Feb. 25, 1941. E. BAZNER 2,233,043

PIN FASTENER

Filed June 28, 1939

Fig. 1.

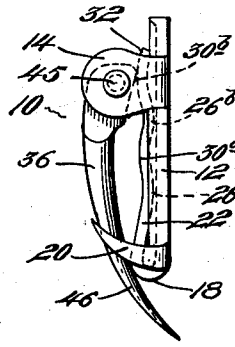


Fig. 8.

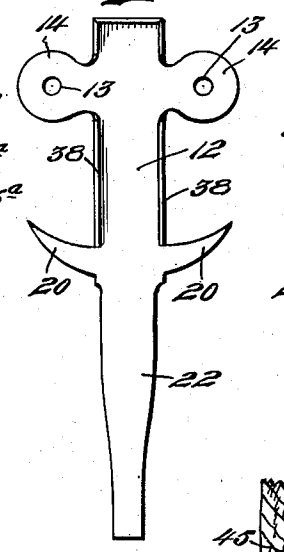


Fig. 2.

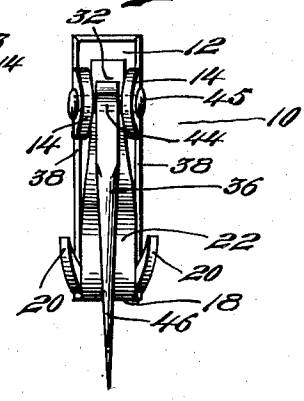


Fig. 3.

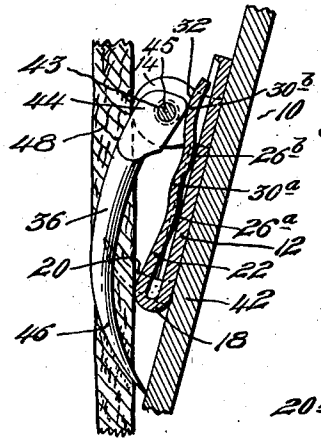


Fig. 9.

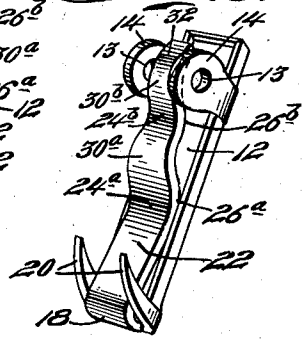


Fig. 4.

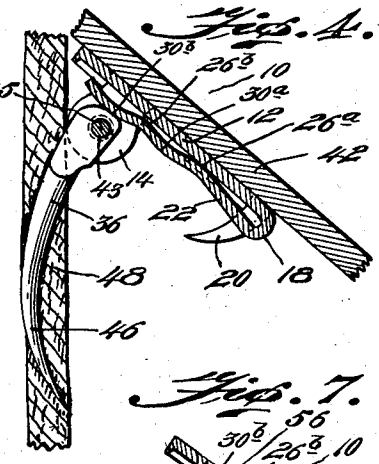


Fig. 7.

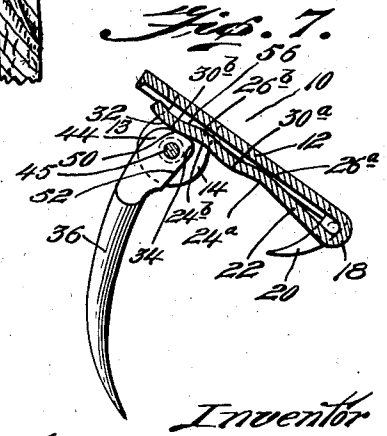


Fig. 5.

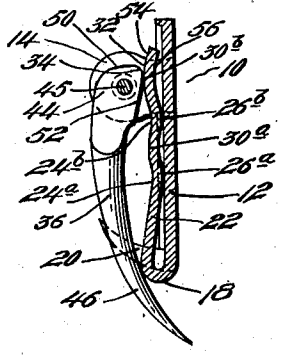
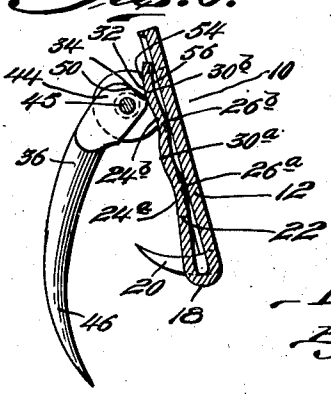


Fig. 6.



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UNITED STATES PATENT OFFICE

2,233,043

PIN FASTENER

Eugene Bazner, Providence, R. I.

Application June 28, 1939, Serial No. 281,567

19 Claims. (Cl. 24—160)

My invention relates to improvements in pin fasteners in the preferred form shown, comprising a jewelry finding adapted for use for detachably securing buttons, bar pins, brooches and like ornaments to an article of clothing, although it is apparent that my invention is adapted for use for any type of a pin fastener, such as a safety pin, etc.

An object of my invention is to provide a pin fastener of this description which may secure the desired article to a clothing or other fabric without the necessity of employing a separate catch.

A further object of my invention relates to the type of pin tongue I preferably employ which preferably functions in combination with a pair of gripping teeth adjacent the opposite end of the base plate when said pin tongue is pivoted to closed position to successfully secure the article to the fabric against the ready removal thereof and to provide a structure permitting its ready removal when the base plate and member to which it is attached are pivoted at an oblique angle to the fabric so that due to the preferably arcuate shape of the pin tongue, the pin tongue may be readily lifted out of the fabric for the complete removal of the pin fastener and attached article from the fabric.

A further feature of my invention resides in the fact that I secure my pin fastener to the fabric through the medium of a spring action alone. The improved spring I preferably employ functions not only to retain the pin tongue in closed attached position, but also to retain it in open position.

A further feature of my invention relates to the provision of undulations in the spring member providing at least one trough between said undulations to abut said base plate to give a greater strength to the spring, which contacting the base plate forms a shorter armed spring member of greater strength between said contacting point as a spring pivot and the area of contact of said spring with a cam surface on the pin tongue, said cam surface preferably rising to a raised dead center edge whereby both the front and rear portions of the rearmost undulation in said spring may cooperate with the respective rear and front surfaces of said cam portion in rear and front respectively of the raised cam portion dead center edge to assist in retaining the pin tongue in open or closed positions.

Further features of my invention relate to the specific construction of pin fastener I preferably employ comprising a minimum number of parts which may be readily stamped from sheet material and readily assembled, comprising in my preferred embodiment a two piece member only, comprising a base having pivot ears, gripping teeth and the spring member projecting integrally downwardly therefrom, and if desired, in addition, solder dam forming side walls projecting integrally downwardly therefrom to form dams to prevent the solder employed to attach the pin fastener to the ornament from clogging and interfering with the action of the spring member, and a pin tongue pivotally mounted on said pivot ears.

These and such other objects of my invention as may hereinafter appear may be best understood from a description of an embodiment thereof, such as is shown in the accompanying drawing illustrating my invention applied as a finding adapted to be permanently secured to the lower surface of a button, bar pin, brooch or other jewelry ornament for detachably securing it to a fabric and to be completely concealed thereby.

In the drawing,

Fig. 1 is a side elevation of an embodiment of my invention adapted for use as a jewelry finding.

Fig. 2 is a plan view thereof.

Fig. 3 is a vertical sectional view through the pin fastener shown in Fig. 1 having a suitable jewelry ornament secured thereto suitably mounted on a piece of fabric, portions of the pin fastener finding being shown in elevation.

Fig. 4 is a vertical sectional view similar to Fig. 3 after the ornament and pin fastener base plate have been raised to permit the pin tongue to be readily withdrawn from the fabric by merely sliding it out of arcuate engagement therewith.

Fig. 5 is a longitudinal sectional view taken through the pin fastener shown in Fig. 1 illustrating the pin tongue in elevation and with the portion of the cam surface thereof in front of the raised dead center cam edge abutting the downwardly undulating surface of the rearmost undulation in rear of the crest thereof to yieldably urge the pin tongue in a closed position between the gripping teeth thereof.

Fig. 6 is a longitudinal sectional view similar to Fig. 5 with the pin tongue raised so that the cam dead center edge thereof is substantially abutting the crest of the rearmost undulation in the spring.

Fig. 7 is a longitudinal sectional view similar to Figs. 5 and 6 with the cam portion thereof in rear of the raised dead center edge abutting the downwardly undulating surface of the rearmost undulation of the spring in front of the crest

thereof to cause said spring to yieldably retain the spring tongue in an open position.

Fig. 8 is a plan view of the blank from which the improved base plate of my pin fastener is preferably constructed showing the respective pivot ears and gripping teeth projecting laterally from each side thereof in rear and front respectively of upstanding solder dam forming side walls formed therein during the initial stamping process and with the spring strip projecting integrally forwardly from the front end thereof.

Fig. 9 is a perspective view of the improved type of base plate and integral parts I preferably employ after they have been bent to finished shape and the desired undulations where employed formed in the spring strip.

In the drawing, wherein like characters of reference indicate like parts throughout, 10 generally indicates a pin fastener constructed in accordance with my invention, as stated, in the form of a jewelry finding adapted to be permanently secured to the lower surface of a button, bar pin, brooch or other jewelry ornament to be completely concealed thereby for detachably securing it to a fabric 48, such as an article of apparel. Said pin fastener comprises a base plate 12 having pivot means 14 mounted thereon adjacent the rear end thereof, a spring strip 22 mounted on the front end of said base plate as at 18 extending rearwardly to underlie said plate to a point beyond said pivot means 14. Said base plate 12 is also preferably provided with the spaced gripping teeth 20 projecting downwardly adjacent the front end thereof. I also provide a spring strip 22 mounted on the front of said plate extending rearwardly to underlie said plate to a point beyond said pivot means 14. While said spring means may extend downwardly from the front end of said base plate, it is preferably provided with an upwardly bent portion 24^a to provide a fulcrum 26^a substantially abutting said base plate and a rear portion extending downwardly from said pivot. If desired, said spring strip 22 is preferably provided with a plurality of undulations 30^a and 30^b therein, being upwardly bent in the troughs 24^a and 24^b between said undulations to provide a plurality of fulcrums 26^a and 26^b substantially abutting said base plate 12 and a rear undulation 30^b extending rearwardly and downwardly from said rearmost fulcrum 26^b. It is obvious, however, that as the spring projects downwardly and rearwardly from its point of attachment to the base plate that it may pivot at the said point 18 to provide a relatively long lever arm between said point of attachment 18 and the area 32 at which the cam surface of the pin tongue, to be described, abuts it to provide a relatively weak spring. If, however, the spring strip 22 has a portion thereof upwardly bent to provide the fulcrum 26^a substantially abutting the base plate, it is obvious that the effective leverage length of the spring will be shortened from the distance 18 to 32 to the distance 26^a to 32, thereby giving the effect of a stronger spring. If, however, a plurality of undulations 30^a and 30^b are provided, it is obvious that the fulcrum 26^b in front of the rearmost undulation will abut the base plate to function as a fulcrum 26^b, the effective length of the spring then becoming the relatively short distance 26^b to 32 to provide in effect a still stronger spring. It is obvious, however, that even with this construction the spring will yield at three points, namely, the point 18 where it is attached to the base plate, the front fulcrum 26^a and the rear fulcrum 26^b, the resulting bendings of the spring somewhat counteracting each other to provide a still stronger spring action to urge the pin tongue 36 to open or closed position. If desired, the base plate 12 may be provided with the downstanding side walls 38 between the pivot means 14 and the teeth 20 which may be readily formed during the initial stamping of the blank, shown in Fig. 8, to function as dam means to prevent the solder employed in attaching the base plate 12 to the lower surface of the jewelry ornament 42 from seeping around the edges thereof and interfering with the action of the spring 22.

A pin tongue 36 is suitably mounted on said pivot means 14. Said pin tongue has a solid arcuate rear portion 44 pivotably mounted on said pivot means 14 having a pin blade extending forwardly from said pivoted rear portion 44.

In my preferred embodiment the gripping teeth 20 are preferably rearwardly arcuately bent and the pin blade 46 preferably extends arcuately forwardly and downwardly and upwardly from said pivoted rear portion 44 to cooperate with said bent teeth 20 to secure said pin fastener and attached ornament 42 to the clothing fabric 48 in the manner shown in Figs. 3 and 4. As shown therein, the pin blade is so arcuately bent as to extend downwardly within said fabric and have the end thereof extend upwardly through the fabric to substantially abut the lower surface of said base plate when in closed position. It is obvious that if the ornament and base plate 12 are in a closed position flat against the fabric 48, that any lateral pull will merely tend to sink the gripping teeth 20 more tightly within the fabric, said teeth functioning in the nature of a continuous arc with said pin blade 46 to retain the ornament and pin fastener to the fabric so long as the base plate and ornament are retained in closed position. It is also obvious that, as illustrated in Fig. 4, if the base plate 12 and attached ornament 42 be pivoted to an open position, the attached ornament and pin fastener may be readily removed from the fabric 48, by gently lifting them upwardly and outwardly, the particular arcuate shape of the pin tongue permitting its ready removal from the fabric.

The solid arcuate rear portion 44 of said pin tongue has a cam surface comprising a rear preferably substantially flat surface 50 on the rear edge thereof when in closed position to abut the rear end of said spring strip 22 to retain said spring tongue in open position, as shown in Fig. 7, when pivoted thereto and terminating in the raised dead center forming cam edge 34 of greater radius at the lower edge thereof when in said closed position for a purpose to be described, said cam portion also having a front substantially flat surface 52 in front of said cam edge 34 when in closed position adapted to abut said spring portion 22 to urge said cam edge 34 downwardly to continuously tend to pivot and retain said pin tongue blade in closed position. Fig. 5 illustrates my improved pin fastener in closed position, with the front cam surface 52 substantially abutting the spring to retain the pin tongue 36 in closed position. Fig. 6 illustrates the pin tongue 36 in partially open position with the dead center edge 34 substantially abutting the spring strip 22, it being obvious that the spring strip is depressed as the dead center edge 34 passes the spring 22, as shown in Fig. 6, in

moving from closed to open position, and vice versa. As stated previously, the spring strip 22 flexes at its point of attachment 18 and the pivot points 26a and 26b between the respective undulations 30a and 30b where employed. Said undulations 30a and 30b, if one or more of them is employed, or even if a single depression 24a only be employed, shorten the effective bending length or leverage of the spring in the manner hitherto described, as will be apparent from these figures. It is also obvious from an inspection of Fig. 6 that if the crest 32 of the rear undulation 30b be substantially opposite the dead center edge 34 of the pin tongue as it passes said spring, the rear downwardly undulating surface 54 of said rearmost undulation 30b will abut the front substantially flat cam surface 52 to retain said pin blade 46 in closed position between said teeth 20, as shown in Fig. 5, and that the front downwardly undulating portion 56 of the rearmost undulation 30b of said spring will abut the rear substantially flat cam portion 50 to also retain the pin tongue in open position, as shown in Fig. 7. While the respective front and rear surfaces 52 and 50 are preferably of substantially flat shape, as shown, they may be constructed of any suitable cooperating shape.

While the spring strip 22 may comprise a separate spring apart from the base plate 12, in the embodiment shown, the pivot means 14, the gripping teeth 20 and spring strip 22 are preferably constructed integral with the base plate 12, the pivot ears 14 and teeth 20 projecting laterally from each side thereof in rear and front respectively of the downstanding solder dam side walls 38, where employed, and the spring strip 22 projecting integrally forwardly therefrom as shown in Fig. 8. It is obvious that the blank may be suitably stamped out of flat stock and the various portions thereof suitably bent to the position shown in Fig. 9 for mounting of the pin tongue 36 thereon. It is thus obvious that the base plate shown in Fig. 9 has the downstanding solder dam forming side walls 38 projecting downwardly from each side thereof, the aligned pivot ears 14 each provided with a suitable pivot pin receiving hole 13 above the rearmost undulation 30b of said spring strip projecting integrally downwardly from the side edges thereof adjacent the rear end thereof, the aligned preferably rearwardly arcuately bent spaced gripping teeth 20 projecting integrally downwardly from the side edges thereof adjacent the front end thereof and the spring strip 22 projecting integrally downwardly from the front edge thereof, as at 18, arcuately rearwardly and downwardly between said teeth 20 and then rearwardly to overlie said plate to a point beyond said pivot ears 14, in the embodiment shown having at least a single depression 24a and preferably a plurality of depressions 24a and 24b between the plurality of undulations 30a and 30b therein being downwardly bent in the troughs 24a and 24b between said undulations to provide a plurality of fulcrums substantially abutting said base plate and a rearmost undulation 30b extending downwardly from said rearmost pivot 26b. The solid arcuate portion 44 of said pin tongue is preferably provided with a suitable hole 43 therein so that the pivot pin 45 may extend through the respective holes 13 in said pivot ears 14 and said hole 43 in said enlarged rear end 44 to pivotably mount said enlarged rear end 44 on said pivot ears, preferably so that the raised cam edge 34 thereof may abut the crest of the rearmost undulation 30b of said spring to pass a doubly formed dead center.

It is thus obvious that by the action of the spring alone, which may be increased by the troughs 24a and 24b between the respective undulations 30a and 30b, my device functions to permanently retain the pin blade 36 in open or closed positions suitably yielding to permit pivoting of said pin blade from open to closed position, and vice versa, and functioning to detachably secure said ornament to said fabric without a pin catch and to permit the ready removal of said pin fastener from the fabric in the manner heretofore described.

While I have shown my improved spring fastener and attached ornament in attached position on a vertically extending fabric in Figs. 3 and 4, inasmuch as the base plate 12 is usually attached to the lower unornamented surface of the button, bar pin, brooch or other ornament, I have described the various parts of my improved fastener in the specification and claims in the position they assume when so attached, and I have employed the words "front" and "rear" relative to the front unpivoted end of the pin tongue when in closed position.

It is apparent, therefore, that I have provided a novel type of pin fastener with the advantages explained above.

It is understood that my invention is not limited to the specific embodiment shown and that various deviations may be made therefrom without departing from the spirit and scope of the appended claims.

What I claim is:

1. A pin fastener for buttons, bar pins, brooches and like ornaments comprising a base plate adapted to be soldered to the lower surface of said ornament to be completely concealed thereby having downstanding solder dam forming side walls, aligned pivot ears projecting integrally downwardly from the side edges of the lower surface thereof adjacent the rear end thereof, aligned rearwardly arcuately bent gripping teeth projecting integrally downwardly from the side edges thereof adjacent the front end thereof, and a spring strip portion projecting integrally downwardly from the front edge thereof extending arcuately rearwardly and downwardly between said teeth and then rearwardly to underlie said plate to a point beyond said pivot ears having a plurality of undulations therein, being upwardly bent in the troughs of said undulations to provide a plurality of fulcrums substantially abutting said base plate and a rearmost undulation extending downwardly from said rearmost fulcrum, and a pin tongue having a solid arcuate rear portion pivotally mounted on said pivot ears having a pin blade extending arcuately forwardly and upwardly from said pivoted rear portion, said solid arcuate rear portion having a cam surface comprising a rear substantially flat surface on the rear edge thereof when in closed position to abut the front downwardly undulating surface of the rearmost undulation of said spring to retain said pin tongue in open position when pivoted thereto terminating in a raised cam edge of greater radius at the upper edge thereof when in closed position and a front substantially flat surface in front of said cam edge when in closed position, whereby when said pin tongue is pivoted from open to closed position passed said raised edge dead center and crest of the rearmost undulation of said spring portion, the rear downwardly undulating surface of the rearmost un-

dulation of said spring portion may abut the then upper front substantially flat surface of said cam portion to urge said raised cam edge downwardly to continuously tend to pivot and retain said pin tongue blade in closed position between said teeth.

2. A pin fastener for buttons, bar pins, brooches and like ornaments comprising a base plate adapted to be secured to the lower surface of said ornament to be completely concealed thereby having pivot means on the lower surface thereof adjacent the rear end thereof, a spring strip mounted on the front end of said plate extending rearwardly to overlie said plate to a point beyond said pivot means, and a pin tongue having a solid arcuate rear portion pivotally mounted on said pivot means having a pin blade extending forwardly from said pivoted rear portion, said solid arcuate rear portion having a cam surface comprising a rear surface on the rear edge thereof when in closed position to abut said spring to retain said pin tongue in open position when pivoted thereto terminating in a raised cam edge of greater radius at the upper edge thereof when in closed position and a front surface in front of said cam edge when in closed position, whereby when said pin tongue is pivoted from open to closed position passed said raised edge dead center, said spring portion may abut the then upper front surface of said cam portion to urge said raised cam edge downwardly to continuously tend to pivot and retain said pin tongue blade in closed position.

3. A pin fastener for buttons, bar pins, brooches and like ornaments, comprising a base plate adapted to be secured to the lower surface of said ornament to be completely concealed thereby having pivot means on the lower surface thereof adjacent the rear end thereof, and a spring strip portion projecting integrally downwardly from the front edge thereof and then rearwardly to underlie said plate to a point beyond said pivot means, and a pin tongue having a solid arcuate rear portion pivotally mounted on said pivot means having a pin blade extending forwardly from said pivoted rear portion, said solid arcuate rear portion having a cam surface comprising a rear surface on the rear edge thereof when in closed position to abut said spring to retain said pin tongue in open position when pivoted thereto terminating in a raised cam edge of greater radius at the upper edge thereof when in closed position and a front surface in front of said cam edge when in closed position, whereby when said pin tongue is pivoted from open to closed position passed said raised edge dead center, said spring portion may abut the then upper front surface of said cam portion to urge said raised cam edge downwardly to continuously tend to pivot and retain said pin tongue blade in closed position.

4. A pin fastener, for buttons, bar pins, brooches and like ornaments, comprising a base plate adapted to be secured to the lower surface of said said ornament to be completely concealed thereby having pivot means on the lower surface thereof adjacent the rear end thereof, a spring strip mounted on the front end of said plate extending rearwardly to underlie said plate to a point beyond said pivot means having a portion thereof upwardly bent to provide a fulcrum substantially abutting said base plate and a rear portion extending downwardly from said fulcrum, and a pin tongue having a solid arcuate rear portion pivotally mounted on said pivot means having a pin blade extending forwardly from said rear portion, said solid arcuate rear portion having a cam surface comprising a rear surface on the rear edge thereof when in closed position to abut said spring to retain said pin tongue in open position when pivoted thereto terminating in a raised cam edge of greater radius at the upper edge thereof when in closed position and a front surface in front of said cam edge when in closed position, whereby when said pin tongue is pivoted from open to closed position passed said raised edge dead center, said spring portion may abut the then upper front surface of said cam portion to urge said raised cam edge downwardly to continuously tend to pivot and retain said pin tongue blade in closed position.

5. A pin fastener for buttons, bar pins, brooches and like ornaments, comprising a base plate adapted to be secured to the lower surface of said ornament to be completely concealed thereby having pivot means on the lower surface thereof adjacent the rear end thereof, a spring strip mounted on the front end of said plate extending rearwardly to underlie said plate to a point beyond said pivot means having a central portion having a plurality of undulations therein, being upwardly bent in the troughs of said undulations to provide a plurality of fulcrums substantially abutting said base plate and a rear undulation extending rearwardly and downwardly from said rearmost fulcrum, and a pin tongue having a solid arcuate rear portion pivotally mounted on said pivot means having a pin blade extending forwardly from said pivoted rear portion, said solid arcuate rear portion having a cam surface comprising a rear surface on the rear edge thereof when in closed position to abut the front downwardly undulating surface of the rearmost undulation of said spring to retain said pin tongue in open position when pivoted thereto terminating in a raised cam edge of a greater radius at the upper edge thereof when in closed position and a front surface in front of said cam edge in closed position, whereby when said pin tongue is pivoted from open to closed position passed said raised edge dead center and crest of the rearmost undulation of said spring portion, the rear downwardly undulating surface of the rearmost undulation of said spring portion may abut the then upper front surface of said cam portion to urge said raised cam edge downwardly to continuously tend to pivot and retain said pin tongue blade in closed position.

6. A pin fastener for buttons, bar pins, brooches and like ornaments, comprising a base plate adapted to be soldered to the lower surface of said ornament to be completely concealed thereby having downstanding solder dam forming side walls, pivot means on the lower surface thereof adjacent the rear end thereof, a spring strip mounted on the front end of said plate extending rearwardly to underlie said plate to a point beyond said pivot means, and a pin tongue having a solid arcuate rear portion pivotally mounted on said pivot means having a pin blade extending forwardly from said pivoted rear portion, said solid arcuate rear portion having a cam surface comprising a rear surface on the rear edge thereof when in closed position to abut said spring to retain said pin tongue in open position when pivoted thereto terminating in a raised cam edge of greater radius at the upper edge thereof when in closed position and a front surface in front of said cam edge when in closed position, whereby when said pin tongue is pivoted from open to closed position passed said raised

edge dead center, said spring portion may abut the then upper front surface of said cam portion to urge said raised cam edge downwardly to continuously tend to pivot and retain said pin tongue blade in closed position.

7. A pin fastener for buttons, bar pins, brooches and like ornaments comprising a base plate adapted to be secured to the lower surface of said ornament to be completely concealed thereby having pivot means on the lower surface thereof adjacent the rear end thereof, spaced gripping teeth projecting downwardly from each side thereof adjacent the front end thereof, a spring strip mounted on the front end of said plate extending rearwardly to underlie said plate to a point beyond said pivot means, and a pin tongue having a solid arcuate rear portion pivotally mounted on said pivot means having a pin blade extending forwardly from said rear portion, said solid arcuate rear portion having a cam surface comprising a rear surface on the rear edge thereof when in closed position to abut said spring to retain said pin tongue in open position when pivoted thereto terminating in a raised cam edge of greater radius at the upper edge thereof when in closed position and a front surface in front of said cam edge when in closed position, whereby when said pin tongue is pivoted from open to closed position passed said raised edge dead center, said spring portion may abut the then upper front surface of said cam portion to urge said raised cam edge downwardly to continuously tend to pivot and retain said pin tongue blade in closed position between said teeth.

8. A pin fastener for buttons, bar pins, brooches and like ornaments comprising a base plate adapted to be secured to the lower surface of said ornament to be completely concealed thereby having pivot means on the lower surface thereof adjacent the rear end thereof, aligned rearwardly arcuately bent gripping teeth projecting integrally downwardly from the side edges thereof adjacent the front end thereof, a spring strip mounted on the front end of said plate extending rearwardly to underlie said plate to a point beyond said pivot means, and a pin tongue having a solid arcuate rear portion pivotally mounted on said pivot means having a pin blade extending arcuately upwardly and forwardly from said pivoted rear portion, said arcuate rear portion having a cam surface comprising a rear surface on the rear edge thereof when in closed position to abut said spring to retain said pin tongue in open position when pivoted thereto terminating in a raised cam edge of greater radius at the upper edge thereof when in closed position and a front surface in front of said cam edge when in closed position, whereby when said pin tongue is pivoted from open to closed position passed said raised edge dead center, said spring portion may abut the then upper front surface of said cam portion to urge said raised cam edge downwardly to continuously tend to pivot and retain said pin tongue blade in closed position between said teeth.

9. A pin fastener for buttons, bar pins, brooches and like ornaments comprising a base plate adapted to be soldered to the lower surface of said ornament to be completely concealed thereby having pivot means on the lower surface thereof adjacent the rear end thereof, aligned rearwardly arcuately bent gripping teeth projecting downwardly from each side thereof adjacent the front end thereof, a spring strip mounted on the front end of said plate extending rearwardly to underlie said plate to a point beyond said pivot means, and a pin tongue having a solid arcuate rear portion pivotally mounted on said pivot means having a pin blade extending arcuately forwardly and upwardly from said rear portion, said solid arcuate rear portion having a cam surface comprising a rear surface on the rear edge thereof when in closed position to abut said spring to retain said pin tongue in open position when pivoted thereto terminating in a raised cam edge of greater radius at the upper edge thereof when in closed position and a front surface in front of said cam edge when in closed position, whereby when said pin tongue is pivoted from open to closed position passed said raised edge dead center, said spring portion may abut the then upper front surface of said cam portion to urge said raised cam edge downwardly to continuously tend to pivot and retain said pin tongue blade in closed position between said teeth.

10. A pin fastener for buttons, bar pins, brooches and like ornaments, comprising a base plate adapted to be secured to the lower surface of said ornament to be completely concealed thereby, aligned pivot ears projecting integrally downwardly from the side edges of the lower surface adjacent the rear end thereof, aligned rearwardly arcuately bent gripping teeth projecting integrally downwardly from the side edges thereof adjacent the front end thereof, and a spring strip portion projecting integrally downwardly from the front edge thereof extending arcuately rearwardly and downwardly between said teeth and then rearwardly to underlie said plate to a point beyond said pivot ears having a plurality of undulations therein, being upwardly bent in the troughs of said undulations to provide a plurality of fulcrums substantially abutting said base plate and a rearmost undulation extending downwardly from said rearmost fulcrum, and a pin tongue having a solid arcuate rear portion pivotally mounted on said pivot ears having a pin blade extending arcuately forwardly and upwardly from said pivoted rear portion, said solid arcuate rear portion having a cam surface comprising a rear substantially flat surface on the rear edge thereof when in closed position to abut the front downwardly undulating surface of the rearmost undulation of said spring to retain said pin tongue in open position when pivoted thereto terminating in a raised cam edge of greater radius at the upper edge thereof when in closed position and a front substantially flat surface in front of said cam edge when in closed position, whereby when said pin tongue is pivoted from open to closed position passed said raised edge dead center and crest of the rearmost undulation of said spring portion, the rear downwardly undulating surface of the rearmost undulation of said spring portion may abut the then upper front substantially flat surface of said cam portion to urge said raised cam edge downwardly to continously tend to pivot and retain said pin tongue blade in closed position between said teeth.

11. A pin fastener for buttons, bar pins, brooches and like ornaments, comprising a base plate adapted to be secured to the lower surface of said ornament to be completely concealed thereby having pivot means on the lower surface thereof adjacent the rear end thereof, a spring strip portion projecting integrally downwardly from the front edge thereof and then extending

rearwardly to underlie said plate to a point beyond said pivot means having a portion thereof upwardly bent to provide a fulcrum substantially abutting said base plate and a rear portion extending downwardly from said fulcrum, and a pin tongue having a solid arcuate rear portion pivotally mounted on said pivot means having a pin blade extending forwardly from said rear portion, said solid arcuate rear portion having a cam surface comprising a rear surface on the rear edge thereof when in closed position to abut said spring to retain said pin tongue in open position when pivoted thereto terminating in a raised cam edge of greater radius at the upper edge thereof when in closed position and a front surface in front of said cam edge when in closed position, whereby when said pin tongue is pivoted from open to closed position passed said raised edge dead center, said spring portion may abut the then upper front surface of said cam portion to urge said raised cam edge downwardly to continuously tend to pivot and retain said pin tongue blade in closed position.

12. A pin fastener for buttons, bar pins, brooches and like ornaments, comprising a base plate adapted to be secured to the lower surface of said ornament to be completely concealed thereby having pivot means on the lower surface thereof adjacent the rear end thereof, a spring strip portion projecting integrally downwardly from the front edge thereof and then extending rearwardly to underlie said plate to a point beyond said pivot means having a central portion having a plurality of undulations therein, being upwardly bent in the troughs of said undulations to provide a plurality of fulcrums substantially abutting said base plate and a rear undulation extending rearwardly and downwardly from said rearmost fulcrum, and a pin tongue having a solid arcuate rear portion pivotally mounted on said pivot means having a pin blade extending forwardly from said pivoted rear portion, said solid arcuate rear portion having a cam surface comprising a rear surface on the rear edge thereof when in closed position to abut the front downwardly undulating surface of the rearmost undulation of said spring to retain said pin tongue in open position when pivoted thereto terminating in a raised cam edge of a greater radius at the upper edge thereof when in closed position and a front surface in front of said cam edge in closed position, whereby when said pin tongue is pivoted from open to closed position passed said raised edge dead center and crest of the rearmost undulation of said spring portion, the rear downwardly undulating surface of the rearmost undulation of said spring portion may abut the then upper front surface of said cam portion to urge said raised cam edge downwardly to continuously tend to pivot and retain said pin tongue blade in closed position.

13. A pin fastener for buttons, bar pins, brooches and like ornaments, comprising a base plate adapted to be secured to the lower surface of said ornament to be completely concealed thereby having pivot means on the lower surface thereof adjacent the rear end thereof, a spring strip mounted on the front end of said plate extending rearwardly to underlie said plate to a point beyond said pivot means having a portion thereof upwardly bent to provide a fulcrum substantially abutting said base plate and a rear portion extending downwardly from said fulcrum, and a pin tongue having a rear portion pivotally mounted on said pivot means having a pin blade extending forwardly from said rear portion, said rear portion having a projection projecting therefrom adapted to abut said spring on opposite sides thereof to retain said pin tongue in open or closed position, said spring yielding to permit passage of said projection when said pin tongue is pivoted to open or closed position.

14. A pin fastener for buttons, bar pins, brooches and like ornaments, comprising a base plate adapted to be secured to the lower surface of said ornament to be completely concealed thereby having pivot means on the lower surface thereof adjacent the rear end thereof, a spring strip mounted on the front end of said plate extending rearwardly to underlie said plate to a point beyond said pivot means having a central portion having a plurality of undulations therein, being upwardly bent in the troughs of said undulations to provide a plurality of fulcrums substantially abutting said base plate and a rear undulation extending rearwardly and downwardly from said rearmost fulcrum, and a pin tongue having a rear portion pivotally mounted on said pivot means having a pin blade extending forwardly from said pivoted rear portion, said rear portion having a projection projecting therefrom adapted to abut the downwardly undulating surfaces of the rearmost undulation of said spring on opposite sides thereof to retain said pin tongue in open or closed position, the crest of the rearmost undulation of said spring yielding to permit passage of said projection thereover when said pin tongue is pivoted to open or closed position.

15. A pin fastener for buttons, bar pins, brooches and like ornaments, comprising a base plate adapted to be secured to the lower surface of said ornament to be completely concealed thereby having pivot means on the lower surface thereof adjacent the rear end thereof, spaced gripping teeth projecting downwardly from each side thereof adjacent the front end thereof, a spring strip mounted on the front end of said plate extending rearwardly to underlie said plate to a point beyond said pivot means, and a pin tongue having a rear portion pivotally mounted on said pivot means having a pin blade extending forwardly from said rear portion, said rear portion having a projection projecting therefrom adapted to abut said spring on opposite sides thereof to retain said pin tongue in open or closed position, said spring yielding to permit passage of said projection when said pin tongue is pivoted to open or closed position.

16. A pin fastener for buttons, bar pins, brooches and like ornaments, comprising a base plate adapted to be secured to the lower surface of said ornament to be completely concealed thereby having pivot means on the lower surface thereof adjacent the rear end thereof, aligned rearwardly arcuately bent gripping teeth projecting downwardly from each side thereof adjacent the front end thereof, a spring strip mounted on the front end of said plate extending rearwardly to underlie said plate to a point beyond said pivot means, and a pin tongue having a rear portion pivotally mounted on said pivot means having a pin blade extending arcuately forwardly and upwardly from said rear portion, said rear portion having a projection projecting therefrom adapted to abut said spring on opposite sides thereof to retain said pin tongue in open or closed position, said spring yielding to

permit passage of said projection when said pin tongue is pivoted to open or closed position.

17. A pin fastener for buttons, bar pins, brooches and like ornaments, comprising, a base plate adapted to be soldered to the lower surface of said ornament to be completely concealed thereby having pivot means on the lower surface thereof adjacent the rear end thereof, aligned rearwardly arcuately bent gripping teeth projecting downwardly from each side thereof adjacent the front end thereof, a spring strip mounted on the front end of said plate extending rearwardly to underlie said plate to a point beyond said pivot means, and a pin tongue having a solid arcuate rear portion pivotally mounted on said pivot means having a pin blade extending arcuately forwardly and upwardly from said rear portion of substantially the same degree of curvature as said teeth, said solid arcuate rear portion having a cam surface comprising a rear surface on the rear edge thereof when in closed position to abut said spring to retain said pin tongue in open position when pivoted thereto terminating in a raised cam edge of greater radius at the upper edge thereof when in closed position and a front surface in front of said cam edge when in closed position, whereby when said pin tongue is pivoted from open to closed position passed said raised edge dead center, said spring portion may abut the then upper front surface of said cam portion to urge said raised cam edge downwardly to continuously tend to pivot and retain said pin tongue blade in closed position between said teeth.

18. A pin fastener for buttons, bar pins, brooches and like ornaments, comprising a base plate adapted to be secured to the lower surface of said ornament to be completely concealed thereby, aligned pivot ears projecting integrally downwardly from the side edges of the lower surface adjacent the rear end thereof, aligned rearwardly arcuately bent gripping teeth projecting integrally downwardly from the side edges thereof adjacent the front end thereof, and a spring strip portion projecting integrally downwardly from the front edge thereof extending arcuately rearwardly and downwardly between said teeth and then rearwardly to underlie said plate to a point beyond said pivot ears having a plurality of undulations therein, being upwardly bent in the troughs of said undulations to provide a plurality of fulcrums substantially abutting said base plate and a rearmost undulation extending downwardly from said rearmost fulcrum, and a pin tongue having a solid arcuate rear portion pivotally mounted on said pivot ears having a pin blade extending arcuately forwardly and upwardly from said pivoted rear portion of substantially the same degree of curvature as said teeth, said solid arcuate rear portion having a cam surface comprising a rear substantially flat surface on the rear edge thereof when in closed position to abut the front downwardly undulating surface of the rearmost undulation of said spring to retain said pin tongue in open position when pivoted thereto terminating in a raised cam edge of greater radius at the upper edge thereof when in closed position and a front substantially flat surface in front of said cam edge when in closed position, whereby when said pin tongue is pivoted from open to closed position passed said raised edge dead center and crest of the rearmost undulation of said spring portion, the rear downwardly undulating surface of the rearmost undulation of said spring portion may abut the then upper front substantially flat surface of said cam portion to urge said raised cam edge downwardly to continuousy tend to pivot and retain said pin tongue blade in closed position between said teeth.

19. A pin fastener for buttons, bar pins, brooches and like ornaments, comprising a base plate adapted to be secured to the lower surface of said ornament to be completely concealed thereby having pivot means on the lower surface thereof adjacent the rear end thereof, aligned rearwardly arcuately bent gripping teeth projecting downwardly from each side thereof adjacent the front end thereof, a spring strip mounted on the front end of said plate extending rearwardly to underlie said plate to a point beyond said pivot means, and a pin tongue having a rear portion pivotally mounted on said pivot means having a pin blade extending arcuately forwardly and upwardly from said rear portion of substantially the same degree of curvature as said teeth, said rear portion having a projection projecting therefrom adapted to abut said spring on opposite sides thereof to retain said pin tongue in open or closed position, said spring yielding to permit passage of said projection when said pin tongue is pivoted to open or closed position.

EUGENE BAZNER.