to anchor the free end of the spring tongue so its biasing action will tend to keep the clamp in the closed position. The spurs and sockets will prevent the pieces of the clamp from being laterally displaced relative to each other as they pivot about line **23** during the open and closing action of the clamp.

In operation, the handles of the clamps are moved toward each other and the upper and lower clamp members pivot about the line **23** so the clamping surfaces open to receive the article to be clamped. Such movement stresses the spring tongue to such an extent that when the handles are released, the clamping surfaces move toward each other to a closed position.

From the above description, it will be seen that a novel clamp has been provided which is easily manufactured and assembled. Further, the clamp of the present invention provides a completely adequate clamping force without excessive stress on the spring and does not present any obstructions which might limit its use. For instance, when the clamp is used by women for setting their hair, there is no possibility of the hair becoming entangled in the working parts of the clamp during their operation.

What is claimed is:

1. A clamp comprising a pair of superposed clamping members having clamping portions and diverging handle portions, the line of contact formed by said diverging portions providing a pivot line for said members, cooperating means on said members in the area of said pivot line to prevent lateral misalignment of the members during operation of the clamp, one of said members having a spring tongue struck therefrom with its root in said handle portion, the free end of said tongue extending across said pivot line and terminating in a head portion, said head having ears laterally extending therefrom equal distances from the longitudinal center line of said tongue, an adjoining necked portion provided in the tongue immediately behind the ears and extending a distance toward said root, said other member being provided with an aperture, said aperture having a narrow slotted portion extending from one end thereof toward the clamping portion, said slotted portion terminating in laterally extending detents, said necked portion being received in said slotted portion and moved axially therealong until said ears are received in said detents to hold the clamp members assembled and to anchor said spring member to bias the clamp members to a closed position.

2. A clamp according to claim **1** wherein the depth of said detents is such that the outer surface of said head is substantially flush with the outer surface of said other member.

3. A clamp according to claim **1** wherein said cooperating means comprises spurs on one of said members and sockets in the other of said members.

4. A clamp according to claim **3** wherein the depth of the detents is such that the outer surface of said head is substantially flush with the outer surface of said other member.

5. A clamp as in claim **1** wherein said head comprising the laterally extending ears and adjoining necked portion is generally T-shaped.

6. A clamp as in claim **5** wherein the depth of the detents is such that the outer end surface of said T head is substantially flush with the outer surface of said other member.

7. A clamp according to claim **3** wherein said head comprising the laterally extending ears and adjoining necked portion is generally T-shaped.

8. A clamp according to claim **4** wherein said head comprising the laterally extending ears and adjoining necked portion is generally T-shaped.

References Cited

UNITED STATES PATENTS

2,500,391	3/1950	Weaver et al.	132—46.1
3,213,509	10/1965	Reiner	132—48
3,213,865	10/1965	Jennis	132—46.1

LOUIS G. MANCENE, *Primary Examiner.*

JAMES G. MITCHELL, *Assistant Examiner.*

U.S. Cl. X.R.

24—252