Oct. 27, 1970 H. KRAMER 3,536,287

ARTICLE SUSPENDING HOOKS

Filed March 29, 1968

Fig. 1.

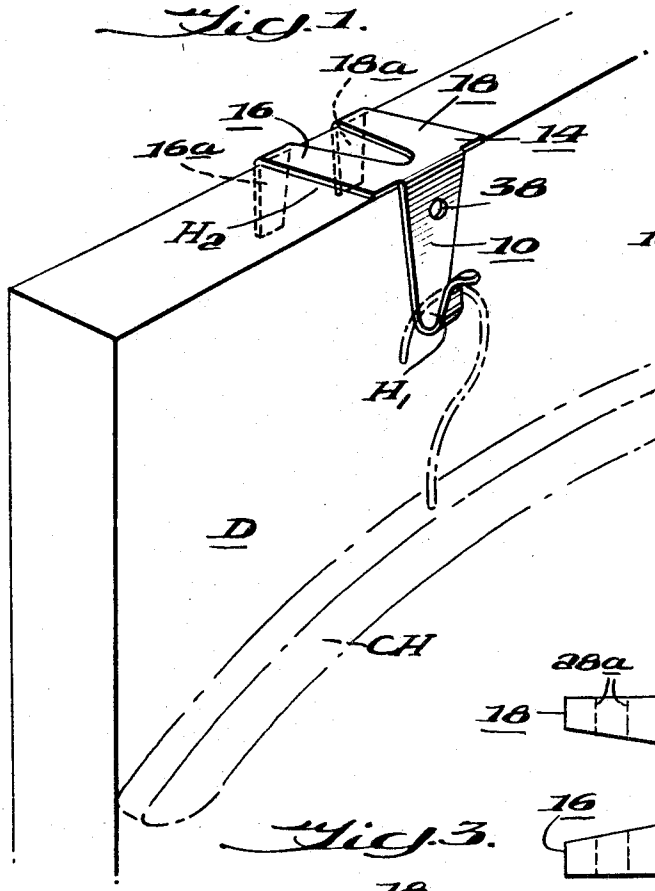


Fig. 2.

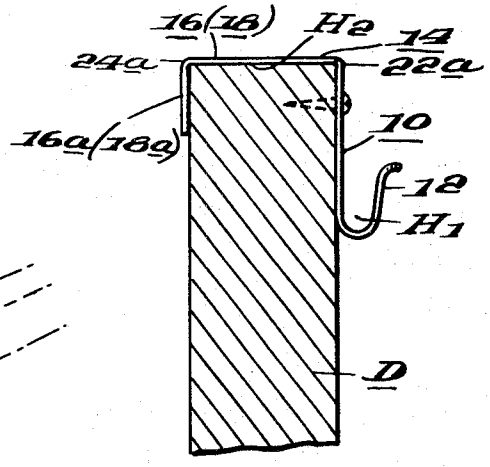


Fig. 4.

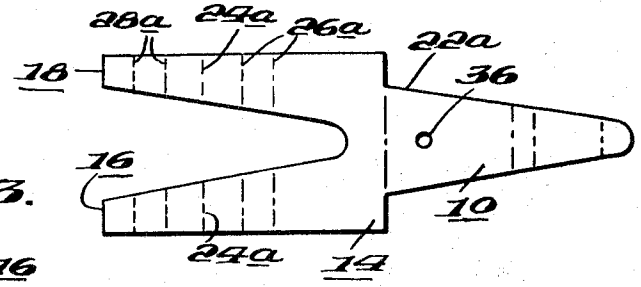


Fig. 3.

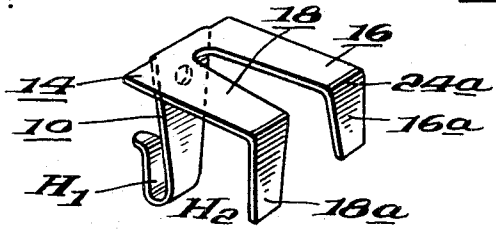
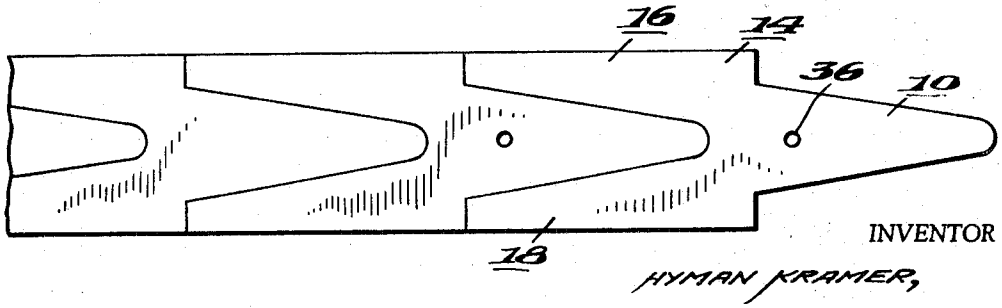


Fig. 5.



INVENTOR

HYMAN KRAMER,

BY J. Harold Kilcoyne

ATTORNEY

United States Patent Office 3,536,287 Patented Oct. 27, 1970

3,536,287

ARTICLE SUSPENDING HOOKS

Hyman Kramer, 2764 E. 16th St., Brooklyn, N.Y. 11235

Filed Mar. 29, 1968, Ser. No. 717,183
Int. Cl. F16b 45/00
U.S. Cl. 248—301 1 Claim

ABSTRACT OF THE DISCLOSURE

A one-piece, all sheet-metal hook for suspending various articles requiring suspended support from an upwardly facing horizontal edge on a support such as the top edge of a closet door. Said hook, which in side-edge view has the configuration of an inverted U, is formed from a unitary hook blank stamped from sheet-metal strip stock and which provides a hook body portion comprising a full-width, short-length portion of the strip, an elongate first leg extending in one direction from said body portion and providing one leg of the U and whose free end is shaped to provide an upwardly opening hook from which said article may be suspended and said leg having width substantially less than and lateral disposition with respect to said body portion such that its longitudinal center line extends in continuation of that of said body portion, and spaced-apart coplanar legs extending in the opposite direction from said body portion and providing the other leg of the U and being defined along their outer edges by the longitudinal side edges of said strip and whose inner edges define between them a space which is exactly complemental to the edge outline of said elongate first leg.

This invention relates to improvements in article suspending hooks, and more particularly to a hook of novel construction and design which adapts same to be hung from the top edge of a closet door or window sash, for example, or from a wall molding, for supporting articles or things such as clothes hangers, pictures, potted plants, and similar articles requiring suspended support.

Among the several objects of the invention may be noted the provision of a structurally and functionally improved hook; the provision of a hook-on type hook for supporting articles or things requiring suspension-type support; the provision of a hook for supporting articles or things requiring suspended support and which is so constructed and arranged to itself being hung from the top edge of a door or window sash, or from a wall molding, for example; the provision of a hook for the stated purpose characterized by design enabling it to distribute the load which it is required to support between two spaced points disposed symmetrically to its longitudinal center line, as renders the hook very stable under loads which it is called upon to carry; the provision of a sheet-metal hook having the above-stated desirable properties and which is further capable of being blanked out from a strip of suitable sheet material without the formation of any scrap whatsoever, and which accordingly is very economical in manufacture; and the provision of a hook which incorporates within its structure a means whereby it is readily adjustable to different thicknesses of the door, window sash, or wall mounting to which it is to be hooked in use.

The above and other objects and features of advantage of an article supporting hook according to the present invention will be apparent or obvious from the following detailed description and accompanying illustrative drawing thereof, in which

FIG. 1 is a broken-away perspective view of a hook as herein contemplated shown in one of its various "in use" positions, i.e. hooked over the top edge of a door such as a clothes closet door;

FIG. 2 is a side view which further illustrates the hook-on capability of a hook according to the invention;

FIG. 3 is a perspective view taken from the rear of the hook shown in FIG. 1;

FIG. 4 is a plan view of a blank from which the hook shown in the preceding views is formed prior to its being bent to final double-hook formation; and

FIG. 5 is a broken-away plan view illustrating the manner in which hooks according to the invention, when made from sheet material, may be blanked out from a strip of such material without the formation of any appreciable scrap.

Referring to the drawing in detail, a hook according to the invention, when made from a suitable sheet material, i.e. sheet metal, is so fashioned as to combine into one hook structure blanked out from a longitudinal strip of said sheet metal an upwardly opening hook generally designated H_1 and offset rearwardly therefrom a downwardly opening hook generally designated H_2. As seen in FIG. 1, said upwardly opening hook H_1 is formed by the free end portion of a longitudinal leg **10** which is bent transversely of its length to U-formation, thus to form a hook with a flared bill designated **12**. The other end of said leg **10** integrally connects with a widened and straight-edged hook body portion designated **14**, from which extends, in direction opposite to the direction of extension therefrom of the aforesaid leg **10**, the spaced-apart legs **16**, **18**, whose outer side edges extend colinearly with the outer side edges of said widened body portion.

As best seen in FIG. 2, the aforesaid leg portion **10**, which preferably has lesser width than the body portion **14** and whose lateral disposition with respect to said body portion is such that its longitudinal center line extends in continuation of the longitudinal center line of said body portion, is bent at a right angle to said body portion along a bend line designated **22***a* corresponding to the line of its junction therewith and thus, when said body portion is horizontally disposed and turned so that its leg **10** extends downwardly therefrom, the aforesaid U-bent hook **12** will open or face in upward direction.

The terminal or free-end portions **16***a*, **18***a* of the spaced-apart legs are bent along a common transverse line of bend **24***a* to extend at a right angle to the root portions of said legs, i.e. the portions which connect to the aforesaid body portion **14** of the hook, with said bending being in direction such that said terminal portions extend in a plane parallel with that of the aforesaid leg **10** after the latter is bent at a right angle to said body portion. Thus, said bent-over terminal portions **16***a*, **18***a* of the legs **16** and **18**, the root portions of said legs, the hook body portion **14**, and the leg **10** combine to form the aforementioned downwardly opening or facing hook H_2. As is well shown in FIGS. 1 and 2, the provision of said hook H_2 renders the hook proper H capable of being attached to a supporting member such as the top edge of a closet door designated D or of a window sash or the upwardly projecting edge of a wall molding, by being hooked thereto.

By reference to FIG. 4 in particular, it will be seen that in addition to the common transverse line of bend **24***a* (such being the actual line of bend of the terminal leg portions **16***a*, **16***b* with respect to the leg root portions), the legs **16** and **18** are provided with a plurality of potential bend lines (indicated by the broken lines **26***a*, **28***a*, FIG. 4) which may be formed by cross-scoring said legs. Such score lines enable ready bending of the terminal leg portions **16***a*, **18***a* with respect to the root portions of said legs at various distances from the line of bend **22***a* between the leg **10** and body portion **14** of the hook, thus

enabling the downwardly facing hook H_2 to be closely fitted to a door of particular thickness.

These score lines **26***a*, **28***a* may also be employed to shorten the length of the legs **16**, **18**, as adapts the hook to be hooked over a narrow-width edge, such as that of a wall molding, rather than the top edge of a relatively thick door, as in FIGS. 1 and 2. In explanation, the score line indicate lines of severance to uniformly shorten the length of the legs **16** and **18**, either by cutting unneeded end portions from the root portions of the legs or enabling removal of the end portions by flexing the same repeatedly back and forth along the particular score line best suited to give the remaining portions of the legs the proper length.

Referring to FIG. 1 which, as above indicated, shows a hook according to the invention in one of its various "in use" positions, in which it is hooked over the top edge of a door, it will be seen that the hook as a whole is favorably positioned to receive the hook of a clothes hanger CH shown in broken lines in FIG. 1. This view also illustrates that by virtue of the legs **16** and **18** which extend over the door edge being spaced laterally from one another and symmetrically to the sides of the longitudinal center line of both the leg **10** and the hook proper, the load or weight which said hook may be called upon to support is distributed at spaced points or lines to the sides of said center line, rather than being concentrated at one point or line as with prior hooks intended to serve the same general function as a hook of the invention. This two-point weight or load distribution results in the hook being very stable when loaded.

Hooks according to the invention may be manufactured and supplied with their aforesaid leg portion **10** and leg-end portions **16***a*, **18***a* already bent to or substantially to parallelism (as in FIG. 3) or they may be manufactured and supplied with the legs **16**, **18** extending straightway, i.e. unbent, or with said legs and the legs **10** similarly unbent. In the latter cases, the purchaser or installer will bend the leg **10** relative to the body portion **14** and either bend the terminal end portions **16***a*, **18***a* so that the hook will fit rather neatly if not snugly over the top edge of the door or, if necessary, will cut or break off the end portions (after initial bending of the legs to hook form) as may be required to fit the hook to a wall molding, for example. A hook according to the invention may be non-permanently attached and merely hung to a door as needed, or it may be permanently attached thereto, for which purpose it is provided with an attaching screw-receiving hole **36** and an attaching screw **38** will be supplied with each hook. Bending of the leg or leg portions as aforesaid may of course be at an angle somewhat greater or less than 90°, as such depends on the particular configuration of the edge from which the hook is to be hung.

By virtue of the fact that the hook as illustrated may be fashioned from sheet material of relatively thin gauge, its mounting to a door in particular by being hooked over the top edge thereof as shown in FIG. 1 will not interfere with normal opening and closing of the door.

A very practical advantage of a hook according to the invention is that it may be inexpensively manufactured by being blanked out complete from sheet-metal strip without the formation of any scrap whatsoever. More particularly, and here referring to FIGS. 4 and 5, it will be seen that each hook leg **10** has length and configuration rendering said leg exactly complemental to the space between its spaced-apart legs **16**, **18**. In practical effect, such means that a plurality of hooks may be blanked from a strip of sheet stock having exactly the same width as that of the hook body portions **14**, with whose side edges the outer side edges of the hook legs **16**, **18** exactly coincide. Thus, as is clearly shown in FIG. 5, no scrap whatsoever results.

Preferably, the side edges of the hook legs **10** taper towards one another to a rounded point, and the space between the legs **16** and **18** of the hook blanks is complementally tapered and configured. However, said legs and spaces may be differently configured; for example, the side edges of the legs **10** of the hooks may be formed straight and parallel to one another, with the spaces between the legs **16** and **18** of the blanks being defined by correspondingly straight and parallel side edges.

Without further analysis, it will be appreciated that a hook as described and illustrated satisfies the objectives of the invention as stated in the foregoing. However, as many changes could be made in carrying out the above constructions without departing from the scope of the invention, it is intended that all matter contained in the above description or shown in the accompanying drawing shall be interpreted as illustrative and not in a limiting sense.

I claim:

1. A one-piece all sheet-metal hook fashioned from sheet-metal strip stock for suspending an article requiring suspended support from an upwardly facing horizontal edge on a support such as the top edge of a clothes-closet door, which comprises: a hook body portion provided by a full-width, short-length portion of said strip, a narrower-width elongate first leg integral with and extending in one direction from said body portion and whose lateral disposition with respect to said body portion is such that its longitudinal center line extends in continuation of that of said body portion, and coplanar spaced-apart legs integral with and extending longitudinally in the opposite direction from said body portion, the outer side edges of said spaced-apart legs being provided by the longitudinal side edges of said strip and the space defined by the inner edges of said legs being exactly complemental in length and configuration to the edge outline of said first leg, said first leg being bent downwardly from said body portion about a transversely extending bend line corresponding to its line of connection therewith to a position in which said first leg extends at a substantial right angle to said body portion and the free end of said first leg being bent upwardly of said leg proper to form therewith an upwardly opening hook, said spaced-apart coplanar legs being provided at stepped distances along their respective lengths with a plurality of horizontally aligned score lines extending thereacross and which define a series of potential transverse bend lines, at least the free end portions of said coplanar spaced-apart legs being bent downwardly at substantial right angles to said body portion about a selected one of said series of transverse bend lines which is spaced from the first-mentioned bend line a distance corresponding substantially to the thickness of said support, said body portion being adapted to lie flat against said upwardly facing edge of the support and said downwardly bent first leg and said downwardly bent end portions of said spaced-apart legs being adapted to lie flat against parallel faces of the said support below said edge.

References Cited

UNITED STATES PATENTS

2,743,023	4/1956	Larson	211—96
3,074,676	1/1963	Watson	248—301 X
3,368,692	2/1968	Voller	211—87

FOREIGN PATENTS

582,903	8/1933	Germany.
804,351	2/1951	Germany.
654,890	7/1951	Great Britain.

ROY D. FRAZIER, Primary Examiner

J. F. FOSS, Assistant Examiner

U.S. Cl. X.R.

248—215