W. J. HINES.

MACHINE FOR MAKING HAIR ORNAMENTS.

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1,027,419. Patented May 28, 1912

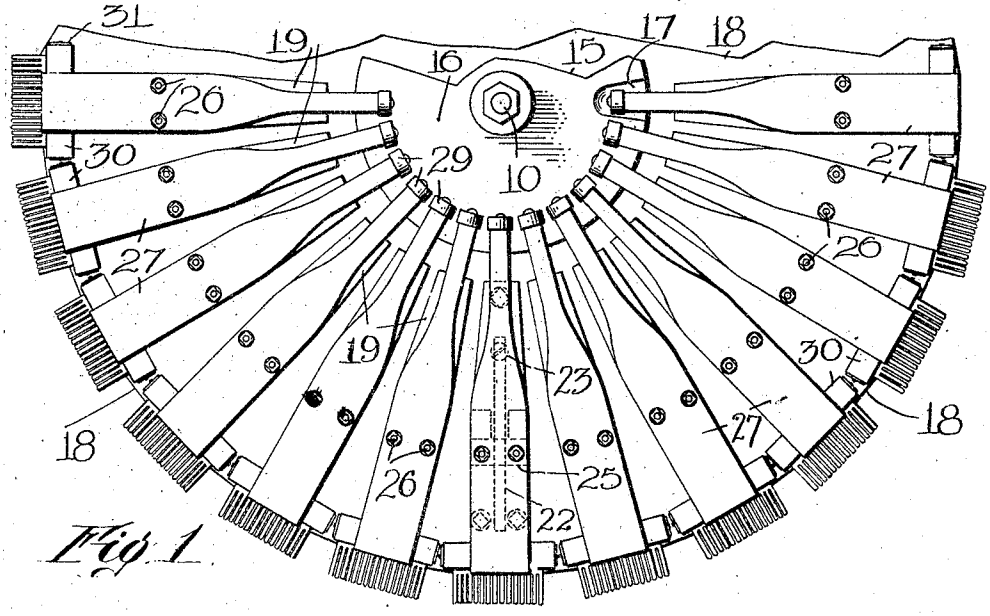


Fig. 1

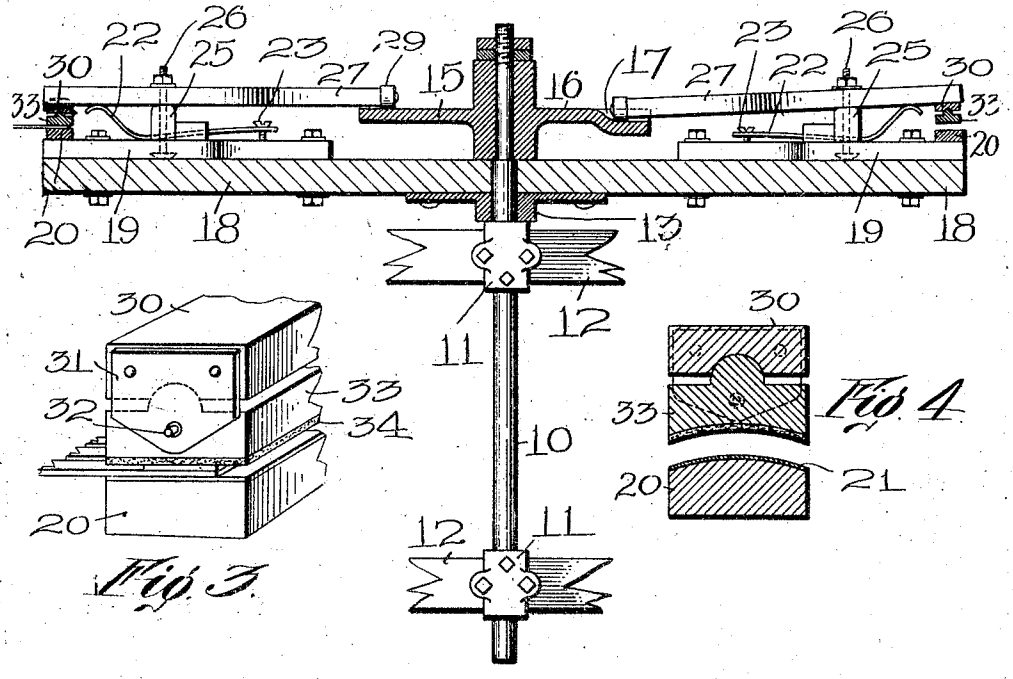


Fig. 3

Fig. 4

Fig. 2.

Witnesses:

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UNITED STATES PATENT OFFICE.

WILLIAM J. HINES, OF LEOMINSTER, MASSACHUSETTS, ASSIGNOR TO PURITAN COMB COMPANY, OF LEOMINSTER, MASSACHUSETTS, A CORPORATION OF MASSACHUSETTS.

MACHINE FOR MAKING HAIR ORNAMENTS.

1,027,419. Specification of Letters Patent. Patented May 28, 1912.

Application filed January 11, 1911. Serial No. 602,007.

To all whom it may concern:

Be it known that I, WILLIAM J. HINES, a citizen of the United States, residing at Leominster, in the county of Worcester and State of Massachusetts, have invented a new and useful Machine for making Hair Ornaments, of which the following is a specification.

This invention relates to a reel or machine for use in the manufacture of hair ornaments of celluloid, horn, shell, and similar material.

The principal objects of the invention are to provide a means whereby the rapidity of production of cemented, bent, and ornamented hair ornaments can be greatly increased; to provide means whereby a single operator can place the hair ornaments between jaws and remove previously cemented, bent, or ornamented ones therefrom in a minimum of time, and whereby while he is performing this operation on one hair ornament a large number of others will be in the act of setting so that they will be completed without waste of time; moreover to provide for gradually bringing them back to the operator to be removed without the employment of any other hand labor; also to provide a construction whereby the present usual form of jaw will be done away with, thus eliminating the disadvantage of having the clamping jaw come down at an angle on the work.

In its preferred form also the invention involves a circular table or supporting reel rotatable on its own axis for carrying the jaws and other elements of the machine, whereby the above mentioned objects will be obtained.

It also involves improvements in the jaws for holding the work and in the means for operating the jaws.

Further objects and advantages of the invention will appear hereinafter.

Reference is to be had to the accompanying drawings in which—

Figure 1 is a plan of part of a reel or machine constructed in accordance with this invention; Fig. 2 is a vertical sectional view through the center thereof and also through the center of two of the sets of jaws and showing the clamping levers therefor; Fig. 3 is an enlarged detail perspective view of one of the movable levers and the clamping jaw connected therewith; and Fig. 4 is a sectional view through the center of a pair of jaws which can be used on this machine for the purpose of bending hair ornaments.

The invention is shown in a form comprising a vertical shaft 10 fixed in two bearings 11 on a rigid support 12. Near the top this shaft has a collar 13 loose thereon which rests on the top of the upper bearing, and this supports the shaft and the weight carried by the collar. On the shaft 10 is secured a stationary cam 15 having a substantially circular raised surface 16 provided with a depression 17 on one side thereof. This raised surface is substantially horizontal.

It will be obvious that if the machine is to be used for one operation per revolution there will be one depression as shown, but for a plurality of operations there will be a corresponding number of depressions.

Fixed to the collar 13 is a circular table or support 18. This is adapted to rotate with the collar. Around the circumference of the cam 15 are arranged a plurality of radial plates 19 on each of which is a fixed jaw 20 having an upper surface of sheet zinc preferably. This upper surface preferably is flat but may be of any desired shape, and in case the machine is used for bending it is curved as shown at 21 in Fig. 4. These stationary jaws therefore are mounted in a circle at the outside of the table or support. In a circle inside this outer series are a series of fixed blocks 25 on the plates 19. Through each of these blocks extend a pair of screws or bolts 26 and on each block is mounted a movable radial lever 27 having a slight pivotal motion on its block 25. Each of these levers 27 has at the inner end a roller 29 adapted to roll on the cam surface of the central cam 15. Springs 22 yieldingly hold up the outer ends of the levers and keep the rollers in contact with the cam. The tension of the springs can be adjusted by screws 23. It will be seen therefore that these levers will be vibrated once during each complete rotation of the support. If the support is movable in any other way than in a circular direction the position of the levers will be changed accordingly.

On the outer end of each lever 27 and on the underside thereof is a plate 30. On the ends of each of these plates are a pair of end pieces 31 of any desired material but preferably of sheet celluloid. Near the

lower part of each one of these it is provided with a perforation through which extends a pin 32. These pins project into the ends of a jaw 33 which therefore is pivoted to freely swing on these pins as an axis. Each jaw has a curved rib on the back fitting in a corresponding groove on the bottom of the plate 30, constituting a bearing surface. The bottom of each jaw 33 preferably is covered with a sheet of soft rubber 34. Each pair of jaws 20 and 33 constitutes a clamp for holding an article to be cemented, bent or the like.

In the use of the device for the purpose of cementing pieces on combs, barrettes, or other hair ornaments, an operator sits or stands at one side of the support, the same side on which the depression of the cam is located. The raised surface of the cam is in such position that it keeps the rollers raised, and therefore holds the outer ends of the levers depressed with the jaws pressed against the fixed jaws. But when each lever in turn comes around to such position that its roller enters the depression in the cam the inner end of the roller is free to sink into the depression and the spring under the lever serves to raise the outer end and carry the jaw thereon away from the fixed jaw. If there is an article in the jaws at this time the operator removes it and places a new article therein. For example, he may place a comb having on the back thereof a freshly cemented rib. He holds this in proper position until by turning the table by hand the roller on that lever again comes up on the high surface of the cam and clamps the hair ornament in position. Then the table is stopped and the next article treated in the same way. As the table continues to rotate by a step-by-step motion it will be seen that all the movable jaws except the one in front of the operator, are kept pressed against the fixed jaws, or rather against the article held between them, so that if it is a cementing operation that is being performed, by the time each article comes back around to the operator it will be thoroughly set and can be removed as a finished article so far as this particular operation is concerned. It will be seen also that by using curved jaws as shown in Fig. 4, the device can be used for bending purposes and in fact it can be used for any other purpose in which it is desired to hold the article for a period of time in order that it may assume any desired condition.

It will be understood of course that the invention can be carried out in many other forms than the one illustrated herein, and that many other modifications can be made in the details of construction without departing from the scope of the invention as expressed in the claims. Therefore I do not wish to be limited to all the details of construction herein shown and described, but

What I do claim is:—

1. In a device of the character described, the combination of a fixed vertical shaft, a circular table rotatable about the shaft, a series of pivoted levers radially mounted on said table, a relatively and freely movable jaw carried by the outer end of each lever, a fixed jaw on the table under each movable jaw, a fixed cam mounted at the center of the table on said shaft and having a substantially circular raised surface provided with a depression therein, said levers engaging the raised surface and adapted to enter the depression as the table rotates, and a spring for each lever constructed and adapted to swing the outer end of the lever upwardly to open the jaw thereon when the other end of the lever enters the depression.

2. In a machine for making hair ornaments, the combination of a fixed vertical shaft, upper and lower rigid supports therefor, a horizontal circular table resting at the center on the upper support and adapted to be rotated by hand about the shaft as a center, a cam fixed on said shaft above the table and having a flat horizontal circular surface with an offset therein, a series of levers pivoted on said table beyond said cam on horizontal axes, each having an inner end resting on said circular surface of the cam, and each provided with a jaw at the outer end, and a series of coöperating jaws fixed on the table near the circumference thereof.

3. In a machine for making hair ornaments, the combination of a fixed vertical shaft, upper and lower rigid supports therefor, a horizontal circular table resting at the center on the upper support and adapted to be rotated by hand about the shaft as a center, a cam fixed on said shaft above the table and having a flat horizontal circular surface with an offset therein, a series of levers pivoted on said table beyond said cam on horizontal axes, each having an inner end resting on said circular surface of the cam, said levers being radially arranged on the top of said table and each having a jaw pivoted to the bottom thereof at the end of the lever on a transverse horizontal axis, a series of springs for engaging the levers and normally holding said jaws up, and a series of coöperating jaws fixed on the table near the circumference thereof.

In testimony whereof I have hereunto set my hand, in the presence of two subscribing witnesses.

WILLIAM J. HINES.

Witnesses:
A. L. PRESTON,
E. E. HAMILTON.