No. 772,619. PATENTED OCT. 18, 1904.

H. KERNGOOD.

PROCESS OF MAKING GARMENT HOOKS.

APPLICATION FILED JAN. 29, 1903.

NO MODEL.

Fig. 1.

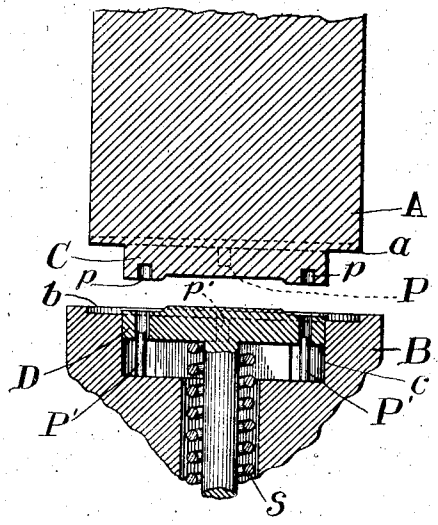


Fig. 2.

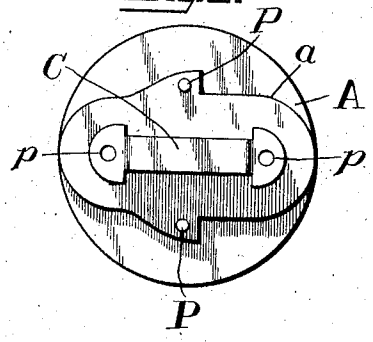
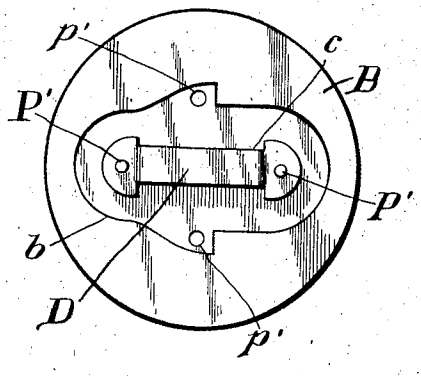


Fig. 3.



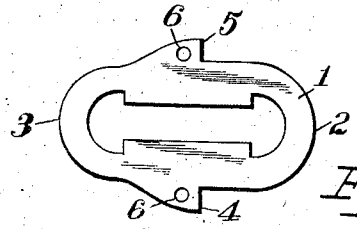
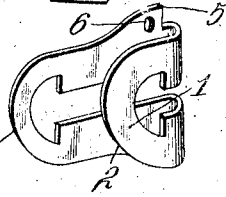


Fig. 4.

Fig. 5.

Fig. 6.



Witnesses
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Henry S. Brewington
by his Attorney.

No. 772,619. Patented October 18, 1904.

UNITED STATES PATENT OFFICE.

HERMAN KERNGOOD, OF BALTIMORE, MARYLAND, ASSIGNOR TO THE ALMA BUTTON COMPANY OF BALTIMORE, MARYLAND, A CORPORATION.

PROCESS OF MAKING GARMENT-HOOKS.

SPECIFICATION forming part of Letters Patent No. 772,619, dated October 18, 1904.

Application filed January 29, 1903. Serial No. 141,029. (No model.)

To all whom it may concern:

Be it known that I, HERMAN KERNGOOD, a citizen of the United States, residing at Baltimore city, State of Maryland, have invented a new and useful Improvement in Processes of Making Garment-Hooks, of which the following is a specification.

My invention relates to processes of making garment-fasteners; and the object is to produce a hook and bar for garment-fasteners in which both the hook and bar are cut and the latter bent from a single piece of sheet metal at one operation. In the manufacture of trousers-waistband hooks and eyes or bars there has been a considerable waste of sheet metal, owing to the fact that the hook member is usually of skeleton form, and the metal cut away to form the hook has gone to waste. By means of my invention the material which has heretofore been cut away to form the skeleton hook is utilized to form the bar member or eye for the hook, thus saving both in material and labor in producing garment-fasteners of this character.

In the accompanying drawings, Figure 1 is a vertical sectional view through dies for forming the fasteners. Fig. 2 is a bottom plan view of the upper die. Fig. 3 is a top plan view of the lower die. Fig. 4 is a view of the hook-plate. Fig. 5 is a view of the finished eye or bar, and Fig. 6 is a view in perspective of the hook member.

Referring to Figs. 4 and 5, the numeral 1 designates a blank cut from sheet metal and provided with rounded ends 2 and 3 and shoulders 4 and 5, projecting laterally from the blank at a point about central to the blank. Thread-holes 6 6 are formed in the blank near the shoulders. In order that the hook shall be of skeleton form and that the material to be cut away should be utilized to form the bar member, the central portion is cut out, as shown in Fig. 4, to remove the bar 8. (Shown in Fig. 5.) The bar 8 is provided with feet 9, having thread-holes 10.

In the process of producing my hook and bar the blank shown in Fig. 4 is cut or struck up by a die from a strip or piece of sheet metal of the required gage, and the bar 8 (shown in Fig. 5) is cut out from within the blank, and the feet 9 are bent downward.

Various forms of dies may be employed to perform this process. I have shown in Figs. 1, 2, and 3 one simple form of dies merely to illustrate a means for carrying out the process.

A is the male die, and B is the female die. The male die is made to conform to the hook-blank at its outer edge *a*, and the female die has a counterpart recess *b* to receive it and between which and the outer edge *a* of die A the blank is cut.

The bar-die C is centrally formed on the lower surface of the die A, and its outline conforms to the shape of the hook or bar, as is shown in Fig. 2, and the female die has an aperture *c* formed therein to correspond in shape with die C, and between the edges of the two the bar or eye blank is cut.

A spring-supported anvil D is fitted to the aperture *c*, and its upper surface and the lower surface of die C are fashioned to conform in shape and are adapted to form the feet on the ends of the hook or bar.

The tension of springs *s* is such as to yield readily to the downward pressure of die A and to raise the anvil as fast as the die A recedes upon its upward stroke, so as throw the completed hook or bar out. The relative size and arrangement of the several parts is such that the anvil is pressed to the bottom of aperture *c* about as the outer edge of the hook-blank is cut, at which time the bar or eye is bent and fashioned between die C and anvil D.

Punches P P′ are employed for forming the thread-holes, recesses *p p′* being formed to receive them. In this manner the two articles are cut, one from within the other and one of them made complete during one stroke of the die-press. It will be obvious that considerable saving of metal results from my process of cutting and stamping up the blank and at the same time some labor is saved, since there is but one movement of a die necessary to cut out the blank to form the hook and both cut and strike up the bar from within the body of the hook member.

As stated, other machinery might be em-

ployed and different arrangements of dies used. Those described merely illustrate a possible scheme for carrying out the method.

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

1. The herein-described method which consists in cutting two complementary parts from a sheet of material forming a garment hook and bar, the bar member being cut, perforated, bent and completed from wholly within the hook member, and the hook member, being cut out and perforated in a single operation forming when cut an article of manufacture substantially complete.

2. The herein-described method which consists in cutting two complementary parts from a sheet of material, the two parts forming a garment hook and bar, the bar member being cut, perforated, bent and completed from wholly within the hook member, and the hook member being cut out and perforated in a single operation which subsequently requires bending only to make it complete.

3. The herein-described method which consists in cutting two complementary parts from a sheet of material forming a garment hook and bar, the bar member being cut and formed complete from wholly within the hook member, and the hook member being cut out and substantially completed all in a single operation, substantially as described.

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

HERMAN KERNGOOD.

Witnesses:

E. WALTON BREWINGTON,

ROBT. C. RHODES.