

May 29, 1956

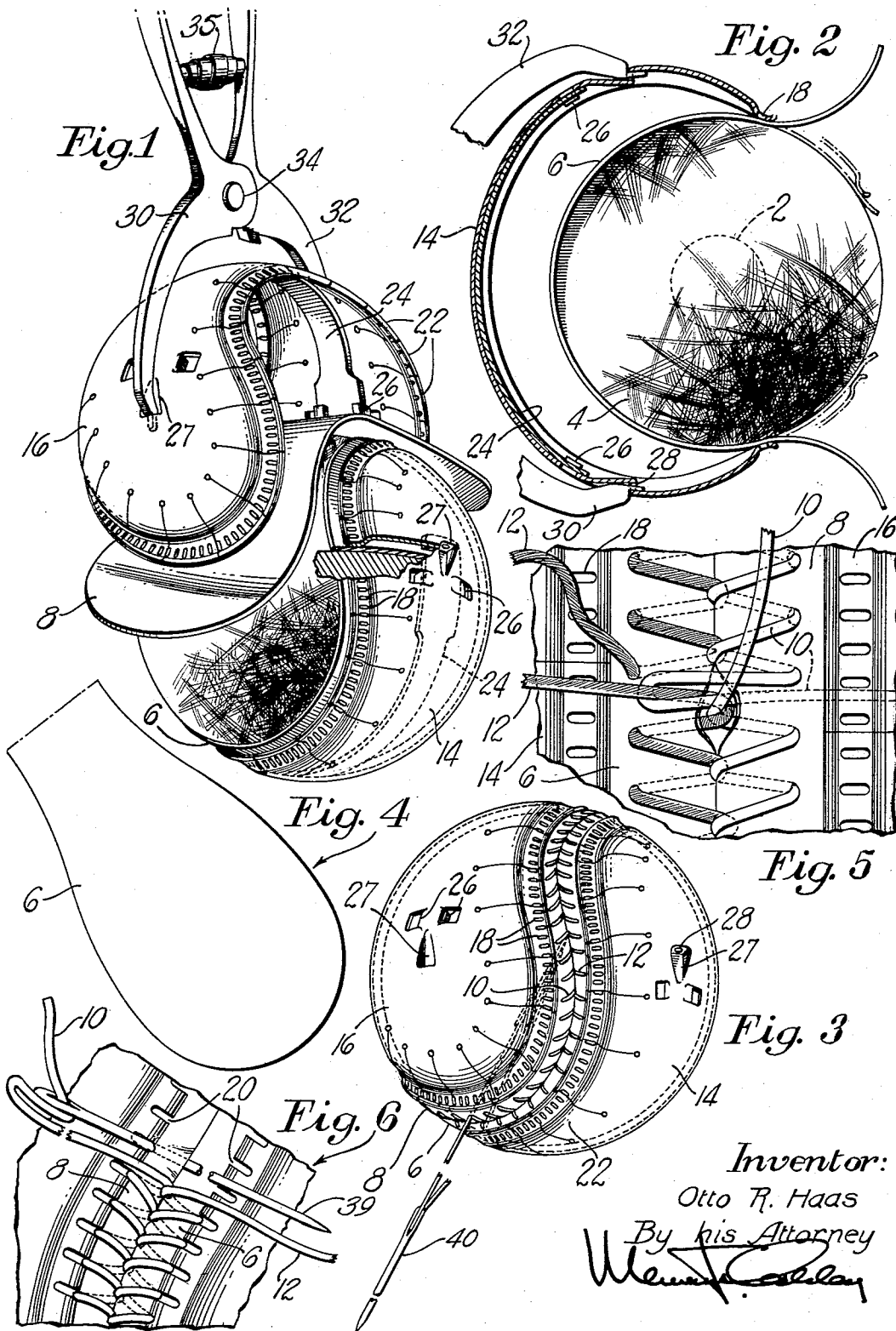
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2,747,529

BASEBALL SEWING APPARATUS

Filed July 12, 1952

3 Sheets-Sheet 1



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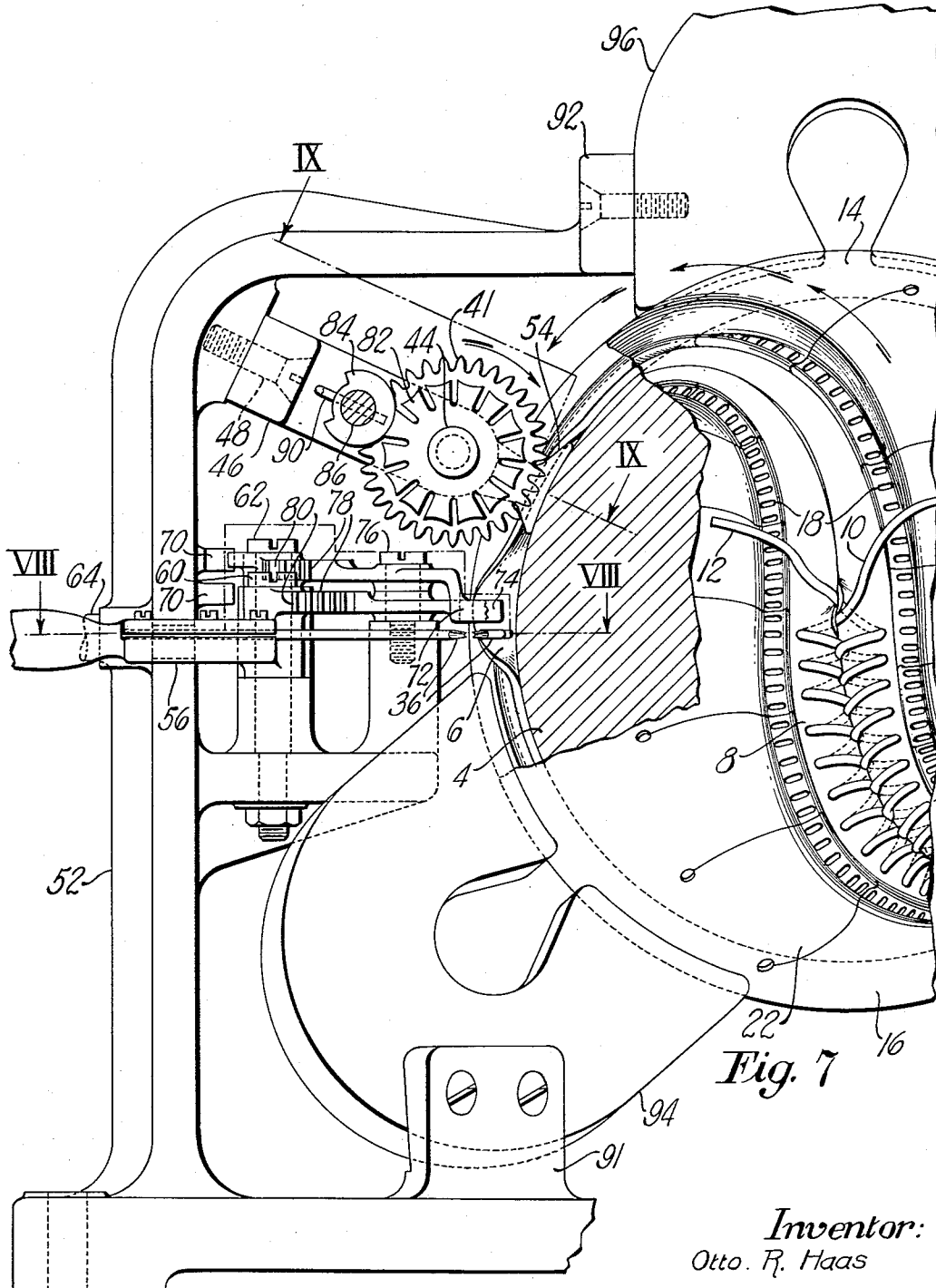
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BASEBALL SEWING APPARATUS

Filed July 12, 1952

3 Sheets-Sheet 2



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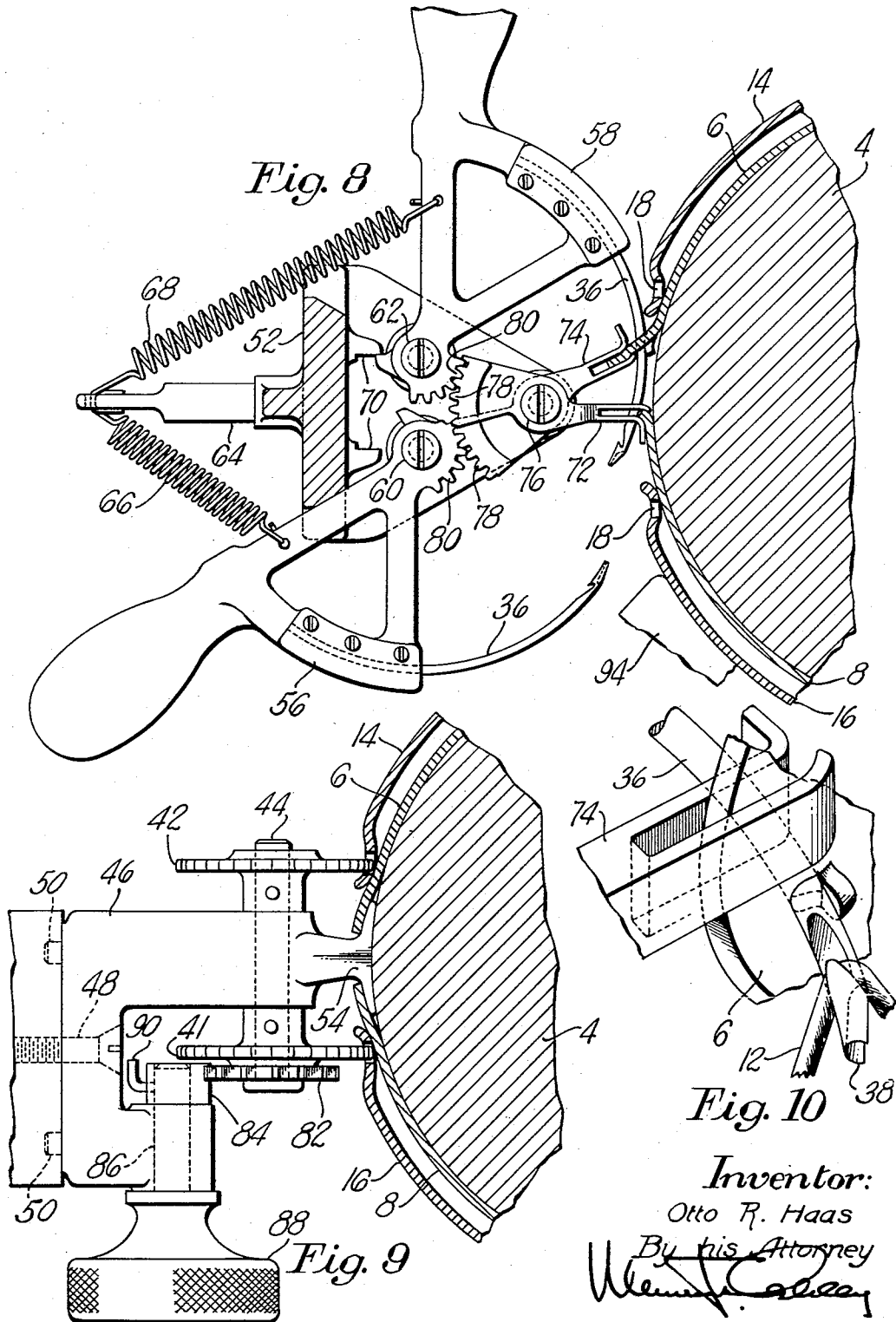
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BASEBALL SEWING APPARATUS

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2,747,529

BASEBALL SEWING APPARATUS

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Application July 12, 1952, Serial No. 298,518

18 Claims. (Cl. 112—2)

The present invention relates to novel apparatus for use in sewing together the edges of a baseball cover and to a baseball having a cover sewn with the use of such apparatus. More particularly, the apparatus consists of means for conforming or lasting and holding the baseball cover in place to be sewn, and a novel machine for sewing together the abutting edges of the cover while so conformed and held.

A baseball cover usually is assembled from two pieces of soft tanned horse hide leather, each cut in bilobate, or more accurately in elliptic lemniscate, form and applied to the outer spherical surface of a ball foundation at right angles to each other with the narrower interconnecting section of one piece disposed in edge abutting relation to and between the lobes of the other. The abutting edges of the cover pieces are sewed together by threads passing through the pieces across the joint between the edges and alternately over and under the opposite abutting edges. The seam uniting the edges of the cover pieces heretofore has been sewn only in a commercially acceptable manner when inserted wholly by hand.

Various attempts to provide a machine for sewing baseball seams have not proposed formation of the regular under-and-over type seam commonly inserted by hand, but a chain stitch seam usually has been substituted. It is, accordingly, an object of the present invention to provide a cover conforming or lasting apparatus comprising a holder for a baseball or other spherically shaped article and an improved machine cooperating with the holder arranged to facilitate insertion of a baseball seam which corresponds exactly to the usual type of seam inserted by hand. As an alternative to the usual under-and-over type of seam, the machine also is capable of inserting a seam of novel form not readily distinguishable from the usual one but having many advantageous features not found in the usual one. A further object is to provide a holder and machine which will enable insertion of an acceptable baseball seam in a more uniform and reliable manner than has been possible heretofore.

The holder of the invention comprises a pair of hollow yielding spherical clamping members, each corresponding in outline generally with the bilobate shape of a baseball cover piece but having smaller peripheral dimensions than the cover piece to enable the cover piece to be secured by the holder to the baseball supporting surface while exposing the margin of the cover piece beyond the clamping member to convenient access for sewing, in which the edge of the clamping member has a series of index elements to facilitate insertion of stitches at the proper locations. The illustrated form of clamping member for retaining the cover pieces securely in position while sewing is constructed with needle guiding slots along its edge, spaced the same distance apart as successive stitches in the seam to be inserted. This form of clamping member is of utility both with the machine

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of the invention or without the machine when a baseball cover is to be sewn by hand.

The machine in which the present invention is embodied is provided with stitch forming, feeding and other devices arranged to retain the ball and holder in operating position, and the feeding devices cooperate with the index elements on the holder for spacing the stitches and insuring reliable and uniform movement of the ball and holder between successive stitches. For retaining the ball and holder in operating position, according to this feature of the invention, the holder is composed of magnetic material and one or more magnets are mounted in the machine in proper relation to coact with the holder.

These and other features of the invention, including the use of an advantageous formation of stitches in a baseball, as hereinafter described and claimed will be apparent from the following detailed specification taken in connection with the accompanying drawings in which:

Fig. 1 is a perspective view of an unsewn ball illustrating the manner of application to a ball of the holder embodying the present invention;

Fig. 2 is a sectional view of the holder showing more clearly the manner of applying it to the ball;

Fig. 3 is a view of a completely sewn ball while the holder remains thereon;

Fig. 4 is a detailed view of one-half of a bilobate cover piece cut in a form for covering a ball;

Fig. 5 is an enlarged view of a portion of an improved seam inserted by the machine, illustrating the manner of completing the seam at its ends;

Fig. 6 is a fragmentary view showing a modified form of seam and holder;

Fig. 7 is a view in right side elevation, partly broken away, of the operating parts of the sewing machine embodying the invention;

Fig. 8 is a fragmentary sectional plan view of the machine shown in Fig. 7 taken along the line VIII—VIII; Fig. 9 is a similar sectional view taken along the line IX—IX of Fig. 7; and

Fig. 10 is a perspective detailed view on a further enlarged scale illustrating the manner in which a needle operates.

The usual form of baseball established by regulation and tradition has an elastic center 2 (Fig. 2), surrounded by compactly wound layers of worsted and cotton 4 to provide a spherical cover supporting foundation of limited resilience. The external dimensions of the ball foundation are maintained uniformly within narrow tolerances and a covering is applied in the shape of two bilobate pieces 6 and 8 fitted about the ball foundation with the interconnecting section of one piece disposed with edges abutting the lobes of the other piece. The edges of the pieces are drawn against each other to give them a spherical close fitting form and to avoid exposure of the foundation or the edges themselves, thus providing a comparatively smooth, pleasing appearance. To fasten the edges of the cover pieces together and to draw them neatly into abutment, stitches are inserted, the exposed threads of which forms a seam of herringbone configuration centered along the line of abutment. The seam ordinarily is composed of two threads, crossing each other along the abutting edges, each thread of which is doubled to provide greater strength without additional thickness. In the illustrated sewn ball of Fig. 3 and elsewhere in the drawings, two single threads 10 and 12 are shown, although the use of double threads is contemplated in order to provide an appearance exactly the same as a baseball with the usual hand sewn seam. Thus, each exposed thread of the usual seam passes over and under opposite abutting edges of the cover pieces. While the over-and-under alternate edge type of sewing is effective to draw the cover

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pieces securely together with their edges in abutting relation and to hold the pieces rigidly in this relation throughout the life of the ball, the rigidity of this type of seam frequently is a disadvantage when taking into consideration the use to which a baseball is put.

When a conventional baseball is struck with a bat or engages other nonyielding objects, it is subject to impact which the yielding center 2 is intended to absorb through deformation. In absorbing the impact however, the center 2 of the ball is flattened in line with the point of impact and the outer surface of the ball foundation elsewhere bulges to exert tension on the ball cover, particularly about a plane intersecting the cover at right angles to the line of impact. In bulging, a localized stretching action is applied to the cover so that an unusual strain is produced in the stitches. Since the threads in the stitches are connected directly from one cover piece to the other in the conventional ball, the stretching strain more than likely acts to enlarge the perforations along the edges of the pieces with the result that as soon as the ball foundation resumes its original spherical shape, contracting around the area of previous bulging, the stitches will be somewhat loosened, the material from which the cover is made not having sufficient elasticity to cause the size of the sewing perforations to contract to their original shapes. On account of the rigidity of the seam, there is little or no opportunity for localized adjustment of tension between stitches to compensate for deformation in the ball under such impact or strain.

In the illustrated ball, the seam composed of the threads 10 and 12 is formed by passing each thread in a continuous circuit through a perforation along the edge of one cover piece, across the edge and back through a succeeding perforation along the same edge. Thus, each thread does not pass over and under alternate abutting edges of the cover pieces as in the conventional baseball seam. In this respect each thread in the present ball forms a type of individual over-edge seam, assisting in reinforcing the edge of each piece. Connection between the edges is obtained by interlocking the portions of the thread passing across the abutting edges of the pieces, the points of interlocking engagement between threads being obscured by the abutting edges of the pieces. The arrangement of the seam in this manner tends to give greater flexibility and resiliency to the cover when the sewn ball is subject to impact. Because of the interlocking relation between the threads, there also is an opportunity for sliding movement in addition to that obtained in the usual over-and-under alternate edge type of seam. The edges of the pieces are, for this reason, capable of limited relative lengthwise movement along localized areas through the action of the threads 10 and 12 sliding along each other at the points of interengagement. With the interlocking threads a better adjustment of tension in both threads is obtained than is possible with the over-and-under alternate edge type of seam. Furthermore, in forming the present improved seam, there is less opportunity to overtension the threads, than with the conventional seam, particularly in starting a seam. When either thread forming the present seam is tightened, it brings the opposite thread interlocked with it against the edge of the cover piece across which it is carried, enlarging the area of pressure on the edge and providing greater resistance to tension in the thread than is met with the conventional under-and-over alternate edge type of seam.

With the conventional type of baseball seam, the cover pieces are cut from a hide with a die which not only forms the configuration of each cover piece but also punches out perforations along the edge of the piece through which the sewing threads are later inserted. The perforations punched along the edge of each cover piece are not spaced equal distances apart but ordinarily have wider spacing along the interconnecting section of each bilobate configuration and narrower spacing along the edges of the lobes, so arranged as to impart equal amounts

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of tension to the cover pieces throughout their individual areas during sewing. The manner of perforating a cover piece in this way is disclosed in United States Letters Patent No. 442,147, granted December 6, 1890, upon application of B. F. Shibe. Since the perforations are punched while the hide is in a flat condition, substantial deformation occurs in the pieces as they are stretched over the ball foundation. If there are local weak areas in a cover piece, then greater localized stretching will occur along these areas, causing the line formed by the abutting edges to assume an irregular curvature. To facilitate conformity of the cover piece, it is common practice to moisten it sufficiently to render it soft and pliable. However, moistening aggravates localized stretching. To obviate this difficulty, the perforations in the illustrated cover pieces are not preformed but are pierced only after the cover pieces have been stretched into close fitting relation to the spherical foundation of the ball. Piercing the perforations after the pieces are brought into close fitting relation to the ball foundation is accomplished with the use of the illustrated ball holder and machine in a particularly desirable and advantageous manner.

Referring to Figs. 1 to 5 inclusive of the drawings, one end of the blank cover piece 6 is illustrated in flattened condition in Fig. 4, the other end of the cover piece being of the same shape with its lobe extending in the opposite direction from a narrower interconnecting section with a well-known lemniscatic outline. In applying the cover piece 6 to a ball foundation, 2, 4 it is first laid with its narrower interconnecting section engaging the foundation and one of a pair of hollow spherical clamping members 14 and 16 composed of yielding sheet metal are pressed over the cover piece, the ball foundation being forced inside the hollow of the clamping members (see Fig. 1).

As a flat cover piece is pressed inside a clamping member by a ball foundation, the edges of the clamping member slide along the length of the cover piece to bring the cover piece into firm contact with the foundation throughout its area. At the same time the clamping member acts to conform the cover piece to a spherical shape without undue stretching, causing it to lie smoothly along the surface of the ball foundation.

In conforming one cover piece 6 to the ball foundation the clamping member assumes a close fitting relationship to the cover piece and foundation as illustrated in Fig. 1. While being brought into conformity with the ball foundation, the cover piece 6 may display slight irregularities along its edge; but, because the perforations are formed after conforming the effects of the irregularities on the line of the seam which is to be inserted may be compensated for by properly locating the perforations.

After conforming the cover piece 6, the cover piece 8 is applied to the ball foundation. The application of the cover piece 8 is similar to that for the cover piece 6 except that the interconnecting section of the cover piece 8 is located between the extremities of the lobes on the cover piece 6 substantially at right angles to the position of the cover piece 6 on the ball foundation. For this purpose the clamping member 16 is utilized and the ball and cover piece 8 are pressed into the hollow of the clamping member 16 and adjusted until the edges of the two pieces are brought into substantial abutment. The clamping members comprising the holder for the ball are each of spherical complementary shape conforming in outline generally with the bilobate shape of a cover piece except that when they are disposed in clamping relation to a pair of cover pieces on a ball foundation, their edges will lie in spaced parallel relation to cover the surface of the ball, while leaving the margins of both cover pieces exposed along their edges beyond the clamping members to a sufficient width to receive a seam connecting the pieces.

The edge of each clamping member, in the embodiment of the invention, has a series of index elements consisting of perforations 18 spaced from one another along

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the clamping edge by distances corresponding to the distances between the stitches expected to be inserted in the enclosed cover piece. These perforations are spaced somewhat further from one another along the edge portions of the clamping members having convex curvature than along those portions having concave curvature. For convenient and accurate control of the spacing between the stitches when the machine of the invention is employed, additional perforations are interposed between those corresponding to the stitch length measurement so that actually there are twice the number of perforations as there are stitches to be inserted. When the stitches are to be inserted by hand, the index elements take the form of open ended slots 20, best shown in Fig. 6, with which the spacing is the same as the distance between stitches and there are no interposed slots or perforations.

To facilitate application of a clamping member to a ball foundation and to increase the uniformity of stress in a cover piece, especially about the edges of the piece each clamping member has along its edge a series of individual movable tongues 22 formed by a number of slits entering the edge of the clamping member. The tongues insure that after the cover piece has been shaped to a ball foundation it will be compressed along its margin with substantial uniformity against the supporting surface of the ball foundation.

To increase the clamping action on the edge of each clamping member the edge of each member is reversely bent so that the concavity along its inner surface is greater than is required to conform with the spherical surface of the ball foundation. Inside the concavity of the clamping member is disposed a yielding member comprising a resilient U-shaped brace 24 held in place by two sets of integral ears 26 struck out of the material of the clamping member and bent inwardly about enlarged extremities of the brace.

For the purpose of assisting in the application of a clamping member to a cover piece while being stretched into close fitting relation to the ball foundation, each lobe of each clamping member has along its central area a depression 27 terminating at one end with a socket 28 (Fig. 3) spaced from the socket in the other lobe, through which sockets may be inserted reduced terminal tips of a pair of spreading tongs, shown in Figs. 1 and 2. The tongs are connected to form a pair of levers 30 and 32 each having an arcuate terminal for surrounding part of the clamping member. The levers are connected by a central pivot 34 and a compression spring 35 is disposed between them in proper relation to bring the terminals together when outer handle portions of the levers are released from the grasp of the operator. In applying the clamping member to a cover piece the terminal tips on the tongs are inserted within the sockets 28 and the handle portions squeezed together to spread the lobes of the clamping member. When the lobes of the clamping members are sufficiently spread, the ball foundation will slip within the clamping member with a minimum of friction so that simultaneous release of the handle portions on the tongs will exert a uniform stretching drag on the cover piece compressing it between the ball foundation and the clamping member (Fig. 2).

In sewing the exposed edges of the cover pieces 6 and 8 together, one exposed edge at a time is flanged upwardly away from the ball foundation at an angle sufficient for convenient entry of a sewing needle. Referring to Figs. 8 and 10 curved hook needles 36 are illustrated and the exposed edge of the cover piece 6 is shown in upwardly flanged position, one needle having been projected through the flange.

For the purpose of rendering the cover pieces resistant to tearing action of the sewing thread, the pointed end of the curved needle is hollowed out to form a U-shaped cutting edge 38 opening away from its center of curvature. Entry of the cutting edge 38 through the exposed margin of the cover piece produces a correspondingly shaped perforation with a tongue of the material still connected to

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the cover piece. The cutting edge 38 of the needle is so shaped that the base of the U-shaped cut will be directed toward the outer edge of the cover piece. When the thread is carried through the cover piece, it will bear against a smoothly rounded surface within the material of the cover piece. The tongue on the edge of the perforation will then overlap the thread within the perforation and protect it as well as the ball foundation from contact with dirt or other undesirable materials during use of the ball.

If the ball is to be sewed by hand, the clamping members will have their edges provided with needle guiding slots 20, as shown in Fig. 6. As each cover piece is operated upon, an eye-pointed needle, indicated at 39, will be guided by one of the slots 20 to enter the flanged up marginal portion of the cover piece. The type of seam inserted will be dependent upon the manner of manipulating the thread and the needle. With the use of the illustrated holder the usual form of under-and-over seam may be inserted, passing alternately through a marginal portion along an edge of one cover piece through a marginal portion along an edge of the other cover piece, the two threads: 10 and 12 crossing each other along the line of abutment between the edges of the cover pieces. For this purpose the needle is first projected through the marginal portion of one cover piece, the thread 10 being pulled through by the needle and retracted from the cover piece 6 until the stitch thus formed reaches a tightened position. Thereafter, the marginal portion of the cover piece 8 is flanged upwardly and a second needle inserted to draw the opposite thread 12 therethrough in the opposite direction. The thread 12 drawn through the marginal portion of the cover piece 6 crosses the thread 10 through the marginal portion of the cover piece 8.

If the preferred type of seam is to be inserted with over-edge threads, the thread 12 is drawn through each loop formed in the thread 10 and also exclusively through the cover piece 6, not passing through the cover piece 8. Each thread thus is passed exclusively through a margin of one cover piece only and into sliding interlocking engagement with the other thread. Thereafter, it is necessary to tighten both threads simultaneously. In tightening both threads any variation in the line of seam being inserted may be compensated for by tightening one thread somewhat more tightly than the other to compress the edge of one cover piece more than the edge of the other cover piece, the tightened thread sliding across the other interlocked with it. In this way the line of the seam and its appearance may be kept uniform in accurate conformity with the edges of the clamping members 14 and 16 which act as gages in this respect.

At the end of a seam the seam is finished in a manner corresponding generally to that employed in prior manual sewing operations. For this purpose the ends of thread are led between the abutting edges of the cover pieces and passed through the ball foundation until they emerge through perforations in the cover pieces at some distance along the seam from the seam end. After tightening the threads securely in place, they are severed close to the surface of the cover pieces. Where a seam of the preferred interlocking type is sewn, it is necessary to interlock the threads at both the beginning and final end of the seam. Thus, there will be four end sections of threads brought together into interlocking relation at a single point. The arrangement of the seam, however, is such that all the interlocking sections of the thread are concealed by the abutting edges of the cover pieces; and, if the several thread ends are carried through the ball foundation along radiating paths, all at different angles to each other, no pronounced enlargement at the beginning and final ends of the seam will be noticeable. After sewing a seam in the machine it is necessary in finishing the seam end to employ a conventional hand needle 40 (Fig. 3).

If a baseball seam is to be inserted by the use of the

illustrated machine, the clamping members are provided with index perforations 18 in place of the slots 20. The clamped ball is presented to the machine with the perforations 18, brought into cooperation with feeding devices consisting of a pair of index element engaging parts or wheels 41 and 42. The wheels have teeth which enter the index perforations and the wheels are connected by a shaft 44, one at either side of the point of sewing operations, and the shaft is rotatably mounted in a bracket 46 secured by means of a screw 48 and dowels 50 (Fig. 9) to the overhanging arm of a U-shaped machine frame 52. The teeth on the wheels 41 and 42 are so spaced that they correspond with the average spacing of the perforations 18, leaving sufficient clearance between the edges of the perforations and the teeth to permit entry of the teeth even though the individual spacings of the perforations are greater along the interconnecting sections of the clamping members than along the edges of the lobes on the clamping members. By mounting the index wheels on the same shaft, they are caused to turn simultaneously and to maintain the line of the abutting edges on the cover pieces, always parallel to or tangent to the circle of rotation of the wheels at their points of contact with the clamping members, thus directing the insertion of stitches by the needles 36 with a uniform angle between a tangent to the edges of the clamping members and the needles at the point of sewing operation.

To guide the ball foundation and to prevent entry of the teeth on the index wheels too deeply into the perforations on the clamping members, the bracket 46 has projecting from it a foot 54 (see Figs. 7 and 9) provided with a concave curvature fitting the outer surface of the ball foundation. The foot 54 has a reduced shank to permit it to enter between the edges of the cover pieces and to raise the marginal portions slightly from the surface of the ball foundation.

For inserting the seam in the machine there are provided a pair of curved needles 36 mounted to operate in opposite directions toward and from the point of sewing operation. For mounting the needles 36 their shanks are secured in supporting segments 56 and 58 rotatably mounted for oscillation about separate axes defined by spaced studs 60 and 62 passing loosely through the hubs of the segments and into bosses formed on a projecting portion of the frame 52. The segments 56 and 58 are also constructed with handle portions and are held in normal positions with their respective needles retracted from engagement with the ball being operated upon. For this purpose the segments have stretched between them and a bar 64 carried by the frame 52, a pair of tension springs 66 and 68. Movement of each segment causes its needle to enter the marginal portion of a cover on a ball presented to the machine. To limit the penetrating movement of each needle, the hubs of the segments 56 and 58 carry projections arranged to engage with lugs 70 on the frame 52.

To assist in raising each marginal portion of a cover piece into a position where a needle may penetrate readily, the marginal portions of both cover pieces are engaged by a pair of slotted fingers 72 and 74, the slots of which are made of sufficient width to receive the edges of the cover pieces. The fingers engage the edges while under lengthwise tension. The tension on the edges is produced by their being held at one side of the fingers by the completed stitches. To maintain the edges in positions for their easy entry into the slots of the fingers 72 and 74 they are raised a short distance from the foundation at the other side of the fingers by the foot 54. The cover margin raising fingers 72 and 74 are concentrically mounted for rotary movement on a stud screw 76 carried by a lug on the frame support. The cover raising fingers are constructed as levers, the forward arms of which are provided with segmental teeth 78 meshing with corresponding teeth 80 on the hubs of the needle segments 56 and 58. The arrangement of the cover raising fingers 72

and 74 is such that when both needles are retracted from the ball, both cover raising fingers will be moved together to positions where the edges of the cover pieces will be forced into a position close to the surface of the ball foundation. Due to the position of the foot 54 above the fingers 72 and 74 the edges of the pieces will not become entirely disengaged therefrom. As soon as one of the needles is oscillated toward the ball, the connections between the needle and fingers, including teeth on each needle segment and on the corresponding cover raising finger, will deflect the margin of a cover piece with a flange formation into the path of the needle so that the needle passes through a margin of the cover piece at a uniform distance from its edge. Thus in Fig. 8 the needle secured in the segment 58 is shown perforating the margin of the cover piece 6 while the margin raising finger 72 holds the edge of cover piece 8 out of the path of the needle. The thread is then applied to the hook of the needle and the threaded needle is retracted from the cover piece, returning the margin thereof to a position out of the path of the needle secured to the segment 56 next to be operated. It has been found convenient to press the cover margins initially a short distance into the slots of the fingers 72 after inserting the foot 54 between the edges of the cover pieces.

For feeding the ball a distance equal to the length of a stitch, one stitch length at a time, and for locking the index wheels from rotation while the stitch forming devices are being actuated, the machine is provided with devices for rotating the index wheels 41 and 42 in a step-by-step manner. To this end the index wheels on the shaft 44 have connected to them close to the index wheel 41, a slotted Geneva wheel 82 engaged by the hub of a cooperating drive 84. The driver 84 is secured to a shaft 86, rotatable in the bracket 46 and provided with a thumb wheel 88. When the thumb wheel 88 is rotated an L-shaped pin 90 (Fig. 9) projecting from the hub of the driver 84 enters a slot in the Geneva wheel 82 causing it to rotate through an angle corresponding to the distance between the teeth on the Geneva wheel. Further rotation of the thumb wheel causes the hub of the driver to enter a concavity in the Geneva wheel and to lock the index wheels from further rotation.

To retain the ball being operated upon yieldingly in sewing position in the machine with the perforations 18 in the clamping members 14 and 16 in contact with the teeth on the ball feeding index wheels 41 and 42, the frame support 52 is constructed with a pair of projections 91 and 92 to which are screwed a pair of horseshoe magnets 94 and 96 of similar shape (see Fig. 7). For guiding the sewing and the feeding movement the magnets 94 and 96 are formed with concave poles arranged to engage the outer surface of the clamping members 14 and 16 while a ball contained in the holder comprising the clamping members engages the foot 54. The clamping members themselves are constructed of sheet steel so that they are subject to the magnetic action of the magnets 94 and 96 and thus provide sufficient support for the enclosed ball for the purposes intended.

Certain features of the invention herein disclosed form the subject matter of a divisional application, Serial No. 498,482, filed April 1, 1955, relating to Baseball Sewn Covers.

The nature and scope of the invention, having been indicated and a particular embodiment having been described, what is claimed is:

1. A baseball sewing machine having stitch forming and ball feeding devices, in combination with a ball holder, comprising a pair of hollow spherical bilobate clamping members arranged to complement each other when disposed on a spherical supporting surface with spaced edges located in parallel relation and provided with index elements cooperating with the feeding devices.

2. A baseball sewing machine having stitch forming and ball feeding devices, in combination with a ball

holder comprising a pair of hollow spherical bilobate clamping members arranged to complement each other when disposed on a spherical supporting surface with spaced edges located in parallel relation and provided with index elements cooperating with the feeding devices, said feeding devices consisting of a pair of toothed index element engaging parts and connections between the toothed parts for actuating them simultaneously to direct insertion of stitches by the stitch forming devices with a uniform angle between a tangent to the edges of the clamping members and the stitch forming devices at the point of sewing operation.

3. A baseball sewing machine having stitch forming and ball feeding devices, in combination with a ball holder comprising a pair of hollow spherical bilobate clamping members arranged to complement each other when disposed on a spherical supporting surface with spaced edges located in parallel relation and provided with index elements cooperating with the feeding devices, said feeding devices consisting of a pair of index element engaging toothed wheels, one at either side of the point of operation of sewing operations, and a rotating shaft to which the wheels are connected to direct insertion of stitches by the stitch forming devices with a uniform angle between a tangent to the edges of the clamping members and the stitch forming devices at the point of sewing operation.

4. A baseball sewing machine having stitch forming and ball feeding devices, in combination with a ball holder comprising a pair of hollow spherical bilobate clamping members arranged to complement each other when disposed on a spherical supporting surface with spaced edges located in parallel relation and provided with index elements cooperating with the feeding devices, said feeding devices consisting of a pair of index element engaging toothed wheels, one at either side of the point of operation of sewing operations, a rotating shaft to which the wheels are connected to direct insertion of stitches by the stitch forming devices with a uniform angle between a tangent to the edges of the clamping members and the stitch forming devices at the point of sewing operation, and means for locking the index wheels from rotation while the stitch forming devices are being actuated.

5. A baseball sewing machine having stitch forming and ball feeding devices, in combination with a ball holder comprising a pair of hollow spherical bilobate clamping members arranged to complement each other when disposed on a spherical supporting surface with spaced edges located in parallel relation and provided with index elements cooperating with the feeding devices, said feeding devices consisting of a pair of index element engaging toothed wheels, one at either side of the point of operation of sewing operations, a rotating shaft to which the wheels are connected to direct insertion of stitches by the stitch forming devices with a uniform angle between a tangent to the edges of the clamping members and the stitch forming devices at the point of sewing operation, a Geneva wheel connected to the index wheels and a cooperating driver for locking the Geneva wheel during operation of the stitch forming devices.

6. A baseball sewing machine having stitch forming and ball feeding devices, in combination with a ball holder comprising a pair of hollow spherical bilobate clamping members arranged to complement each other when disposed on a spherical supporting surface with spaced edges located in parallel relation and provided with index elements cooperating with the feeding devices, and yielding means acting on the clamping members for retaining the index elements in contact with the feeding devices.

7. A baseball sewing machine having stitch forming and ball feeding devices, in combination with a ball holder comprising a pair of bilobate complementary clamping members of magnetic material arranged when disposed on a spherical supporting surface with spaced

edges located in parallel relation and a magnet disposed with its poles in close proximity to the clamping members for retaining the index elements in contact with the feeding device.

8. A baseball sewing machine having a frame and stitch forming and ball feeding devices mounted on the frame, in combination with a ball holder engaging with the feeding devices and means on the frame for retaining the ball holder in predetermined relation to the stitch forming and ball feeding devices, said stitch forming devices including a curved needle mounted for oscillation on the frame toward and from the ball holder.

9. A baseball sewing machine having a frame and stitch forming and ball feeding devices mounted on the frame, in combination with a ball holder cooperating with the feeding devices and means on the frame for retaining the ball holder in predetermined relation to the stitch forming and ball feeding devices, said stitch forming devices including a pair of curved needles, and segments in which the needles are secured mounted for oscillation about separate axes on the frames toward and from the clamping members cooperating with the feeding devices.

10. A baseball sewing machine having a frame, a curved hooked needle mounted for oscillation on the frame and ball feeding devices, in combination with a ball holder engaged with the feeding devices and a cover raising finger on the frame mounted for movement toward and from a ball in the holder to deflect the margin of a cover with a flange formation into the path of movement of the needle.

11. A baseball sewing machine having a frame, a curved hooked needle mounted for oscillation on the frame and ball feeding devices, in combination with a ball holder engaged with the feeding devices and a cover raising finger on the frame mounted for movement toward and from a ball in the holder to deflect the margin of a cover with a flange formation into the path of movement of the needle, said needle being formed at its end with a U-shaped edge opening away from its center of curvature for cutting a tongue in the material of the cover.

12. A baseball holder for securing a bilobate coverpiece on a spherical supporting surface, comprising a hollow yielding spherical clamping member conforming in outline generally with the shape of the coverpiece to enable the coverpiece to be secured to the supporting surface while exposing the margin of the coverpiece beyond the clamping member and index elements spaced from one another along the edge of the clamping member by distances corresponding to the distances between the stitches to be inserted.

13. A baseball holder for securing a bilobate coverpiece on a spherical supporting surface, comprising a hollow yielding spherical clamping member conforming in outline generally with the shape of the coverpiece to enable the coverpiece to be secured to the supporting surface while exposing the margin of the coverpiece beyond the clamping member and index elements comprising needle guiding slots spaced from one another along the edge of said member by distances corresponding to the distances between the stitches to be inserted along the edge of the coverpiece.

14. A baseball holder for securing a bilobate coverpiece on a spherical supporting surface, comprising a sheet metal spherical clamping member conforming in outline generally with the shape of the coverpiece to enable the coverpiece to be secured to the supporting surface while exposing the margin of the coverpiece beyond the clamping member, index elements spaced from one another along the edge of the clamping member by distances corresponding to the distances between the stitches to be inserted, and a resilient brace secured to the clamping member to draw said member into close fitting conformity with the supporting surface.

15. A baseball holder for securing a bilobate coverpiece on a spherical supporting surface, comprising a hollow yielding spherical clamping member conforming in outline generally with the shape of the coverpiece to enable the coverpiece to be secured to the supporting surface while exposing the margin of the coverpiece beyond the clamping member, and slits forming a series of individually movable tongues along the edges of said member to compress the margin of the coverpiece uniformly against the supporting surface.

16. A baseball holder for securing a bilobate coverpiece on a spherical supporting surface, comprising a sheet metal spherical clamping member conforming in outline generally with the shape of the coverpiece to enable the coverpiece to be secured to the supporting surface while exposing the margin of the coverpiece beyond the clamping member, slits forming a series of individually movable tongues along the edges of said member to compress the margin of the coverpiece uniformly against the supporting surface, and a resilient brace secured to the clamping member to draw said member into close fitting conformity with the supporting surface.

17. A baseball holder for securing a bilobate coverpiece on a spherical supporting surface, comprising a hollow yielding spherical clamping member conforming in outline generally with the shape of the coverpiece to enable the coverpiece to be secured to the supporting surface while exposing the margin of the coverpiece beyond the clamping member, said member being provided with

spaced sockets, and means for spreading the clamping member to admit the supporting surface, comprising a hand operated pair of levers pivoted upon each other, each lever having an arcuate terminal surrounding part of the clamping member and having a tip formed to fit a socket in the clamping member.

18. A baseball holder for securing a bilobate coverpiece on a spherical supporting surface, comprising a hollow yielding spherical clamping member conforming in outline generally with the shape of the coverpiece to enable the coverpiece to be secured to the supporting surface while exposing the margin of the coverpiece beyond the clamping member, and index elements along the edges of the clamping member spaced from one another by a distance corresponding to that between stitches to be inserted and spaced further from one another along the edge portions of the clamping member having convex curvature than along those portions having concave curvature.

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