No. 632,729. Patented Sept. 12, 1899.

E. N. LA VEINE.

SPRING CLAMP.

(Application filed Jan. 17, 1899.)

(No Model.)

Fig. 1.

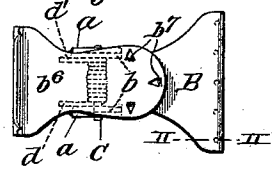


Fig. 2.

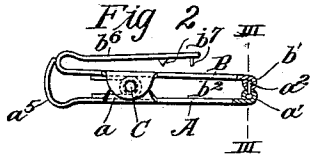


Fig. 3.

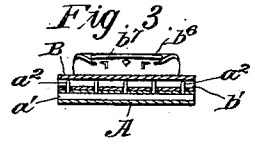


Fig. 9.

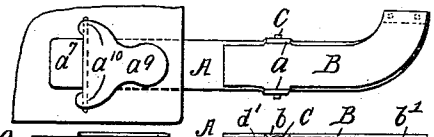


Fig. 10.

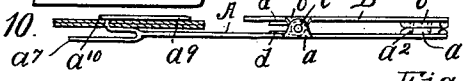


Fig. 4.

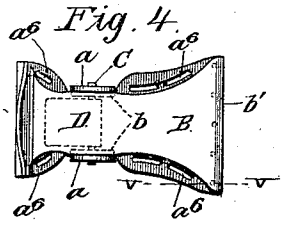


Fig. 6.

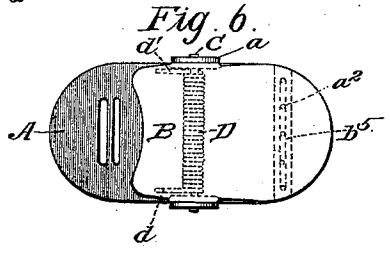


Fig. 5.

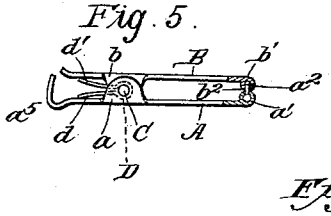


Fig. 7.

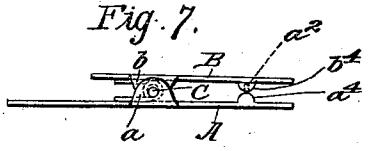
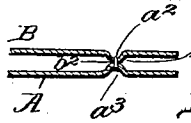


Fig. 8.



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UNITED STATES PATENT OFFICE.

EDWARD N. LA VEINE, OF KANSAS CITY, MISSOURI.

SPRING-CLAMP.

SPECIFICATION forming part of Letters Patent No. 632,729, dated September 12, 1899.

Application filed January 17, 1899. Serial No. 702,455. (No model.)

To all whom it may concern:

Be it known that I, EDWARD N. LA VEINE, of Kansas City, Jackson county, Missouri, have invented certain new and useful Improvements in Spring-Clamps, of which the following is a specification.

My invention relates to spring-clamps; and my object in this connection is to provide a clamp which is universal in its application and will hold two articles reliably together without tearing them or abrading their surface and at the same time eliminate all chance of slippage.

A further object is to provide a device of this character of ornamental appearance and simple, strong, durable, and cheap construction.

With these objects in view the invention consists in certain novel and peculiar features of construction and combinations of parts, as will be hereinafter described and claimed, and in order that it may be fully understood reference is to be had to the accompanying drawings, in which—

Figure 1 represents a top plan view of a clamp embodying my invention. Fig. 2 is section taken on the line II II of Fig. 1. Fig. 3 is a section taken on the line III III of Fig. 2. Fig. 4 is a top plan view of a slightly-different style of clamp. Fig. 5 is a section taken on the line V V of Fig. 4. Fig. 6 is a top plan view of a third form of clamp. Fig. 7 is a side view of the same. Fig. 8 is a detail sectional view of a slightly-modified form of the last-named clamp. Figs. 9 and 10 represent side and edge views of the clamp as arranged for use as a cuff-holder.

In the said drawings, wherein like letters designate corresponding parts, the clamp is shown as consisting of two main members A and B. The member A is provided at its side margins with the opposite ears or lugs a, projecting at right angles to the body of the member, and at one end is bent or rolled, as at a', so as to provide a jaw at the same side of the plate as said ears or lugs, and secured to and projecting from said jaw at right angles to the plate is a series of pins or teeth a^2. In the modified form of clamp shown at Fig. 8 in lieu of this rolled jaw a' at the extreme front end of the member I stamp in said plate a semicircular jaw a^3, said jaw being provided, like jaw a', with the series of pins or teeth a^2. In the modified form shown at Figs. 6 and 7 the construction of said member is still further modified—that is to say, in lieu of the rolled jaw or the stamped jaw I provide a semicircular jaw a^4 and secure it in any suitable manner to said member, said jaw being likewise provided with a series of pins or teeth a^2.

That portion of the member at the opposite side of the ears or lugs a is the handle portion, and in the forms illustrated in Figs. 1 to 5, inclusive, said handle portion for convenience and practicability is bent or rounded, as shown at a^5. Otherwise the clamp could not practically be worn as a drawers-support, because it would render the wearer uncomfortable each time he bent his body.

The companion member B is of substantially the same configuration as the member A and is also provided at its opposite margins with ears or lugs b to embrace or be embraced by the ears or lugs a, hereinbefore referred to, a pivot-pin C extending through said ears or lugs, so as to constitute a hinge connection between said members. The front end of the member B, like the member A, is rolled to form the opposing jaw b', said rolled jaw, however, being provided in its under side with a series of perforations b^2 to receive the pins or teeth a^2 of member A.

In Fig. 8 the member B, like the member A, is stamped to form the semicircular jaw b^3 to oppose the similar-stamped jaw a^3 of member A, and said jaw b^3, like the jaw b', is provided with a series of perforations b^2 to receive the pins or teeth of the opposing jaw.

In Figs. 6 and 7 in lieu of the rolled or stamped jaw the member B is provided with the semicircular jaw b^4, secured in position in any suitable or preferred manner, and in lieu of the perforations to receive the pins or teeth a^2, projecting from jaw a^4, I preferably form the jaw b^4 with a slot b^5 to receive said teeth.

D designates a spring, either of the coil type, as shown in Figs. 1, 2, 6, and 7, or of the flat type, as shown in Figs. 4 and 5, said spring in either case being mounted upon the

pivot-rod between said lugs or ears, with its opposite ends d and d' bearing, respectively, against the members A and B, rearward of their pivotal point in order to hold the jaws together with a yielding pressure.

That type of clamp shown in Figs. 6 and 7 is designed primarily for use as a "rubber-dam" clamp—that is, a clamp for holding a rubber dam in its proper relative position upon a patient in order that the saliva may be kept from the tooth being operated upon. The trouble heretofore has been that the rubber dam would "string" under the patient's nose, and therefore would interfere with the work of the dentist. This clamp being of considerable width, relatively speaking, holds the dam stretched properly without permitting it to string under the patient's nose.

The member A of the clamp illustrated in Figs. 4 and 5 is provided with a plurality of slots a^6 in order that the clamp may be easily and conveniently sewed to the inner side of the waistband of a pair of trousers, this style of clamp being provided especially for tailors in order that they may be attached to the trousers in the course of their manufacture.

In Figs. 1, 2, and 3 the member b of the clamp is shown as provided with a spring arm or plate b^6, extending approximately parallel and formed integral with said member, prongs or points b^7 being stamped out of said arm near its free end toward said member.

In practice the clamps shown in Figs. 1 to 5, inclusive, are attached vertically to the waistband of the trousers, and the drawers supported by inserting the waistband between the jaws of the clamps, the pins or teeth of the latter extending through the waistband and into the perforations of the opposing jaw, leaving the band clamped tightly between the jaws under the action of the spring, this pressure upon the band relieving the pins of considerable strain, which if borne alone would tend to tear said band.

In securing the clamp shown in Figs. 1, 2, and 3 in position the arm or plate b^6 is sprung outward slightly, so as to permit the body of the clamp to be slipped down into the trousers until the upper edge of the said band reaches the closed or upper end of the space between the clamp b and said arm or plate. The latter is then released, and as it springs inward against the band the latter is penetrated by the prongs or points b^7, which thereby reliably prevent the slippage of the clamp upon the band.

It will be seen that the clamping-jaws in each of the various forms of my device are substantially semicircular in cross-section and that the metal opposing one jaw is so rolled or bent that it forms a guard which covers the ends of the pins which project through the opposing perforations or slots.

It is comtemplated that clamps of this type shall be kept in stock by merchants, to the end that they may supply them with each suit of ready-made clothing sold.

In Figs. 9 and 10, illustrating the clamp in the form of a curved holder, it will be noticed that the jaw end of the clamp is curved or bent for convenience in engaging the shirt-sleeve at one side of the loop or opening therein above the cuff, the jaws being constructed and numbered the same as those shown in Figs. 4 and 5. In this case, however, the handle portion of member A is of greater length than in the other forms and is bifurcated at its rear end to form the branch arms a^7 a^8, the latter being bent at a suitable point back toward the handle portion, so as to provide the arm a^9, said arm being stamped to suitable form to provide the ears a^{10}. In fitting this cuff-holder to a cuff E the arm a^9 is caused to pass through the buttonhole e of the cuff until such movement is limited by the abutment together of one edge of the cuff-opening and the curved portion uniting the arms a^8 and a^9. The holder is then manipulated until the arm a^8 slides through said opening and is at the same side of the cuff as arm a^9, the cuff at this time fitting in the bifurcation formed by and between arms a^7 and a^8, it being necessary with a stiff cuff, particularly if it be not of the "link-cuff" type, to bring the opening in the other end of the cuff adjacent to the end of the arm a^9 without bending the cuff to any extent in order that said opening may be slipped down upon said arm, as described with reference to the first opening. When said second opening is slipped down until it reaches the curved portion uniting arms a^8 and a^9, the holder is manipulated until the arm a^8 has been again worked down through the first-named cuff-opening and assumes the position shown in Figs. 9 and 10. In this position it will be noticed that the ears a^{10} project past the cuff-opening and bearing upon its upper side eliminate all chance of the cuff-opening slipping up and off the arm a^9 and also eliminate all chance of slippage upon arm a^8 by preventing any pivotal action of said openings upon the curved portion of the holder-uniting arms a^8 and a^9, as will be readily understood.

From the above description it will be apparent that I have produced a spring-clamp embodying the features of advantage enumerated in the statement of invention.

Having thus described the invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A clamp, embodying two pivoted members formed with opposing jaws, one jaw being provided with a series of pins and the other jaw having a series of perforations through which said pins project when the clamp is closed, and a guard arranged to cover the ends of the pins which project through said perforations, substantially as described.

2. A spring-clamp, comprising a pair of members pivoted together and formed with

opposing jaws approximately semicircular in cross-section, one jaw being provided with a series of pins and the other with a corresponding opening through which said pins project, and a guard arranged to protect the said pins when said jaws are closed, substantially as described.

In testimony whereof I affix my signature in the presence of two witnesses.

EDWARD N. LA VEINE.

Witnesses:
M. R. REMLEY,
F. S. THRASHER.