May 26, 1953 J. H. MYERS 2,639,499

GARMENT HANGER HOOK ATTACHING DEVICE

Filed May 25, 1949 3 Sheets-Sheet 1

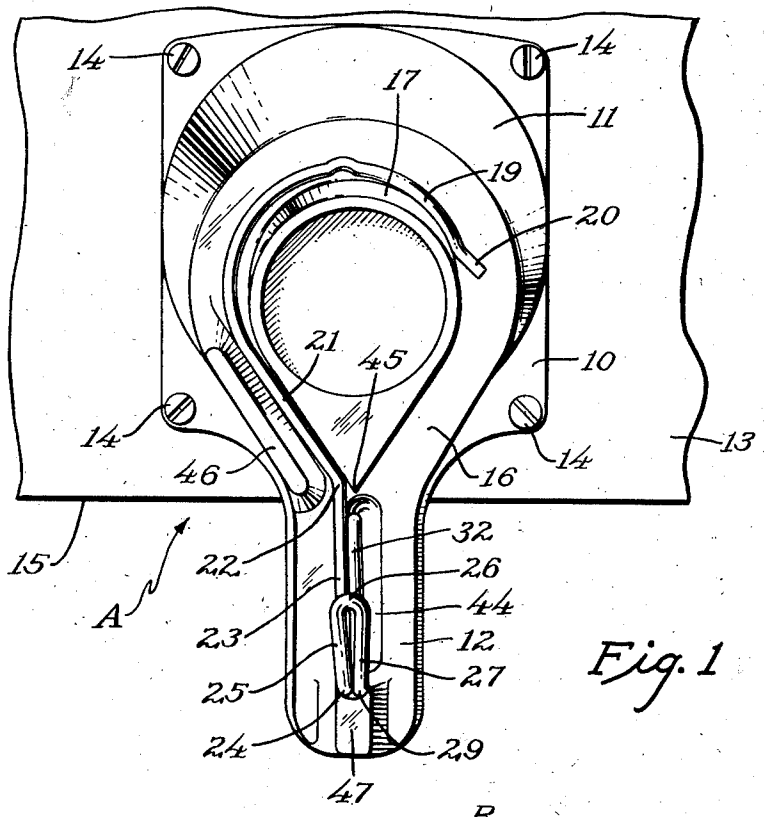


Fig. 1

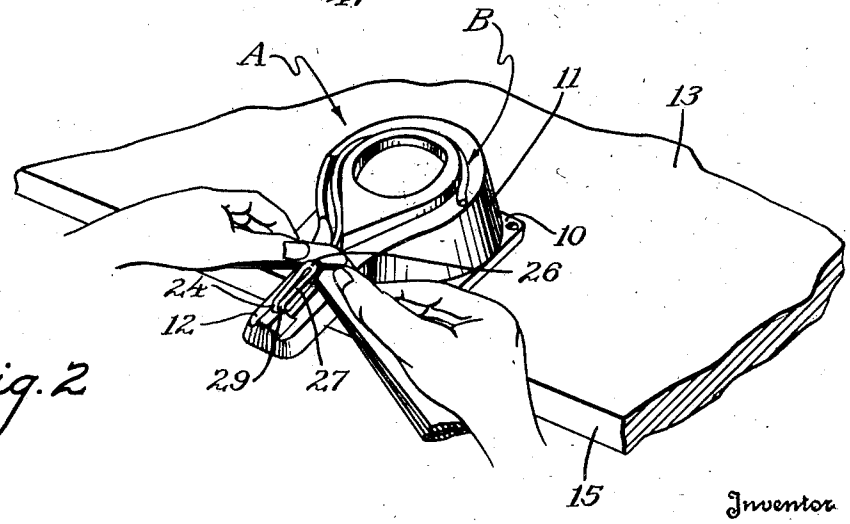


Fig. 2

Inventor

John H. Myers

By Robert M. Dunning

May 26, 1953 J. H. MYERS 2,639,499

GARMENT HANGER HOOK ATTACHING DEVICE

Filed May 25, 1949 3 Sheets-Sheet 2

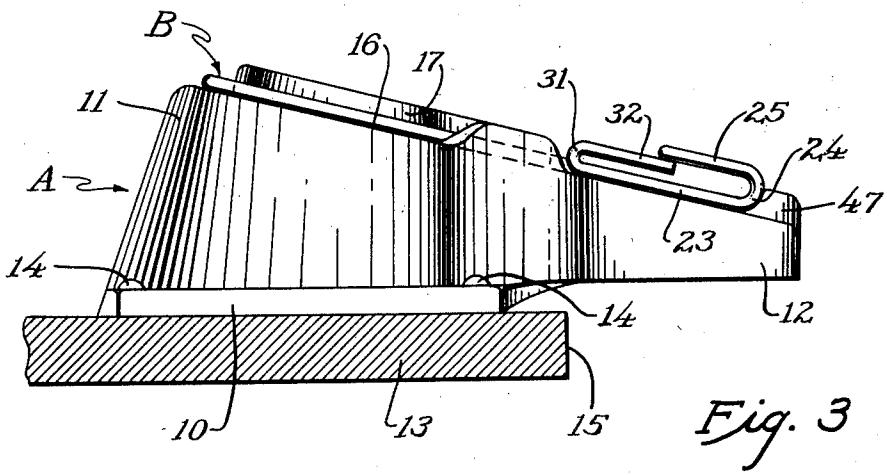


Fig. 3

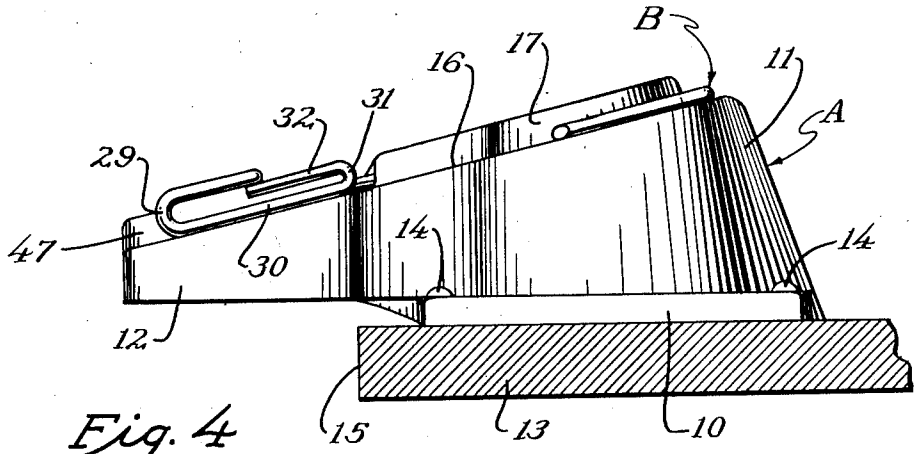


Fig. 4

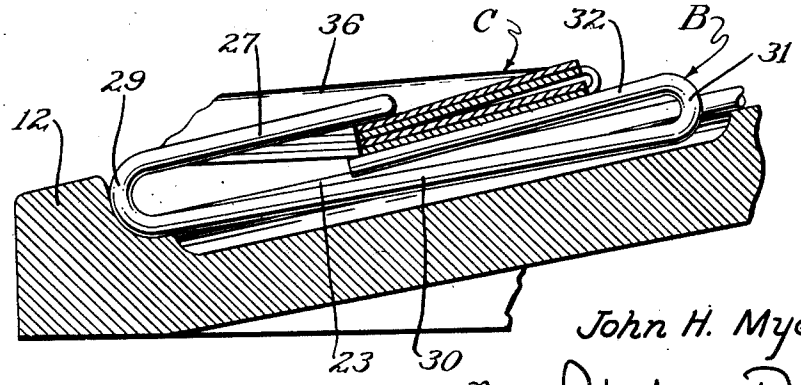


Fig. 5

Inventor

John H. Myers

By Robert M. Dunning

May 26, 1953 J. H. MYERS 2,639,499

GARMENT HANGER HOOK ATTACHING DEVICE

Filed May 25, 1949 3 Sheets-Sheet 3

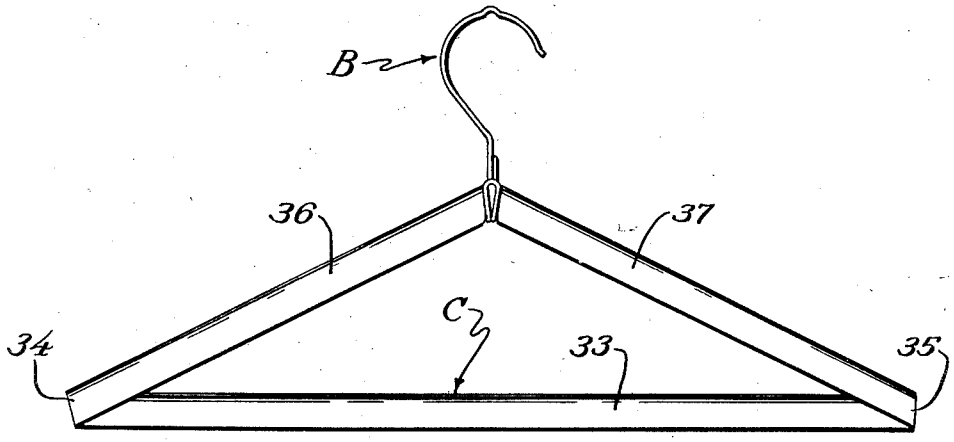


Fig. 6

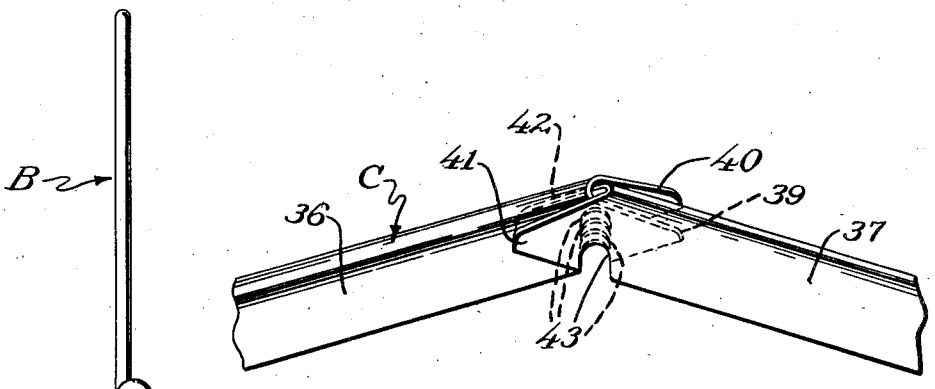


Fig. 8

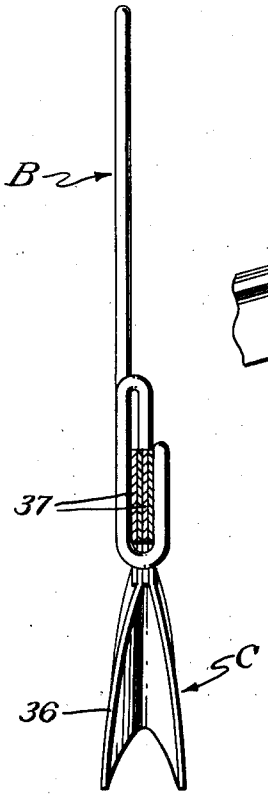


Fig. 7

Inventor
John H. Myers
By Robert M. Dunning

Patented May 26, 1953

2,639,499

UNITED STATES PATENT OFFICE

2,639,499

GARMENT HANGER HOOK ATTACHING DEVICE

John H. Myers, St. Paul, Minn., assignor to Waldorf Paper Products Company, St. Paul, Minn., a corporation of Minnesota

Application May 25, 1949, Serial No. 95,353

2 Claims. (Cl. 29—284)

1

My invention relates to an improvement in coat hanger hook attaching device wherein it is desired to provide a simple and effective means of attaching a wire hook to a coat hanger formed of paper board or similar material.

In the manufacture of coat hangers formed of paper board and similar material such as those illustrated in Patent No. 2,229,977 issued to Reynolds Guyer, and others, a channel shaped cross member is hingedly connected to channel shaped arms. These arms converge upwardly from the ends of the cross bar and are connected to a hook. In view of the fact that the arms nest upon the channel shaped cross member during storage and shipment the extremities thereof are provided with opposite sides which are spaced substantially apart. In order to firmly connect these arms, it is desirable to compress the arm ends together and engage them in a suitable hook. A hook capable of accomplishing the desired result is illustrated in the application of Carl N. Bergstrom, Serial No. 58,290, filed May 4, 1948.

Some means must be provided for holding the garment hooks in place during the assembly operation. It is extremely difficult to hold the ends of the hanger arms in overlapping relation with one hand and to attach the hook to them with the other hand. This difficulty has been one of the greatest drawbacks to a hanger of the type described. If the hook is not firmly engaged in place, much of the advantage of the hanger is lost.

The object of the present invention lies in the provision of an anvil which will readily get the hook into proper position. In order that the hanger and hook be assembled in a minimum of time, it is necessary that the hook drop into proper position almost automatically when dropped onto the anvil. My structure is so designed as to be capable of accomplishing this result.

A feature of the present invention lies in the provision of an anvil which engages the rounded hook end of the hook and also provides a shoulder bearing against the opposite end of the hook. The hanger is connected by pulling the overlapped arm ends of the hanger into a hook shaped recess at the shank end of the hook. By holding the shank end of the hook firmly against longitudinal movement in one direction, the necessary pull may be exerted against the hook without bending or distorting the same.

A feature of the present invention lies in the provision of a hook supporting anvil having a recess therein into which a retaining portion of

2

the hook may extend. As a result this retaining portion of the hook may be flexed out of normal position to permit insertion of the arm ends into the hook shaped shank. The retaining end will spring into normal position as the hanger arms move into place, thereby locking the hanger from accidental disengagement with the hook.

These and other objects and novel features of my invention will be more clearly and fully set forth in the following specification and claims.

In the drawings forming a part of my specification:

Figure 1 is a top plan view of my coat hanger hook anvil showing the construction thereof.

Figure 2 is a perspective view of the anvil showing the manner in which the overlapped ends of the hanger arms may be attached to the hook.

Figure 3 is a side elevational view of the anvil showing the construction thereof.

Figure 4 is a side elevation view of the opposite side of the anvil from that illustrated in Figure 3.

Figure 5 is an enlarged section through the anvil adjacent to the shank end of the hook showing the recess into which a part of the hook may be forced.

Figure 6 is a front elevation view of the type of hanger assembled by use of my anvil.

Figure 7 is a sectional view through the hanger adjacent to the hook after the hanger has been assembled.

Figure 8 is a perspective view of a pair of hanger arms showing the manner in which the arms are arranged prior to the attachment of the hook.

The anvil A includes a base 10 from which extends a rounded body 11 having a forwardly projecting arm 12 extending therefrom. The base 10 is provided with a flat undersurface so that it may be mounted upon a table or bench such as 13. In preferred form the base is connected by screws or bolts 14 so that the projecting arm 12 extends beyond the edge 15 of the bench or table 13.

The rounded body 11 may, if desired, be solid or may be hollow for the purpose of conserving weight. The upper surface of the rounded body and of the arm are based upon a generally common inclined plane 16. The hook B is designed to rest upon this inclined surface 16 so as to hold the hook at an angle to the horizontal in order to simplify the attaching process.

The anvil A is provided with a rounded shoulder 17 projecting upwardly from the inclined surface 16. This projection 17 is shaped in gen-

eral to fit the curvature of the hook end of the hook B. The hook B is usually provided with a rounded upper end 19 which terminates in an outwardly bent extremity 20. The curved portion 19 usually extends substantially 180° and extends into a substantially straight portion 21. The straight portion 21 is bent at 22 to provide a hook shank 23 which extends substantially radially from the center of curvature of the rounded end 19.

The particular form of hook B for which the anvil A is designed is illustrated in the various figures of the drawing. As shown in Figure 3 of the drawings the shank 23 is bent at 24 to extend into a hook portion 25 in substantially parallel spaced relation to the shank 23 and above the level of the shank as it is supported on the inclined surface.

As illustrated in Figures 1 and 2 of the drawings the hook portion 25 is looped at 26 and doubled back upon itself to produce a hook portion 27 in parallel spaced relation to the hook portion 25. The hook portion 27 is bent at 29 as best indicated in Figures 4 and 5 of the drawings to extend into the spring arm 30 which normally extends in substantially parallel adjacent relation to the shank 23. The bends 24 and 29 are alongside of one another so as to produce in effect a single bend connecting the hooked portion of the shank to the shank proper and the spring arm 30.

As is also indicated in Figures 3, 4, and 5 of the drawings, the spring arm 30 is bent at 31 to form a reversely turned retaining arm 32 which is substantially parallel to the spring arm 30 and in spaced relation thereto. The purpose of the retaining arm will be obvious after a further explanation of the invention.

With reference to Figures 6, 7, and 8 of the drawings, it will be noted that the hanger C includes an inverted channel shaped cross bar 33 which is connected along U-shaped hinge lines 34 and 35 to upwardly converging arms 36 and 37. The arms 36 and 37 are channel shaped in cross section and when the hanger is collapsed these cross arms extend over the cross bar 33 in nesting relation therewith. The ends of the cross bars are preferably notched along their upper surfaces so as to produce bifurcated projecting end portions. The arm 36 is provided with projecting spaced ends 39 and 40 while the arm 37 projects to provide spaced projecting ends 41 and 42.

In fastening the arms 36 and 37 together, the first step lies in overlapping the arm ends. It will be noted that the arm ends are preferably shaped so that the projecting end or ends of one arm may be sandwiched between the projecting ends of the other arm. In preferred form the arm ends are overlapped in the manner illustrated in Figure 8 of the drawings in which one projecting end portion of each arm is engaged between the two projecting end portions of the other arm. All of the projecting arm ends are notched so that these ends will not slip out of the hooks after the hook has been attached thereto. The aligned notches in the projecting ends 39, 40, 41 and 42 are indicated by the numeral 43. When the arm ends are interlocked as illustrated in Figure 8 of the drawings the interlocked ends are rested upon the retaining arm 32 of the hook B with the notches 43 in substantial alignment with the hook end of the shank. The hanger is usually held as indicated in Figure 2 of the drawings with a thumb of each hand pressing against the hanger arms near the arm extremities so as to flatten out the arms at the point of attachment with the hook B. This downward pressure by the thumbs also acts to flex the spring arm 30 of the hook so as to swing the retaining arm 32 out of normal position.

As best illustrated in Figures 1 and 5 of the drawings an elongated recess 44 is provided in the inclined surface 16 of the projecting arm 12. This recess 44 extends from a point closely adjacent to the bend 29 throughout the remainder of the length of the spring arm 30. Thus as downward pressure is exerted upon the retaining arm 32, the spring arm 30 is flexed down into the recess as indicated in Figure 5 of the drawings until the overlapping ends 39, 40, 41, and 42 of the hanger arms 36 and 37 may be engaged between the hook portions 25 and 27 and the hook shank 23 and spring arm 40. The retaining arm 32 normally blocks the passage into or out of the hook shaped shank until the spring arm 30 is flexed as indicated in Figure 5 of the drawings.

When the hanger C is in the position illustrated in Figure 5 of the drawings, the arms 36 and 37 are drawn toward the operator so that the overlapping hanger ends engage between the hook portions 25 and 27 and the shank 23 of the hook. The notches 43 straddle the rounded bends 24 and 29 of the hook so that the ends are firmly held from disengagement. The notches 43 prevent the arms from pulling longitudinally out of the hook-shaped shank end of the hook B.

When the ends of the hanger arms have been drawn into proper position the retaining arm 32 of the hook returns to normal position, blocking the disengagement of the arm ends from the shank hook. In other words, as soon as the overlapped arms pass the end of the retaining arm 32 the spring arm 30 returns to normal position indicated in Figure 4 so that the retaining arm 32 blocks disengagement of the hanger arm ends from the hook shaped shank of the hook.

It will be noted in Figures 1 and 2 of the drawings that the projection 17 is provided with a pointed extension 45 which lies along the straight portion 21 of the hook and holds this portion of the hook in place. A raised inclined shoulder 46 extends from the inclined surface 16 in spaced relation to the pointed extension 45 so as to guide the straight portion 21 of the hook into fixed position against the pointed extension 45.

It will also be noted that a raised shoulder 47 projects upwardly from the inclined surface 16 at the extremity of the arm 12 so as to engage against the rounded portions 24 and 29 of the hook. This shoulder 47 prevents the hook from being pulled longitudinally of the shank 23 as the hanger body is attached thereto and prevents distortion of the hook during assembly.

In accordance with the patent statutes, I have described the principles of construction and operation of my hanger hook attaching device, and while I have endeavored to set forth the best embodiment thereof, I desire to have it understood that obvious changes may be made within the scope of the following claims without departing from the spirit of my invention.

I claim:

1. An anvil for supporting hooks designed for attachment to garment hangers, the anvil including a base, a body extending upwardly from the base, an arm integral with the body and pro-

jecting to one side of the base, a substantially flat upper surface on said body and arm, a projection extending upwardly from said flat surface and including an arcuate projection having a pointed extension thereupon, said arcuate projection having tapered walls thereupon, a shoulder projecting upwardly from said flat surface in spaced relation to said pointed projection, said shoulder being spaced from said pointed projection to permit a portion of the hook to be inserted therebetween, a shoulder near the extremity of said arm projecting upwardly from said flat surface, said last named shoulder being designed for engagement with an end of the hook, and an elongated recess in said flat surface between said pointed projection and said last named shoulder, said recess being of sufficient depth so that the hook can be deformed into the recess when the hanger portion is assembled therewith.

2. An anvil for supporting hooks designed for attachment to garment hangers, the hooks having a rounded end and a projecting shank structure, the anvil including a body designed to support the hooks resting thereupon, the body having a flat upper surface, an arcuate projection having a pointed extension thereon extending upwardly from said base, said arcuate projection having tapered walls thereupon, a shoulder projecting upwardly from said flat surface in substantially parallel relation to one side of said pointed extension, said shoulder being spaced from the pointed

extension a distance sufficient to accommodate a portion of the hook therebetween, a shoulder projecting upwardly from said flat surface at a point spaced from the pointed extension and located substantially intersecting a plane through the axis of arcuation of the arcuate projection and through the pointed extension, said last named shoulder being designed for engagement with the end of the hook, an elongated recess in said flat surface between said pointed extension and said last named shoulder, said recess being of sufficient depth to permit a portion of the shank structure of the hook to be deformed thereinto when the hanger portion is assembled therewith.

JOHN H. MYERS.

References Cited in the file of this patent

UNITED STATES PATENTS

Number	Name	Date
491,282	Granger	Feb. 7, 1893
823,031	Buckley et al.	June 12, 1906
1,268,844	Holinger	June 11, 1918
1,820,163	Salz	Aug. 25, 1931
1,893,645	Godfrey	Jan. 10, 1933
1,922,608	Von Conta	Aug. 15, 1933
1,967,132	Pipes	July 17, 1934
2,011,105	Hanney	Aug. 13, 1935
2,210,360	Caldwell	Aug. 6, 1940
2,378,171	Alfandre	June 12, 1945
2,405,934	Alfandre	Aug. 20, 1946