Aug. 24, 1937. E. R. AMMON 2,090,883

HOSIERY INSPECTING DEVICE

Filed April 25, 1933 3 Sheets-Sheet 1

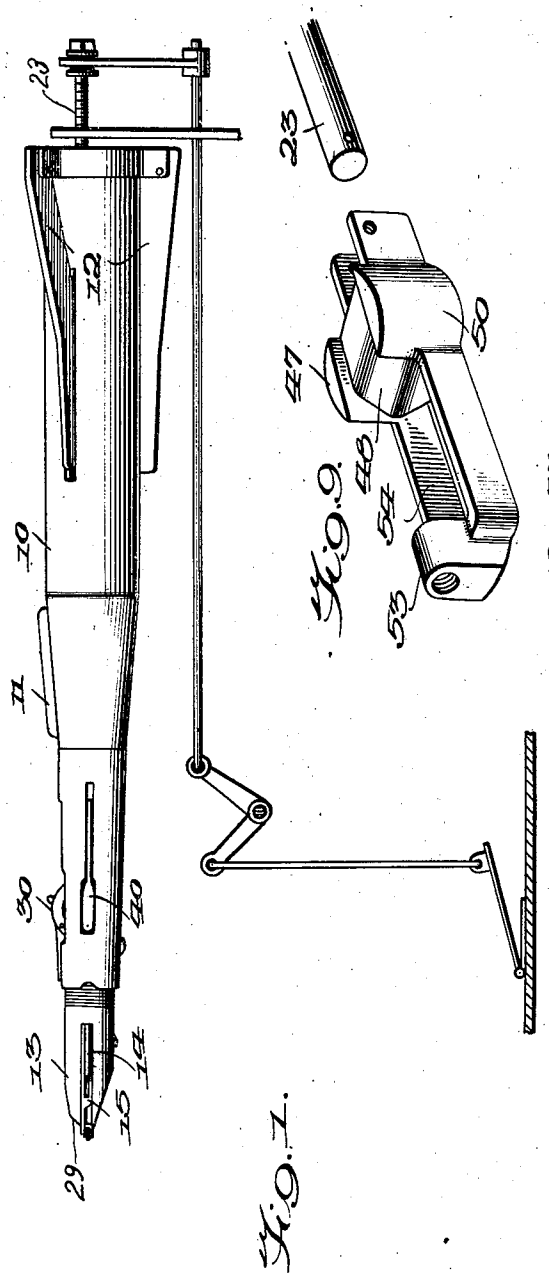


Fig. 1.

Fig. 9.

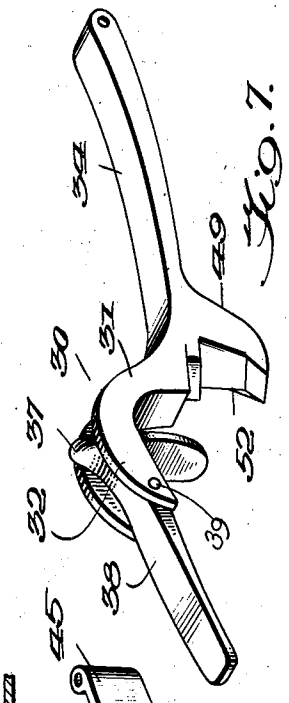


Fig. 7.

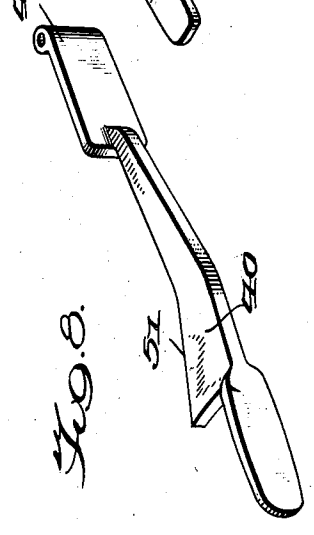


Fig. 8.

INVENTOR

BY Edward R. Ammon,
Edmund H. Parry Jr.
ATTORNEY

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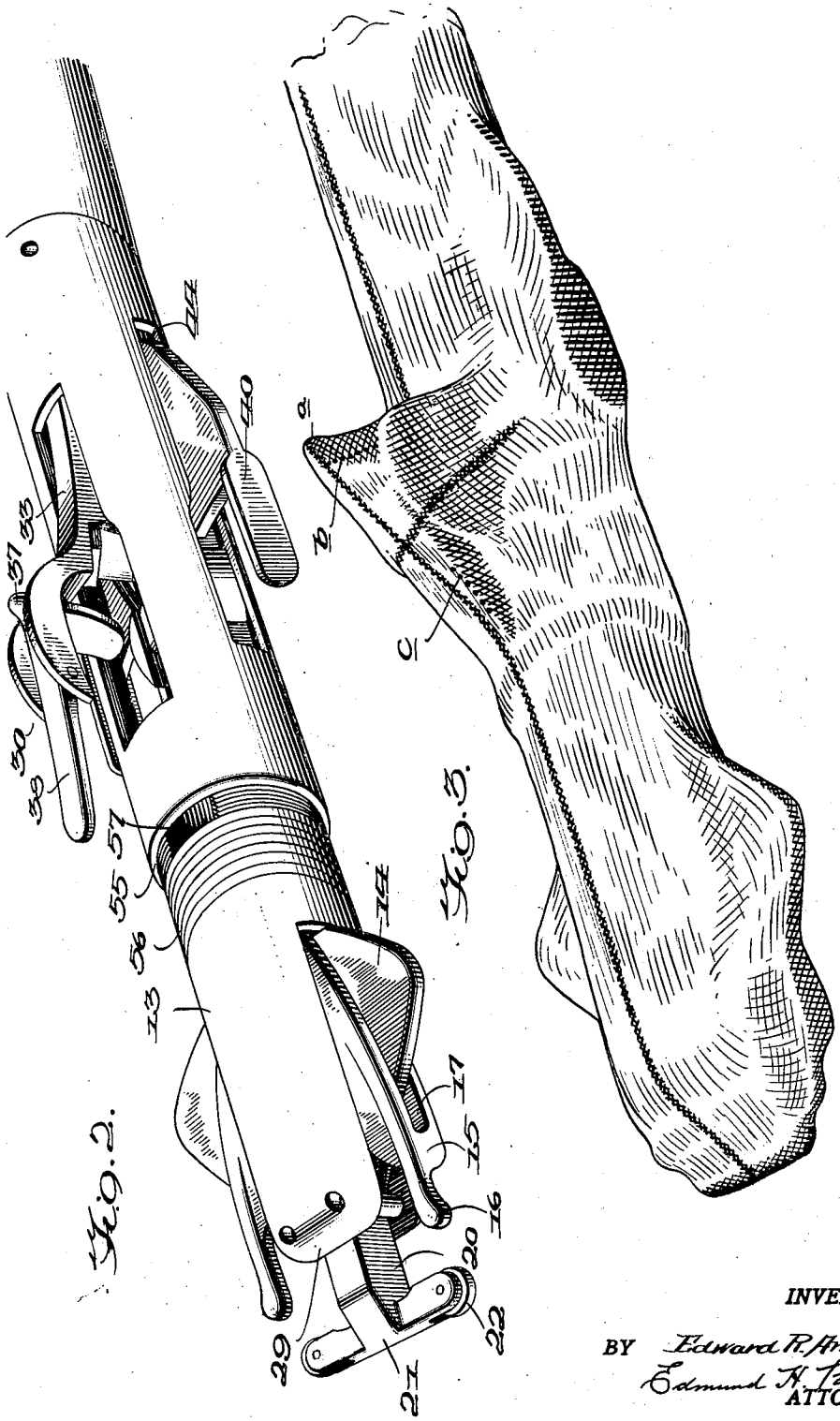


Fig. 2.

Fig. 3.

INVENTOR

BY Edward R. Ammon,
Edmund N. Parry
ATTORNEY

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HOSIERY INSPECTING DEVICE

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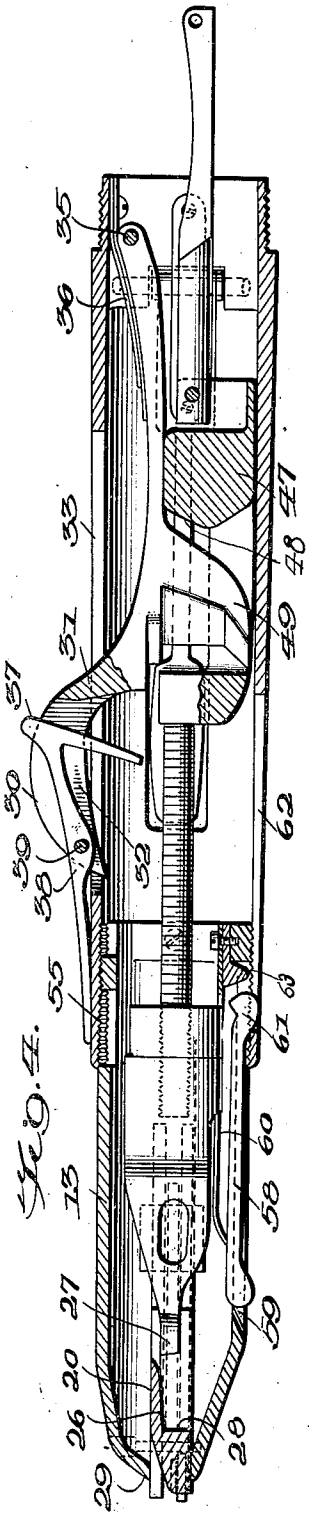


Fig. 4.

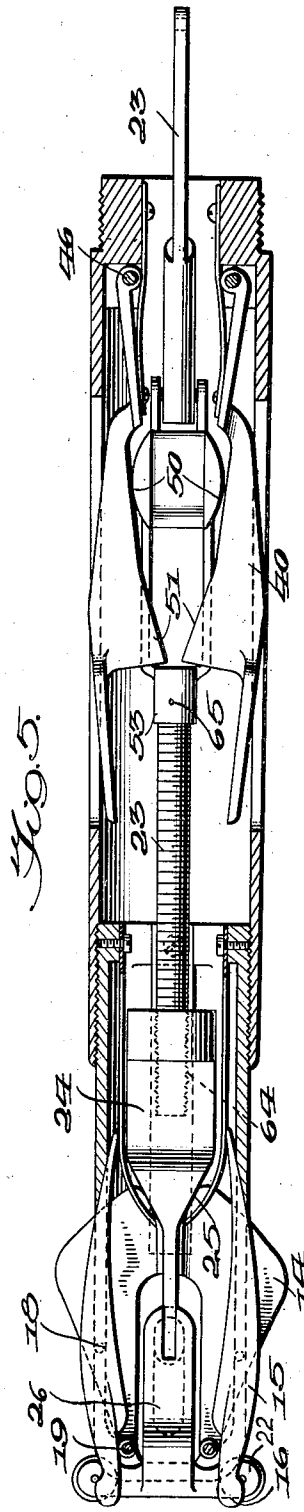


Fig. 5.

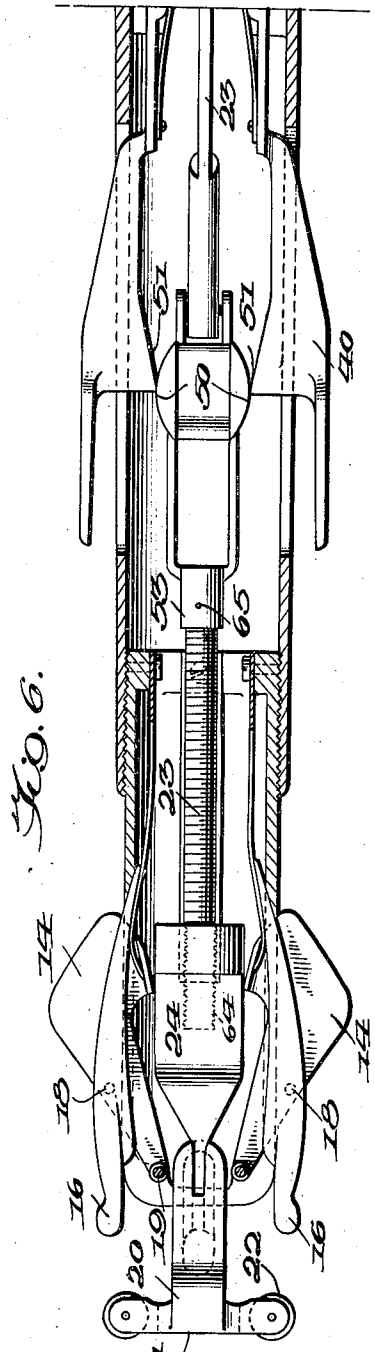


Fig. 6.

INVENTOR

BY Edward P. Ammon,
Edmund A. Tarry Jr.
ATTORNEY

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UNITED STATES PATENT OFFICE

2,090,883

HOSIERY INSPECTING DEVICE

Edward R. Ammon, Reading, Pa.

Application April 25, 1933, Serial No. 667,887

25 Claims. (Cl. 223—77)

This invention relates to improvements in hosiery inspecting devices which operate to subject stockings to an intensive stretch so that any defects therein may be readily located.

Such devices in general include expanding stretchers in or forming a part of some kind of supporting frame or form which are operative to engage and stretch the stocking fabric in the areas in which defects are likely to occur.

Because of variation in contour of stockings at different parts of their length a special problem arises in providing a stretching mechanism which will satisfactorily serve to distend the fabric in the desired areas. Difficulty is encountered particularly in stretching the stocking foot and heel portions, the difficulty being greatest when the articles are of the full fashioned type and embody a complicated structure for which simple forms of stretching mechanism are entirely inadequate.

The present invention is concerned particularly with the provision in a hosiery inspecting device of mechanism which will subject the entire heel pocket of a stocking together with the surrounding fabric to a distension such as necessary to proper inspection.

A further object of the invention is to provide a construction for an inspecting device which enables both the toe and heel of a stocking to be stretched in a single operation and without the necessity of manually shifting the stocking to enable a rigid stretching of both of these areas.

Separate toe and heel stretching means are provided which serve to effect simultaneous stretching of these several areas of the stocking, the arrangement being such that the portion of the foot between the toe and heel is also distended so that the instep fashioning area may also be inspected.

The stretching mechanism of the invention is constructed to engage designated parts of the toe and heel so that all vital areas will be thoroughly stretched. Since stockings vary in foot size, it is further proposed to provide for ready adjustment between the toe and heel engaging parts of the device so that the stretching mechanism may work to full advantage for all stocking sizes. In carrying out this idea it is specifically proposed to provide for longitudinal adjustment between the toe engaging mechanism and the heel pocket expanding mechanism.

Besides these and other objects of the invention which will become more apparent as the description proceeds, it is also proposed to construct the heel expanding mechanism in such manner as to automatically adjust itself to conform to the size and shape of the heel of each stocking inspected, the arrangement being such that the heels of all stockings will be stretched with equal efficiency.

In the accompanying drawings I have illustrated what I now deem to be preferred embodiments of the various features of my invention in association with a supporting form which I have found to be particularly satisfactory.

The invention will now be described with reference to such drawings wherein:

Fig. 1 is a plan view of a complete inspection device embodying the present invention;

Fig. 2 is a perspective view of a portion of the device of Fig. 1 illustrating the adjustable end portion and showing the members serving to stretch the toe and heel of a stocking in expanded position;

Fig. 3 is a view corresponding to Fig. 2 with a stocking in position illustrating how the operative stretching parts distend the various portions of the heel and toe;

Fig. 4 is a longitudinal side view of the portion of the device shown in Fig. 2 indicating the mounting of the toe and heel stretching members in the form and the actuating mechanism therefor;

Fig. 5 is a view corresponding to Fig. 4 but taken at right angles thereto from the upper side of the device;

Fig. 6 is a view similar to Fig. 5 but showing the toe and heel stretching members in expanded position as in Fig. 2;

Fig. 7 is a detailed view of the heel pocket stretching member;

Fig. 8 is a detailed view of one of the pair of stretching elements located opposite the heel pocket stretcher member and working at right angles thereto; and,

Fig. 9 is a detailed view of one type of expanding mechanism which may be used to actuate the stretching members of Figs. 7 and 8.

In Fig. 1 I have shown a hosiery inspection device comprising a frame or form 10, the same preferably, and as shown, comprising a straight tubular stocking supporting structure which supports the stocking with the leg and foot portions thereof in longitudinal alignment and in association with which independently constructed stretching members are provided adapted to engage certain designated areas of the stocking. In its general construction the inspecting device is similar to that shown in my prior Patent No. 1,727,499, dated September 10, 1929. As in that

patent, the device is provided with a series of recesses in the stocking supporting surface through which operate stretching members including the stocking calf stretcher 11. To engage the stocking welt and hold the stocking on the form the larger end of the device is provided with a plurality of stretching members 12, the same forming a part of the subject matter of my prior pending application Serial No. 479,757, filed September 4, 1930, wherein a more detailed description will be found.

The small forward end of the form is adapted to engage the stocking toe and in association therewith are provided a plurality of outwardly moving stretching members serving to distend all of the vital areas of the toe fabric. The toe stretching mechanism may be of the type shown in either my prior patent or prior application above identified. I have found, however, that for most efficient results the particular toe stretching mechanism illustrated in the present drawings is most effective. As best shown in Fig. 2 and in the interior views, Figs. 4 and 5, the toe end of the form 13 is longitudinally bifurcated to accommodate stretchers which are expansible outwardly in opposite directions from each side of the form. Each of these lateral stretchers are of compound construction and comprise a wing-like element 14 which is adapted to engage the toe fabric at a point removed from its extremity, subject the same to a lateral stretch and help to prevent the stocking foot from sliding forwardly towards the end of the form when further stretching means are brought into play; the other laterally moving element of the compound lateral toe stretching mechanism comprises the forwardly extending element 15 having a tip portion 16 which engages the side of the toe fabric just back of its extremity and which further serves to subject the looping across the end of the toe to a preliminary lateral stretch. Member 15 is slotted as shown at 17 in Fig. 2 and wing member 14 works out through such slot, being pivotally supported to member 15 at 18 as shown in Fig. 5. The wing members 14 are pivotally supported on the form at the forward end at point 19.

As above suggested, the light constructed compound laterally moving stretchers of the type just described are located on each side of the form in opposing relation. In order to subject the looping at the end of a stocking toe to an intense stretch and also to subject the entire end of the stocking foot to a longitudinal distension an element 20 is provided to project longitudinally outward through the extremity of the form end, the same as shown in Fig. 2 presenting forward fabric engaging surface 21. As the member 20 is projected outwardly the toe fabric will be subjected to an intense longitudinal stretch and at the same time because of the cooperation of the laterally stretching mechanism heretofore described the end of the toe will be subjected to a transverse stretch. To facilitate the distention of the toe looping rollers such as 22 are provided at each end of the forward fabric engaging surface 21 so that the fabric may readjust itself as the longitudinal member 20 moves outwardly.

To actuate the lateral and longitudinal stretching elements an actuating rod 23 shown in Fig. 1 is provided, the same being operated by suitable mechanism to move longitudinally within the form. The portion of the actuating mechanism in the forward part of the toe as shown in Fig. 5 includes a wedge-shaped cam 24 adapted to engage cam surface 25 on the inner edges of the opposing laterally movable wing elements 14. As the cam is projected forwardly by the actuating rod 23 the wing elements are moved outwardly, and at the same time the laterally movable elements 15 together with their tip portions 16 are also projected due to their pivotal connection 18 with the wing members. As best shown in Fig. 4, the longitudinally movable stretcher 20 is provided with a slot 26 in which works the end extremity 27 of the actuating rod 23. The purpose of this slot is to enable the cam 24 to expand the laterally movable stretchers prior to the operation of the longitudinal stretcher. After the cam 24 has moved forward a predetermined distance the extremity 27 of the actuating rod will engage the shoulder 28 of the longitudinal member (see Fig. 4), and will project the member forwardly. The fully expanded position of all the toe stretching parts is indicated in Fig. 6.

The toe expanding mechanism just described has been explained only for the purpose of enabling a complete understanding of the preferred structure of my complete inspecting device as illustrated in the drawings. The same is not specifically claimed as a part of the present invention, but forms the subject matter of a separate application, Serial No. 667,883, filed of even date with the present case. Within the scope of the present invention other types of toe expanding mechanism may be employed in cooperative association with the structural features now to be described, and in the present invention toe stretching mechanism is claimed broadly in combination with other, novel elements.

I have in the past found it particularly difficult to stretch the heel of a stocking. In some instances I have utilized the mechanism at the end of the form which also serves to stretch the toe. This, however, offers a disadvantage in that the stocking has to be shifted to bring the toe and heel successively onto the end of the form with resulting loss in time. Again I have found that the stretching mechanism which I have developed for the toe will not, because of its different construction and shape, also serve to fully distend the heel fabric. According to the present invention I have provided a special heel expanding mechanism additional to the toe expanding mechanism and so arranged that both the heel and toe are subject to a simultaneous stretch in a single operation.

Referring to Fig. 1, I have indicated a heel pocket expanding mechanism 30. In association with the form 10 at a point rearwardly of the toe supporting portion 13 the heel pocket stretcher will be located at a distance from the extremity 29 of the end portion corresponding generally to the length of a stocking foot.

Stretcher 30, as best shown in Fig. 7, should include an upwardly extending portion 31 and a forwardly extending continuation 32 which present a fabric engaging surface of generally curved contour adapted to engage the rear and under side of the stocking heel pocket. As applied to the tubular type of hosiery inspecting device illustrated the heel pocket stretcher 30 will work laterally outward through a recess 33 provided in the surface of the form as best shown in Fig. 2. To operatively support the stretcher, the same as shown in the detailed view of Fig. 7 may be provided with a rearwardly extending continuation 34, which may be pivotally secured to the form at point 35 as indicated in Fig. 4. A spring

36 may be provided to normally retain the heel stretcher in retracted position.

The heel pockets of full fashioned stockings are not generally fully rounded but present a pronounced corner, and I find it desirable to make special provision to fully distend the heel corner since the seaming and fashioning in such area are a frequent source of defects. I therefore provide the heel pocket stretcher 30 with a protuberant tip 37 adapted to engage the heel corner, the same together with the rounded surface of the portions 31 and 32 of the stretcher serving to fully distend the heel pocket.

In order to produce an equalized and thorough stretch of the heel corner and in order to render the heel stretcher equally effective for stockings wherein the shape and size of the heel may vary to some degree, I find it desirable to construct the tip 37 so as to be movable relative to the heel pocket stretcher 30. To this end I provide a longitudinal extending fabric engaging element 38 which carries the protuberant tip 37 at its rear end. The stretcher 30 as best shown in Fig. 7 is provided with a cut-out portion in its stocking engaging surface in which longitudinal element 38 will seat. The element 38 is of substantial length and is pivoted at a point 39 between its ends in the recess of the heel pocket stretcher 30.

The portion of the longitudinal element 38 which projects forwardly of the pivoted point serves a two-fold purpose. As the heel stretcher 30 is expanded laterally from the form by actuating mechanism hereafter to be described the protuberant tip 37 will engage the corner of the heel. The resistance to stretch exerted by the portion of the stocking foot lying just forward of the heel will tend to retard the movement of the forward portion of the element 38, thus causing the tip 37 to move further outwardly to thoroughly stretch the heel corner. Again, since the element 38 is carried by the laterally moving heel stretcher 30 it is obvious that the same must itself experience a substantial lateral movement which is taken advantage of to thoroughly stretch the instep portion of the foot which lies forwardly of the heel pocket. Usually the foot is fashioned in the instep portion and the stretch attained enables a proper inspection of such fashioned areas.

The heel stretcher 30 with its pivotal element 38 will be projectable laterally from the form in a direction at right angles to the plane of movement of the laterally movable toe stretchers 14 and 15 heretofore described, such relation being clearly shown in Fig. 2. To fully expand the entire heel pocket and the surrounding fabric, I deem it advisable to use in association with the stretcher 30 a pair of side stretchers 40, which are disposed in transverse alignment with the heel pocket stretcher and projectable outwardly from opposite sides of the form as best shown in Figs. 5 and 6. Preferably, and as shown in Figs. 1 and 2, the side heel stretchers 40 will lie in general longitudinal alignment with the lateral toe stretching members 14 and 15, although this is not necessary. The main point is that the pair of oppositely movable side stretchers 40 should lie one on one side, and the other on the other side of the heel pocket stretcher 30 and be projectable outwardly at an angle thereto. As applied to the tubular stocking supporting form 10 shown in the drawings, the side heel stretching members 40 might take the form illustrated in the detailed view of Fig. 8. The same may seat in recesses such as 41 in the surface of the form and be pivotally supported at their rear end 45 to the form at point 46 (see Fig. 5).

The heel pocket stretcher and the side heel stretchers are shown in fully expanded position in Fig. 2. The manner in which these members serve to stretch the heel pocket and surrounding fabric may be fully appreciated by a consideration of Fig. 3, which comprises a corresponding view of the form with the stocking in position thereon. From these two views taken in connection with Figure 1, it will be seen that the heel stretcher presents a rear edge portion which in operation projects with a forward tilt to the straight longitudinal surface of the form, the same being engageable with the rear surface of the stocking heel to distend the same with a forward tilt to the form body and the adjoining leg and foot portions of the stocking supported thereon. This is particularly important in order to stretch the heel pocket out from the form in its correct relation to the other parts of the stocking and obtain the necessary distension thereof without creating excessive tension in the lighter instep fabric of the stocking on the opposite side of the form. The forwardly extending portion of the heel stretcher, represented by the member 38, engages the under edge of the stocking heel, so that in cooperation with the rear edge portion the whole heel pocket is distended laterally away from the form. Such forwardly extending edge portion in operation inclines rearwardly with respect to the surface of the form so that the whole heel is distended with a forward tilt. The rear edge portion and forwardly projecting edge portion of the heel stretcher meet each other in the protuberant tip 37. It will be noted how the protuberant tip 37 engages the heel corner *a* to distend the same and also stretch the fabric to locate any defects in the heel fashioning *b*. The manner in which the forward portion of the longitudinal element 38 operates to force the heel tip projection outwardly and also the stretch produced in the instep portion of the stocking along the instep fashioning *c* will also be observed. The heel stretching member will preferably be formed to include all three of the fabric engaging portions just referred to, as a thorough overall stretch of the whole pocket can best be obtained when the member engages the heel corner and the rear and under surfaces of the pocket. However, at some sacrifice in the degree of stretch, the member may be modified within the scope of the invention to engage the heel pocket in only one or two of these areas. This is particularly true where additional side stretchers 40 are provided to supplement and accentuate the action of the heel pocket member.

With further reference to the heel stretcher it is important to note that the same is so mounted in the form, through the pivotal connection 35, that as the stretcher moves out in a generally lateral direction, it swings rearwardly, thus moving the rear edge portion of the stretcher through an arc. Since the toe portion of the stocking is supported on the end of the form it will be evident that the swinging movement of the heel stretcher, operating through the rear edge of such stretcher, effects a certain amount of stretch in the heel and the adjoining foot portion of the stocking in a direction more or less longitudinally of the form, at the same time the heel pocket is distended laterally because of the laterally outward movement of the heel stretcher.

To operate the heel stretcher 30 and the side

heel stretchers 40, the actuating rod 23, heretofore referred to, is provided with a cam generally designated by the reference character 47 and best shown in Fig. 9. Considering Figs. 4 and 5 and in connection therewith Fig. 9 it will be noted that the cam is provided with a cam surface 48 which engages a coacting surface 49 on the heel pocket expander 30 (see Fig. 7). To actuate the side heel expanders 40 the element 47 is provided with opposing cam surfaces 50 adapted to coact with corresponding surfaces 51 on the inner sides of the side heel stretchers 40 (see Fig. 8). As shown in Fig. 5, the corresponding cam surfaces on the oppositely disposed side heel stretchers 40 come close together at their inner ends so that the cam surfaces 50 of the cam member 47 will serve to throw them a substantial distance outwardly from the sides of the form. Since the cam portion 49 of the heel stretcher 30 projects downwardly well into the form in order to be thrown well outward by the cam surface 48 it is found desirable to bevel cam portion 49 at its forward end as indicated by the numeral 52 in Fig. 7. By this expedient the cam portion 49 of the heel pocket stretcher may be made to conveniently seat between the cam surface 51 of the side heel stretchers when the several stretchers are in retracted position.

Referring again to Fig. 9, it will be noted that the cam surfaces 50 project upwardly beyond the cam surface 48, providing shoulders which, with the cam surface 48, will form a guide for the rear portion 34 and the cam portion 49 of the heel pocket stretcher 30. It is desirable so to dispose the cam surface 51 of the side heel stretchers and the cam portion 49 of the heel pocket stretcher relative to each other so that the heel pocket stretcher 30 will be projected outwardly slightly in advance of the expansion of the side heel stretchers, such arrangement insuring proper engagement of the various parts of the heel pocket stretcher before the side heel stretchers become operative.

To provide for the actuation of the toe expanding elements of the device the cam member 47 receives an extension of the rod 23 at its forward end 53. Intermediate the cam surfaces 48 and 50 and the forward end 53 the member 47 is bifurcated as indicated by the reference character 54 in Fig. 9, the recess thus provided being adapted to receive the cam portion 49 of the heel stretcher 30. The extension of the actuating rod 23 at its forward end engages the cam 24 operating the lateral toe expanders 14 and 15. The extremity 27 which actuates the longitudinally movable toe stretcher 20 may, as shown in Figs. 4 and 5, be formed as an extension of the cam 24.

In order to render the heel stretching mechanism including the heel pocket stretcher 30 and the side heel stretchers 40 effective for stockings having different foot sizes it is obviously necessary to provide for longitudinal adjustment between the extremity 29 of the toe engaging portion of the form and the heel stretching mechanism, it being understood, of course, that the stocking is drawn up on the form until the end of the toe portion abuts against the extremity 29 so as to determine the position of the stocking heel pocket longitudinally of the supporting form. To accomplish this result, the toe portion 13 which carries the toe expanding mechanism may be made longitudinally adjustable relative to the main body of the supporting form 10. In such event the heel expanding mechanism including the heel pocket stretcher and the side heel stretchers will be mounted in the stationary part of the form rearwardly of the adjustable end portion. In order to provide a continuous stocking supporting surface for the parts of the stocking foot lying between the toe and heel the toe supporting end portion may be mounted in telescopic relation with the main body portion of the form. Adjustment may be provided as shown in Figs. 2 and 4 by screw threading the end portion into the body portion as indicated by the reference character 55. With such an arrangement it is obvious that by rotating the end portion 13 the same will be adjusted longitudinally in or out to shorten or lengthen the distance between the heel pocket stretcher 30 and the extremity 29 of the end portion. That is to say, the portion of the supporting form including the toe expanding mechanism which lies forwardly of the heel portion will be lengthened or shortened to accommodate different foot sizes. In order that the operator may be able to readily adjust the end portion to the proper foot size a scale in the form of a series of graduations 56 may be located on the extensible end portion which will be read with reference to the extremity 57 of the main body portion of the form, all as shown in Fig. 2.

In order to provide against rotation of the end portion 13 except during intended adjustment thereof a locking connection should be provided. The same may conveniently comprise a longitudinally slidable member 58 seating in a slot 59 on the under side of the end portion 13 held in place by a spring 60. The element 58 will be longitudinally slidable and provided with an enlargement 61 adapted to engage a recess 62 in the main body portion of the form 10, all as shown in Fig. 4. To render the locking bar 58 effective it is only necessary to push the same rearwardly, whereupon it will engage a shoulder 63 mounted within the form and be projected thereby into the slot 62. When this is done the end portion 13 will be locked against rotation with respect to the main body of the form. When it is desired to adjust the end portion it is only necessary to draw the locking bar 58 forward and out of engagement with the recess 62 whereupon the same may be freely rotated to any new longitudinal position.

Where the toe end of the form is made adjustable as just described, it is, of course necessary to make provision to compensate the actuating rod 23 for the longitudinal change in length of the form so that the operation of the toe expanding elements will be the same in any adjusted position of the end portion 13. To this end a longitudinally adjustable connection is made between the extension of the actuating rod 23 and the toe stretcher actuating cam 24. As shown in Figs. 4 and 5 the cam member 24 is provided with a long bore 64. The extension of the actuating rod 23 is threaded for at least a substantial portion of its length and a corresponding thread is provided in the bore of the cam. The threading will be the same as the threading 55 between the end portion 13 and the main form body so that rotative adjustment of the end portion will correspondingly effect a lengthening or shortening of the actuating rod extension. To prevent the rear end of the actuating rod from turning with respect to the forward end 53 of the heel stretcher actuating cam 47 a pin 65 may be inserted to lock the rod against rotation.

It will thus be seen that I have provided a stocking inspecting device which will efficiently serve to distend the whole foot portion of a stocking in all vital areas for which careful inspection is necessary. The arrangement is such that the stocking may be positioned on the supporting form or frame and the toe and heel portions stretched simultaneously in a single operation. By providing for longitudinal adjustment between the toe engaging portion of the form and the heel expanding mechanism the device is made capable of use for stretching stockings of all foot sizes. It is only necessary to refer to Fig. 3 to see that all of the vital structural portions of full fashioned stockings are distended so that any defects may be readily located. I find from actual tests that the structural mechanism, depending upon the amount of power applied to the actuating rod 23 may be made to distend the stocking to any desired amount.

So far as I am aware I am the first to provide for the proper stretching of the stocking heel in a satisfactory manner, and further that I am the first to provide a hosiery inspecting device in which the stocking toe and heel are simultaneously subjected to a substantial stretch in a single operation. I therefore do not intend to be limited in the practice of my invention to all of the details of the various stretching members described and shown, nor to the particular type of stocking supporting form indicated. It will be obvious to those skilled in the art that some variation in these various parts of the device by way of modification or equivalency may be made without departing from the scope of my invention as indicated by the appended claims.

I claim:

1. A hosiery inspecting device including a straight stocking supporting form having a stocking toe engaging end and supporting the leg and foot portions of the stocking in longitudinal alinement, oppositely located means adjacent said end expansible outwardly in opposite directions for stretching the stocking toe, stocking heel pocket stretching means presenting surfaces engageable with the rear and under sides of the heel pocket located rearwardly of the toe end and movable outwardly from the surface of the form in a direction at right angles to the direction of movement of the toe stretching means, said heel stretching member having a pivotal support in the form causing the same when actuated to swing in a direction away from the toe supporting end of the form, and mechanism for actuating the toe and heel stretching means.

2. A hosiery inspecting device including a stocking supporting form having an end portion adapted to engage the toe end of a stocking, laterally movable stocking heel pocket engaging and stretching means located rearwardly of and in spaced relation with the end portion, actuating means for operating said heel stretching means, and means independent of said actuating means to adjust the distance between the end portion of the form and said heel stretching means.

3. A hosiery inspecting device including a stocking supporting form, a stretching member shaped to engage and stretch the stocking heel pocket movable laterally outward from said form, the form being provided with an end portion engageable with the stocking toe which is longitudinally adjustable with respect to and independently of the heel pocket stretcher.

4. A hosiery inspecting device including a stocking supporting form having a longitudinally adjustable end portion adapted to engage the toe end of a stocking, the end portion including expansible toe stretching means, actuating means extending through the form for operating the toe stretching means together with means for compensating the actuating means for longitudinal adjustment of the end portion.

5. A hosiery inspecting device including a supporting form and means for extending the stocking heel pocket, said means comprising a member movable outwardly from the form having a curved shape corresponding to the shape of the stocking heel pocket and provided on its outer fabric engaging surface with a movable element adapted to engage the corner of the heel pocket, which element is projectable outwardly beyond the surface of the member.

6. A hosiery inspecting device including a supporting form and a stocking stretcher expansible laterally from the form, said stretcher comprising a member movable outwardly from the form carrying a fabric engaging element extending longitudinally of the form and pivotally supported at a point intermediate its ends by said member.

7. A hosiery inspecting device including a supporting form and a stocking stretcher expansible laterally from the form, said stretcher comprising a fabric engaging element extending longitudinally of the form provided on its outer surface with a small protuberance adapted to engage the corner of the stocking heel pocket and a member movable laterally of the form, the longitudinal element being pivotally supported at a point between the protuberance and its forward end by the laterally movable member.

8. A hosiery inspecting device including a supporting form and a stocking heel pocket stretcher expansible laterally from the form, said stretcher including a longitudinally extending member movable laterally from the form having an outer surface shaped to conform generally to the contour of the heel pocket, a recess in the surface of said member, and a fabric stretching element movably mounted in said recess.

9. A hosiery inspecting device including a tubular stocking supporting form having a main body portion and a stocking toe engaging end portion screw threaded into the body portion and longitudinally adjustable by rotation to vary the length of the form, and locking means between the end portion and the body portion including a slot and detent adapted to maintain the end portion in suitably adjusted position and against rotation, the slot in one portion being elongated and being registrable with the detent in the other portion at any longitudinally adjusted position.

10. A hosiery inspecting device comprising a straight form receiving and supporting a stocking with the leg and foot portions thereof in longitudinal alinement, said form including a toe engaging forward end portion and longitudinally extending side surfaces, and a movable stretching member located rearwardly of said toe end in spaced relation thereto at the instep area and mounted to be projectable outward laterally from the form to engage and stretch the stocking heel pocket of a stocking supported on the form, said member having a forwardly sloping rear edge fabric engaging portion engageable with the rear surface of the heel pocket and distending the same with a forward tilt with respect to the longitudinal supporting surface of the form, and actuating means to project said stretching member.

11. A hosiery inspecting device comprising a straight form adapted to receive and support a stocking with the leg and foot portions thereof in longitudinal alinement, said form including a toe engaging forward end and longitudinally extending supporting side surfaces, and a movable stretching member located rearwardly of said toe end in spaced relation thereto at the instep area and mounted to be projectable outward laterally from the form to engage and stretch the stocking heel pocket, said member being shaped to penetrate to the full depth of the heel pocket, and having a rear fabric engaging surface portion engageable with the rear surface of the heel pocket, said rear surface portion when the member is projected inclining forwardly with respect to the longitudinal surface of the form to distend the heel at an inclined angle to the stocking foot and leg portions, and actuating means to project said stretching member.

12. A hosiery inspecting device comprising a straight supporting form including a stocking toe engaging forward end and an intermediate portion rearwardly of said end presenting a longitudinally straight surface adapted to support the stocking instep area, a stretching member movably mounted for movement outward from the side of the form opposite the instep supporting portion adapted to expand laterally the stocking heel pocket, said stretching member having a fabric engaging surface including a rear edge portion engageable with the rear surface of the heel pocket, and a second edge portion extending forwardly of said rear edge portion engageable with the undersurface of the heel, the rear edge portion of the stretching member projecting forwardly at a slope to the longitudinal supporting surface of the form, and actuating means operative to project said stretching member.

13. A hosiery inspecting device comprising a straight form receiving and supporting a stocking with the leg and foot portions thereof in longitudinal alinement, said form including a toe engaging forward end and longitudinally extending side surfaces, and a movable stretching member located at the stocking instep supporting area of the form rearwardly of said toe end in spaced relation thereto and mounted to be projectable outward laterally from the form to engage and stretch the heel pocket of a stocking supported on the form, said member presenting a rear fabric engaging edge portion and a fabric engaging edge portion extending angularly forward from said rear edge portion adapted to engage the rear and under surfaces of the heel, said rear edge portion meeting the forward edge portion of said member in a pronounced fabric engaging corner and projecting at a forward slope to the longitudinal supporting surface of the form so as to distend the heel pocket and project the same at a forward tilt with respect to the form surface, and actuating means operative to project the heel stretching member.

14. A hosiery inspecting device comprising a straight supporting form including a stocking toe engaging forward end and an intermediate portion rearwardly of said toe end presenting a longitudinally straight surface adapted to support the stocking instep area, a stretching member mounted for movement outward from the side of the form opposite the instep supporting surface adapted to expand laterally the heel pocket of a stocking supported on the form, said stretching member presenting coacting adjacent fabric engaging edge portions one forward of and extending angularly to the other and both projecting at an incline to the longitudinal surface of the form, one edge portion engaging the undersurface and the other the rear surface of the heel pocket and distending the heel pocket away from the form with a rearward incline to the under heel surface and a forward incline to the rear heel surface, and actuating means operative to project the heel pocket stretcher.

15. A hosiery inspecting device, comprising a straight form adapted to receive and support a stocking with the leg and foot portions thereof in longitudinal alinement, said form including a toe engaging forward end and longitudinally extending stocking supporting side surfaces, and a movable stretching member located at the stocking instep area of the form rearwardly of said toe end in spaced relation thereto and mounted to be projectable outward laterally from the form to engage and stretch the heel pocket of a stocking supported on the form, said member being shaped to present forward and rear surfaces which are both disposed angularly to the form with respect to its longitudinal extent and permit the member to penetrate to the full depth of the heel pocket so as to insure stretching of the whole heel, said member at its outer end terminating in a small protuberant tip engageable with the corner formed at the meeting point of the rear and under surfaces of the heel pocket, and actuating means operative to project the heel stretching member.

16. A hosiery inspecting device comprising a straight form body receiving and supporting a stocking with the foot and leg portions thereof in longitudinal alinement and providing an intermediate surface area supporting the stocking instep, and a movably mounted fabric stretching member projectable outward from the side surface of the form opposite the instep supporting area thereof into the stocking heel pocket and having a fabric engaging surface shaped to distend the heel pocket outward beyond the fabric supporting part of the form adjoining the rear of said heel stretcher and at a forward tilt with respect to the longitudinal surface of the form, and actuating means within the form operative to project said heel pocket stretcher.

17. A hosiery inspecting device comprising a straight form receiving and supporting a stocking with the foot and leg portions in longitudinal alinement and terminating in a forward stocking toe engaging end, a stretching member having a fabric engaging surface including a rear portion adapted to engage the rear surface of the heel pocket mounted in the side of the form at the instep portion thereof, said heel stretching member being mounted for movement laterally outward beyond the side of the form and also being capable of swinging movement rearwardly away from the toe engaging forward end of the form so as to effect through its rear heel engaging edge a stretch in the heel in a direction longitudinally of the form as well as stretching the heel laterally away from the form, and operating means in the form for moving the heel stretcher laterally outward and swinging the same rearwardly.

18. A hosiery inspecting device comprising a straight form receiving and supporting a stocking with the foot and leg portions thereof in longitudinal alinement and terminating in a stocking toe engaging forward end, a movable heel stretching member movable outwardly from the side of the form at the instep portion thereof and adapted to engage and stretch the heel pock-

et laterally away from the form, said stretching member including a rear edge portion engageable with the rear surface of the heel actuating means for operating the stretching member, and a pivotal mounting for said heel stretcher in the form adapted as the actuating means is operated to cause the stretcher to swing rearwardly away from the toe engaging forward end portion of the form simultaneously as said stretcher is projected outward laterally from the side of the form, whereby to stretch the heel in a direction longitudinally of the form and laterally away from the form.

19. A straight hosiery inspecting form adapted to support the leg and foot portions of a stocking in longitudinal alignment, said form terminating at one end in a stocking toe engaging extremity and including means to laterally stretch the stocking toe, a stretching member positioned rearwardly of the toe end at the instep area of the form shaped to be receivable within the stocking heel pocket and mounted for movement outward laterally from the form so as to project and stretch the heel pocket outward beyond the fabric supporting part of the form adjoining the rear end of said heel stretcher, and means to actuate the toe and heel stretchers.

20. A straight hosiery inspecting form adapted to support the leg and foot portions of a stocking in longitudinal alignment, said form terminating at one end in a stocking toe engaging extremity and including means to laterally stretch the stocking toe, a stretching member mounted for movement outward laterally from the form at the instep area rearwardly of the toe end, said stretching member being shaped to be insertable into the stocking heel pocket and having an operating surface inclined to the longitudinal surface of the instep area of the form and engageable with the heel pocket to project the heel outward beyond the fabric supporting part of the form adjoining the rear of said heel stretcher and at a forward tilt to the longitudinal surface of the form, and means for operating the toe and heel stretchers.

21. A hosiery inspecting device having an end portion adapted to engage the stocking toe, a stretching member spaced rearwardly from said toe end and mounted for movement outward laterally to engage and stretch the stocking heel pocket, oppositely disposed stretching members operating in the instep area of the stocking located one on each side of said heel pocket stretcher and having fabric engaging surfaces in substantial transverse alignment with the heel pocket stretcher, said opposing members being mounted for movement outward laterally in opposite directions to further stretch the stocking heel pocket, and actuating means to expand the several stretching members.

22. A hosiery inspecting device including a form providing a stocking supporting surface and having an end portion adapted to engage the stocking toe, a recess in the form surface in spaced relation with said end seating a stretching member, said stretching member being shaped to engage the stocking heel pocket and mounted for movement outward laterally from the form to stretch the heel pocket, a pair of oppositely disposed openings in the instep area of the form surface one on each side of the heel stretcher recess, stocking stretching members mounted to be projectable laterally outward through said opposing openings presenting fabric engaging surfaces in substantial transverse alignment with the heel pocket stretcher, and means for actuating the several stretching members.

23. A hosiery inspecting form presenting one end adapted to support the toe end of a stocking, a stretching member positioned rearwardly of the toe end at the instep area of the form shaped to be receivable within the stocking heel pocket and mounted for movement outward laterally from the form to project and stretch the heel pocket, opposing members at each side of the heel pocket stretcher having fabric engaging surfaces laterally opposite the heel pocket stretcher, said opposing members being supported for movement laterally in opposite directions to expand the stocking instep fabric and augment the action of the heel stretcher in stretching the stocking heel pocket, means at the toe end of the form for laterally expanding the stocking toe, and actuating means to operate the several stretching parts.

24. A hosiery inspecting form terminating in a fabric supporting end and adapted to receive and support a stocking for inspection with the stocking toe extremity engaged by the extremity of the fabric supporting end, a stretching member having a fabric engaging surface shaped to engage a designated part of the stocking fabric and mounted on the form for movement outward laterally, actuating means to force said stretching member outward to stretch and create a tension in the area of the stocking fabric engaged by the member, and means adjustably operable independently of the stretcher actuating means to vary the longitudinal distance between the end extremity of the form and the stretching member and bring said stretching member and the particular part of the stocking which the member is shaped to engage into operative relation, whereby said stocking part will be properly stretched and tensioned for inspection.

25. In a hosiery inspecting form, an independently formed stocking toe engaging end portion mounted on, and in alignment with, the main form body, said toe end portion including opposing fabric engaging members supported for movement laterally away from each other to laterally stretch the stocking toe, a stretching member mounted on the main body of the form rearwardly of said end portion for movement outward laterally of the form and shaped to be receivable within the stocking heel pocket, and means to expand the toe and heel stretchers, the toe end portion being mounted for adjustment longitudinally of the main form body to vary the distance between the outer extremity of said end portion and the heel stretcher, thereby enabling stockings of different foot size to be supported on the form with their toe engaged by the end portion and their heel pocket in proper position for engagement by the heel stretcher.

EDWARD R. AMMON.