P. EPPELEIN.

COLLAR STUD.

APPLICATION FILED DEC. 17, 1907.

954,505. Patented Apr. 12, 1910.

2 SHEETS—SHEET 1.

Fig. 1.

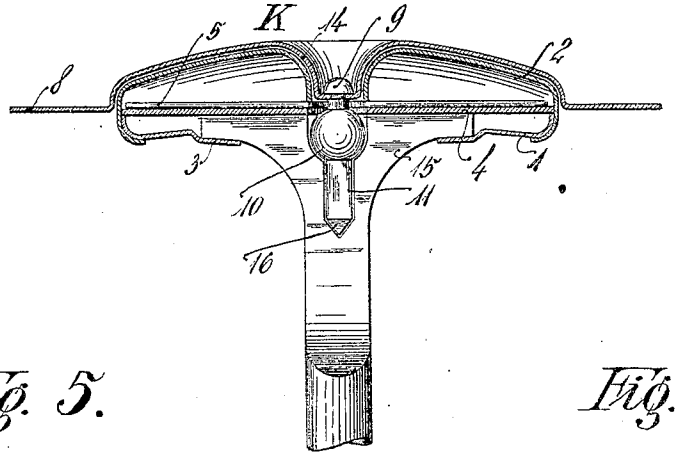


Fig. 5.

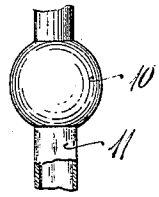


Fig. 2.

Fig. 6.

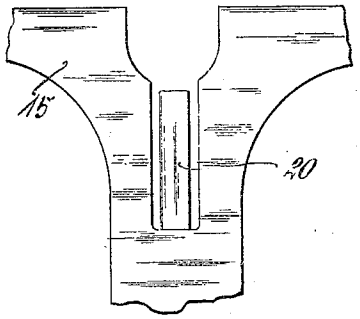


Fig. 3.

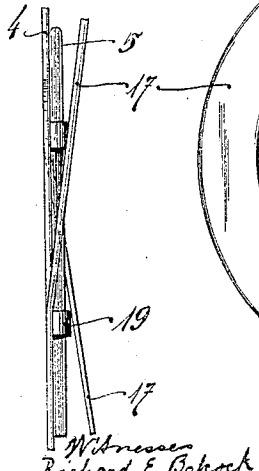
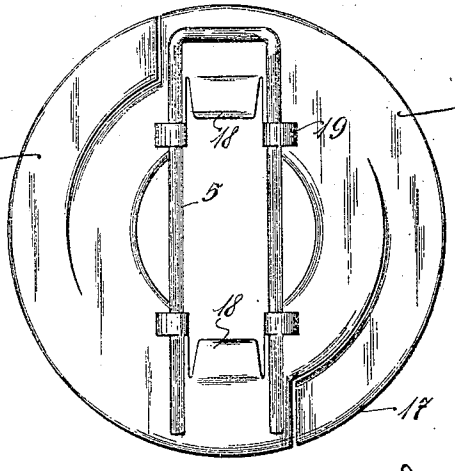
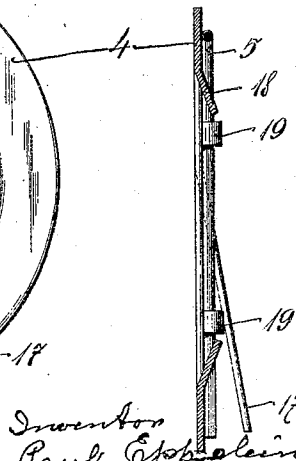


Fig. 4.





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2 SHEETS—SHEET 2.

Fig. 7.

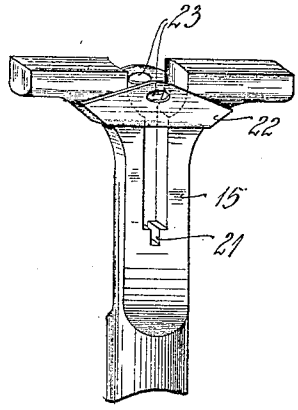


Fig. 8.

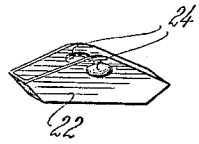


Fig. 9.

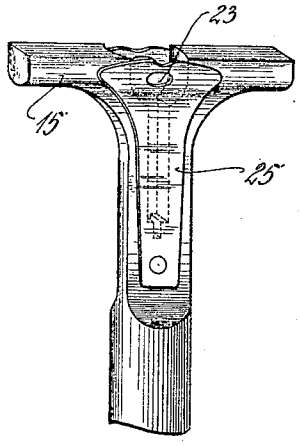
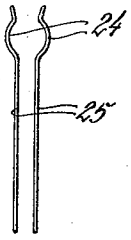


Fig. 10.



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UNITED STATES PATENT OFFICE.

PAUL EPPELEIN, OF RATISBON, GERMANY.

COLLAR-STUD.

954,505. Specification of Letters Patent. Patented Apr. 12, 1910.

Application filed December 17, 1907. Serial No. 406,891.

To all whom it may concern:

Be it known that I, PAUL EPPELEIN, iron dealer, a subject of the Emperor of Germany, residing at 152 Perterstor, Ratisbon, in the German Empire, have invented certain new and useful Improvements in or Relating to Collar-Studs, of which the following is a specification.

This invention consists in improvements in or relating to collar studs.

The annexed drawings illustrate various forms of construction of the improved stud in which—

Figure 1 is a longitudinal section of the stud on a considerably enlarged scale. Fig. 2 represents a back view of another form of the spring and press-plate, Fig. 3 represents a side view of said spring and press-plate, Fig. 4 represents a longitudinal sectional view taken on Fig. 2, Figs. 5 and 6 represent another form of construction of the locking pin and forked shank, Fig. 7 is a perspective view of the shank provided with another form of retention device for the locking pin, Fig. 8 illustrates a modified form of this device, Fig. 9 is a perspective view of the forked shank provided with another form of retention device for the locking-pin, Fig. 10 is a side view of this device.

Referring to Fig. 1 the locking device which is termed a "locking-pin" 9 in the specification proper, passes through the foldable stud head into the end of the shank in which position it prevents the folding of the head in the manner hereinafter described. A plate 8 which is attached to the neck-tie and carries the locking pin 9 is curved correspondingly to the shape of the cover-plate 2, in the cavity so formed the foldable head K lies. The cover-plate 2 of the closing part is provided centrally with a funnel-shaped cavity 13, while the plate 8 is provided at the corresponding point with a funnel-shaped depression 14 in which the locking-pin 9 is fixed by riveting or any other suitable manner. By this means the insertion of the locking-pin is facilitated and a firm engagement of the same is obtained. The shank of the stud is at the end 15 branch or forked shaped and to the two branches of the branched end the foldable or tiltable head part K is articulated. These branches engage with their rounded off lower surfaces in suitably recessed bearings 3 of the back plate 1, while the upper and lateral surfaces of these branches serve as abutment surfaces, acting against the press-plate 4. The locking-pin 9 consists of a ball or similar shaped body 10 adjacent the depression 14, which is extended in the form of a stem and head 11 of angular cross-section which serves to prevent the rotation of the locking-pin 9 and therefore also of the tie. The extension 11 has a pyramid or otherwise shaped point 16, which engages a correspondingly shaped cavity in the bottom of the recess of the fork, whereby the pin 9 is fixed and turning over of the head K is prevented.

Figs. 2 to 4 show a U-shaped head-spring 5 in combination with a specially shaped press-plate 4. The plate has the shape of a circular disk and is provided with two circular incisions so that two narrow rim-flaps 17 are formed, which are bent inwardly, that is to say, toward the cover-plate 2. In the central hole of the press-plate are two tongues 18 arranged opposite one another and bent upward, which prevent the U-shaped headspring 5 from becoming distorted. Further there are arranged on each side of the tongues two narrow strips 19, which are bent out of the press-plate in such a manner that they form guides for the shanks of the spring 5, said guides do not hinder its spring-action, but prevent distortion of the spring.

In the construction shown in Fig. 6 the extension 11 of angular cross section is hollow and in the recess of the fork a correspondingly shaped pin 20 is provided, on which the hollow extension 11 is pushed.

The retention devices shown in Figs. 7 and 10 can either serve alone or in combination with the other devices herein described. As shown in Fig. 7 the recess of the fork is stepped at its end 21, the extension of the locking-pin being provided with a correspondingly stepped end. By this means displacement of the locking-pin and in consequence turning over of the head K is prevented. In order to make the retention of the locking-pin still more reliable, around the upper part of the fork, preferably adjacent the ball 10, a sheet metal strip 22 is arranged and fixed in any suitable manner, the said strip is either provided with two slots 23 arranged opposite one another, or as shown in Fig. 8 with two outwardly projecting hollow bosses 24. By means of these slots or

bosses the ball 10 is elastically held at two diametrically opposite points by which means the locking-pin is secured in place. Figs. 9 and 10 show a similar arrangement. Here the sheet metal strip arranged around the fork is replaced by two spring plates 25 arranged one on each flat side of the fork and fixed in any suitable manner at their lower ends to said forks. These plates cover the notch of the fork and are also provided adjacent the ball with openings 23 or with hollow projecting bosses 24 operating in a similar manner to the constructions of Figs. 7 and 8.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:—

1. A button comprising a shank provided with a recess, a tiltable head mounted on said shank, a locking pin adapted to be passed through said head and extend into the recess of said shank to lock the said head relatively to the shank and means for yieldingly retaining the said locking pin in the said recess.

2. A button comprising a shank provided with a recess, a tiltable head mounted upon said shank, a locking pin adapted to be passed through said head and extend into the recess of said shank to lock the head relatively to the shank and means carried by the head for yieldingly retaining the said locking pin in the said recess substantially as set forth.

3. A button comprising a shank provided with a recess, a tiltable head mounted on said shank, a locking pin adapted to be passed through said head and into the recess of said shank to lock the head relatively to the latter and resilient means engaging said locking pin to retain it in place for the purpose set forth.

4. A button comprising a shank provided with a recess, a tiltable head mounted on said shank, a locking pin adapted to be passed through said head and extending into said recess and a plate and a spring bearing on said pin substantially as and for the purpose set forth.

5. A button comprising a shank provided with a recess, a tiltable head mounted on said shank, a locking pin having a ball formed thereon and fitting into a part of said recess and means for yieldingly locking said pin in said recess substantially as set forth.

6. A button comprising a shank provided with a recess having a prismatic part pointed at the bottom and a tiltable head mounted on said shank, in combination with a locking pin passing through said head and having at its lower end a prismatic pointed shank adapted to fit said part of the recess and means for yieldingly locking said pin in place which engages the same above said ball substantially as set forth.

7. A button comprising a centrally recessed shank having upright bifurcations which are flat on top and a tiltable head composed of an under part 3 bearing upon the under side of said bifurcations, a locking pin extending down through the said head into the recess of said shank, a plate resting on said bifurcations and having a central opening for said locking pin and a spring resting on said plate and bearing against said locking pin to yieldingly prevent its withdrawal and the tilting of the said head substantially as set forth.

8. A button comprising a shank having a central recess in its top and a tiltable head, in combination with a plate having a central opening and resting on the top of said shank within said head, a locking pin adapted to pass through said head into said recess and having an enlarged part adapted to be received within the said recess and a spring resting on said plate adapted to engage said pin above said enlarged part of the latter and thereby to prevent the tilting of the head substantially as set forth.

9. A button comprising a recessed shank and a hollow tiltable head, in combination with a locking pin adapted to pass through said head and into said recess and formed with an enlarged part and a prismatic shank which fits into a correspondingly formed part of said recess to prevent said pin from turning therein and a spring which engages said pin above said enlarged part, to yieldingly prevent the tilting of said head substantially as set forth.

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

PAUL EPPELEIN.

Witnesses:
ALFRED BERAN,
ROBERT W. HEINGARTNER.