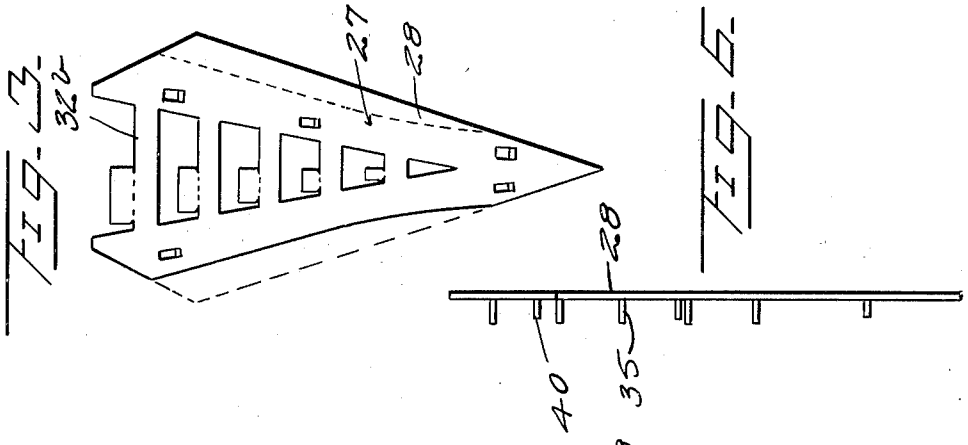
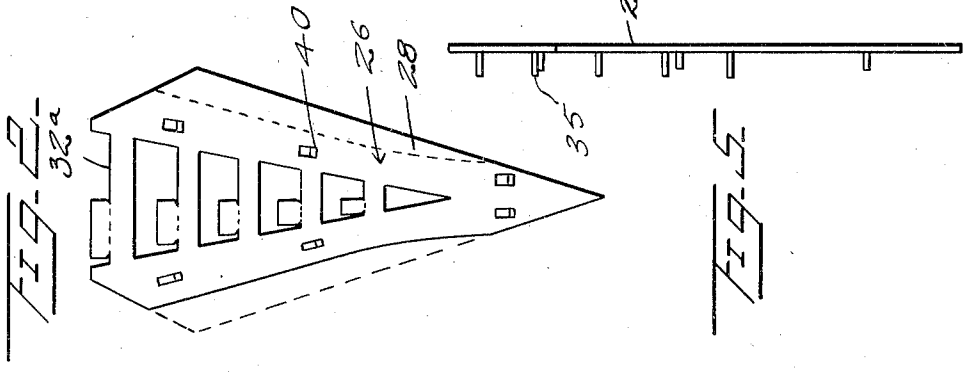
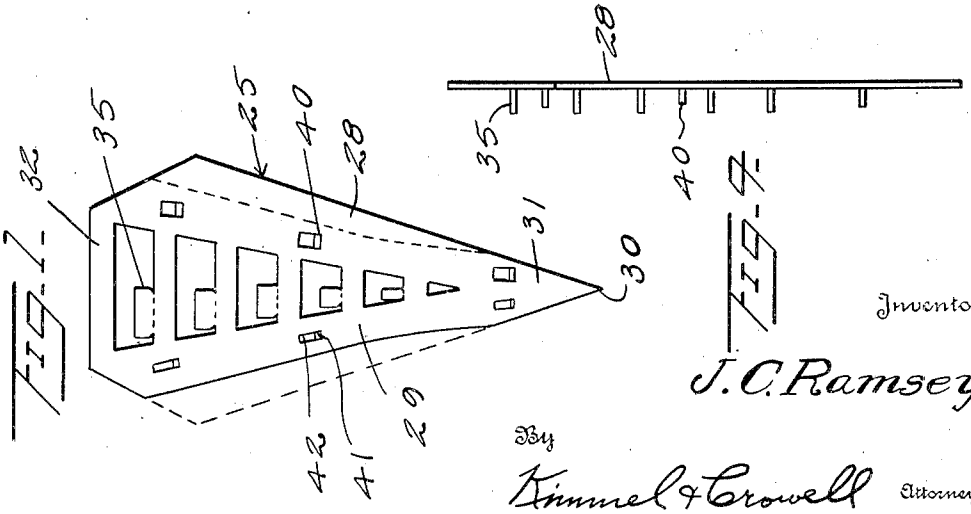
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ARROW HEAD

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Fig. 7.

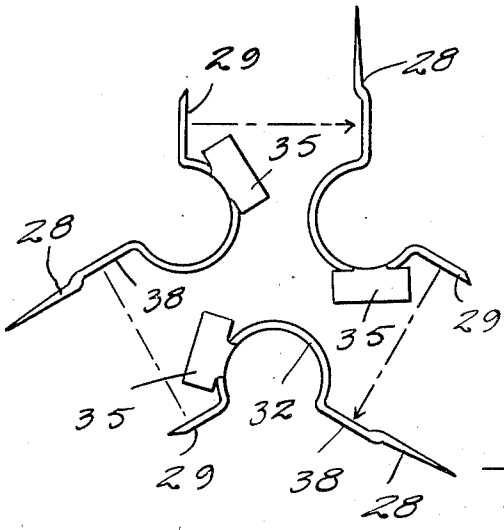


Fig. 8.

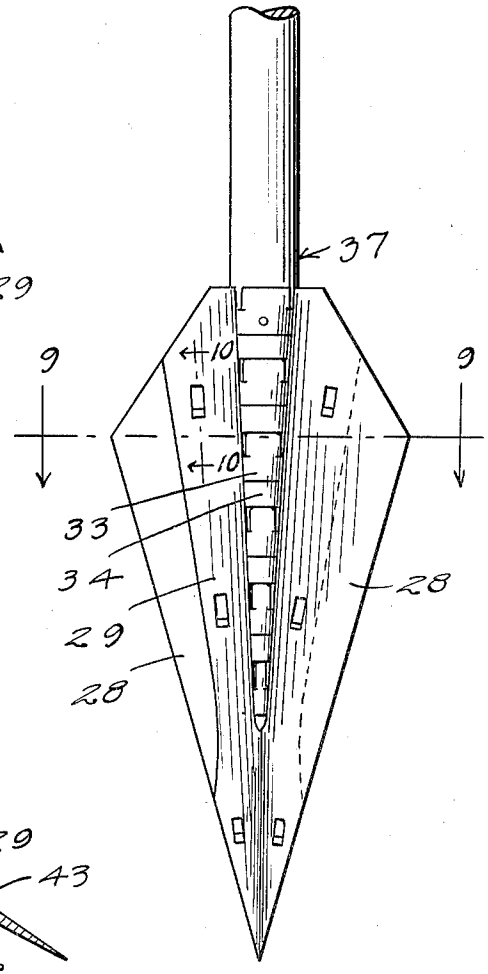


Fig. 9.

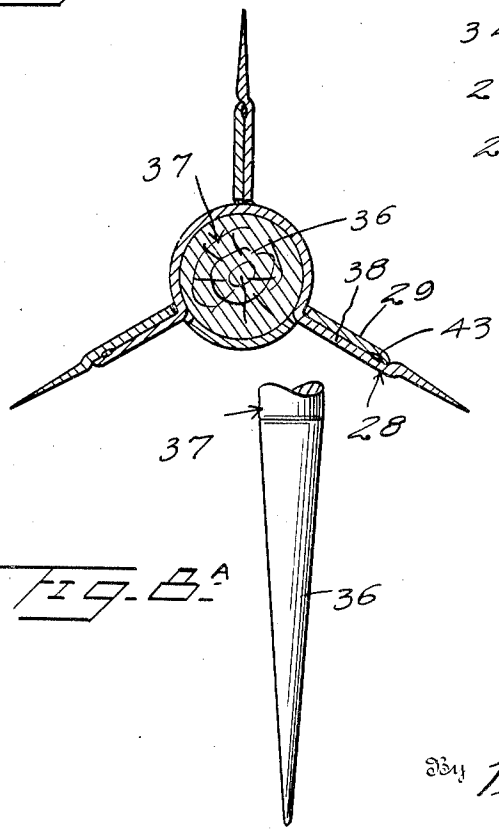


Fig. 8A

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Fig. 10.

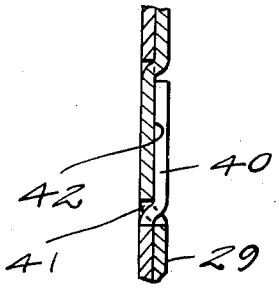


Fig. 10A.

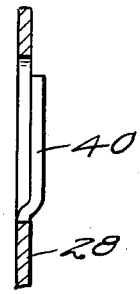


Fig. 10B.

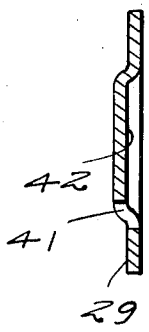


Fig. 13.

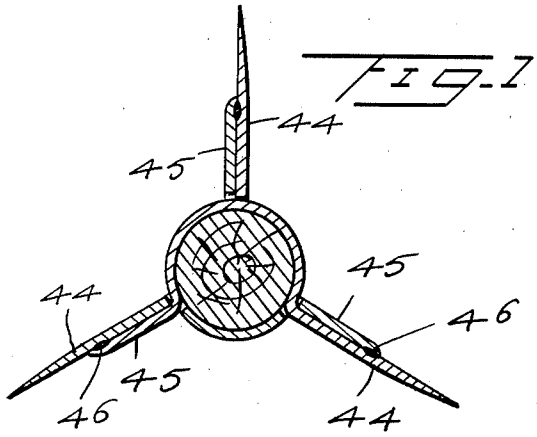


Fig. 11.

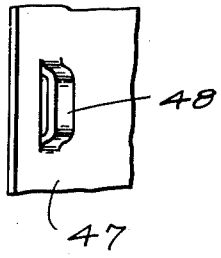


Fig. 11A.

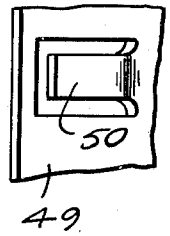
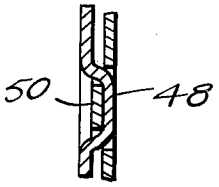


Fig. 12.



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Fig. 14.

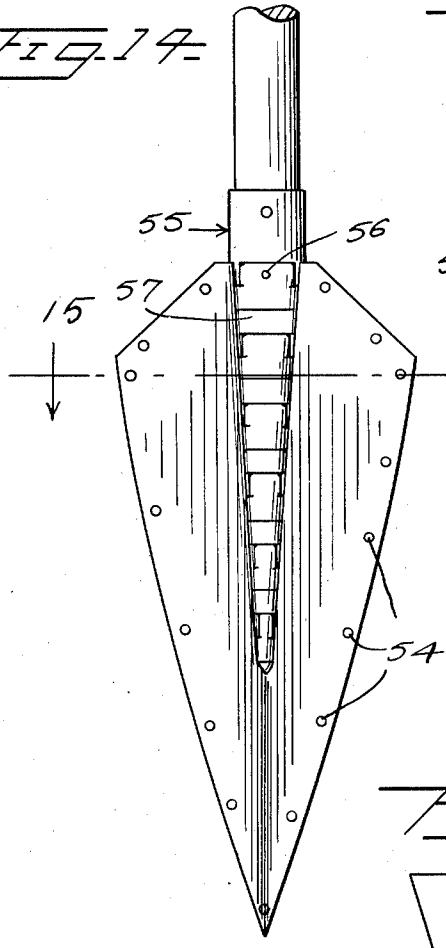


Fig. 16.

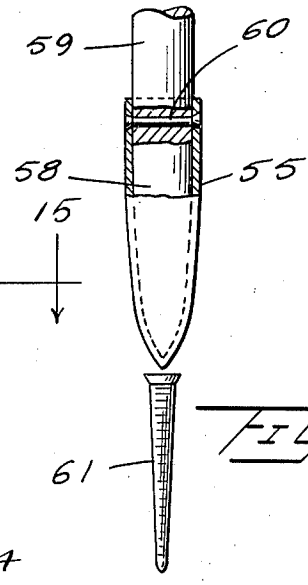


Fig. 18.

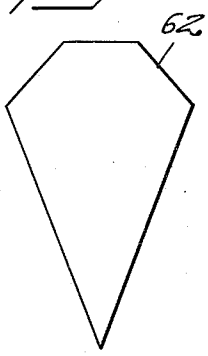
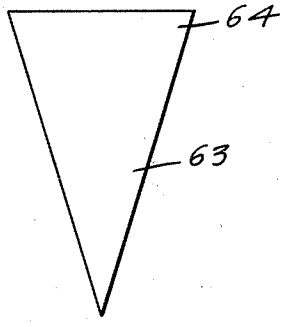


Fig. 17.

Fig. 20.

Fig. 19.



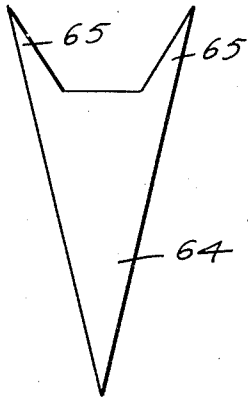
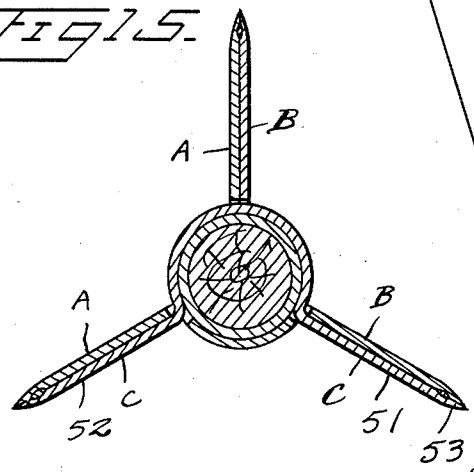


Fig. 15.



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UNITED STATES PATENT OFFICE

2,504,449

ARROWHEAD

James C. Ramsey, Lincoln, N. Mex.

Application July 8, 1948, Serial No. 37,610

3 Claims. (Cl. 273—106.5)

1

This invention relates to arrow heads.

An object of this invention is to provide an arrow head embodying three blades with an improved means whereby the blades are mounted on the shaft.

Another object of this invention is to provide an arrow head having three blades wherein each blade is formed of two face abutting plates, the plates being arranged in obtusely related pairs connected together by partly circular socket forming bands, and one plate of each pair being secured in face abutting relation to a plate of another pair. The connecting bands between each pair of plates are so arranged that when the plates are secured together a tapering shaft socket will be formed, and when the shaft is in the socket the shaft will form a lock for the bands and plates.

To the foregoing objects, and others which may hereinafter more fully appear, the invention consists of the novel construction, combination and arrangement of parts, as will be more specifically referred to and illustrated in the accompanying drawings, but it is to be understood that changes, variations, and modifications may be resorted to which fall within the scope of the invention as claimed.

In the drawings:

Figure 1 is a detailed side elevation of a blank blade used in the formation of the arrow head.

Figure 2 is a detailed side elevation of another blank.

Figure 3 is a detailed side elevation of a further blank.

Figure 4 is a detailed edge view of the blank shown in Figure 1.

Figure 5 is a detailed edge view of the blank shown in Figure 2.

Figure 6 is a detailed edge view of the blank shown in Figure 3.

Figure 7 is an exploded end view showing the blades and the manner of assembling the same.

Figure 8 is a detailed side elevation of the arrow head with the shaft secured to the head.

Figure 8*a* is a fragmentary side elevation of the forward end of the shaft.

Figure 9 is a sectional view taken on the line 9—9 of Figure 8.

Figure 10 is a fragmentary sectional view taken on the line 10—10 of Figure 8.

Figure 10*a* is a fragmentary sectional view similar to Figure 10 showing the locking tongue formed on one of the blade plates.

Figure 10*b* is a fragmentary sectional view showing the keeper formed on the other of the blade plates.

Figure 11 is a fragmentary perspective view showing another form of keeper.

Figure 11*a* is a fragmentary perspective view showing the locking tongue engageable with the keeper in Figure 11.

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Figure 12 is a fragmentary sectional view showing the plates locked together by the locking means shown in Figures 11 and 11*a*.

Figure 13 is a fragmentary sectional view similar to the Figure 9 showing a modified form of this invention.

Figure 14 is a detailed side elevation of another modification of this invention.

Figure 15 is a sectional view taken on the line 15—15 of Figure 14.

Figure 16 is a detailed side elevation, partly broken away and in section, of the shaft socket or ferrule associated with the structure shown in Figure 14.

Figure 17 is a detailed side elevation of the locking pin correlated with the ferrule shown in Figure 16.

Figure 18 is a diagrammatic view showing an arrow head of the barbless type.

Figure 19 is a detailed side elevation showing an arrow head of the semi-barb type.

Figure 20 is a detailed side elevation showing an arrow head of the full barb type.

Referring to the drawings and first to Figures 1 to 9 inclusive, the numerals 25, 26 and 27 designate generally pairs of blade forming plates of tapering or pointed configuration. The blade forming plates 25, 26 and 27 are of like construction as to the major portions thereof and each includes a relatively wide plate 28 and a substantially narrow plate 29. The two plates 28 and 29 merge together at their forward ends and form a point 30. The two plates 28 and 29 at their forward junction point are adapted to be bent on an obtuse angle along the line 31. The plates 28 and 29 are connected together by means of a plurality of arcuate and longitudinally spaced apart connecting bands 32 which are of a length greater than a semi-circle and less than a complete circle so that when the three pairs of plates are connected together with the bands intermeshing a shaft socket of tapering configuration will be provided.

As shown in Figure 1, the blank has the upper band 32 at the upper extremity thereof whereas in Figure 2, the upper band 32*a* is spaced downwardly a slight distance from the upper or rear ends of the plates and in Figure 3, the upper band 32*b* is spaced forwardly an additional distance from the rear ends of the plates. The offsetting of the bands of one pair of plates with respect to the bands of the other pair of plates is such that there will be at least two bands disposed in edge abutting relation as indicated at 33 and 34 in Figure 8.

In order to provide for closing of the spaces between respective pairs of bands of adjacent plates, each band has secured thereto a relatively small plate 35 which is of a length substantially equal to one-half the length of the band with which the plate 35 is connected and the height of the

plate 35 is substantially equal to one-half the space between adjacent bands as clearly shown in Figures 1, 2 and 3. When the bands 32, 32a and 32b are interlaced and disposed in substantially edge abutting relation as shown in Figure 8, the plates 35 are bent upwardly so that a substantially solid socket is formed within which the pointed lower or forward end 36 of the shaft 37 is adapted to be wedged. The plate 28 as shown in Figure 9 is formed with a lengthwise extending offset inner portion 38 within which the narrow plate 29 of an adjacent pair of plates is adapted to engage. The two plates 28 and 29 are secured together by means of tongues 40 which are struck from the plate 28 and are adapted to extend through slots 41 formed in the plate 29. The plate 29 is also formed with a depressed portion 42 extending from the slot 41 so that the tongue 40 will lie flush with the adjacent face of the plate 29. The plate 29 engaging in the depressed portion 38 of plate 28 may also be further secured by soldering, welding or the like as indicated at 43.

As shown in Figure 7, the plates 28 and 29 are disposed on an obtuse angle relative to each other with the bands 35 of a length substantially equal to two-thirds of a circle and the three plates forming the three blades are assembled by first bending the plates 35 at substantially right angles to the bands and then intermeshing the bands together with the wide plate 28 disposed in face abutting relation to a narrow plate 29 of an adjacent pair of plates. In the initial assembling of the pairs of plates they are locked together by means of the locking tongues 40 and may then be further secured together by soldering, welding or the like and at the point of each arrow head the meeting edges of the plates are adapted to be soldered or otherwise secured together so as to form a solid point structure.

Referring now to Figure 13, there is disclosed an arrow head similar to the arrow head shown in Figure 8 with the exception that the plates 44 which are similar in every detail to the plates 28 are not formed with the offset portion 38 and the narrow plates 45 are fixed in face abutting relation to the plates 44 by soldering, welding or the like as indicated at 46. In other respects the pairs of plates are similar to the plates shown in Figures 1, 2 and 3, being connected together by the arcuate connecting bands and each band has associated therewith a small plate similar to 35 for closing the spaces between pairs of the bands when they are in intermeshing position.

Referring now to Figures 11, 11a and 12, there is disclosed another form of locking means for locking the plates together. Plate 47 is formed with a looped keeper 48 and adjacent plate 49 has struck therefrom a locking tongue 50 which, as shown in Figure 12, is adapted to be threaded through the loop 48.

Referring now to Figures 14 to 17 inclusive, there is disclosed another form of arrow head wherein the pairs of plates 51 and 52 are of equal width throughout the length thereof and at their outer edges the plates 51 and 52 are tapered or beveled as indicated at 53 and the outer portions of the plates 51 and 52 are secured to the adjacent plates by welding, soldering or the like as indicated at 54. In the arrow head structure shown in Figures 14 to 17 inclusive a ferrule or metal socket 55 is fixed by fastening means 56 in the socket formed by the bands 57. The lower tapered end 58 of the shaft 59 is extended into and wedged in the ferrule or socket 55 and may be further secured by fastening means 60. The ferrule or socket 55 is slightly less in length than the length of the socket formed by the bands 57 and at the lower or forward portion of the socket formed by the bands 57, the plates forming the blades are locked together by means of a tapered locking pin 61. This locking pin 61 forms a means whereby the plates forming the blades may be initially locked together in assembled form prior to the welding or otherwise securing of the plates together.

Referring now to Figure 18, there is disclosed diagrammatically an arrow head wherein the rear portion 62 thereof is of barbless configuration, whereas in Figure 19 the arrow head 63 is formed at the rear thereof with semi-barb points 64. In Figure 20 the arrow head 64 is formed with full barb members 65 extending rearwardly from the blades.

While in Figure 8 I have shown the adjacent face abutting plates 28 and 29 secured together by means of the tongues 40 seated in depressions 42, it will be understood that these plates may be secured together by means of spot welding, soldering or other suitable fastening means. The locking means for the plates shown in Figures 10, 10a and 10b may be used with any of the forms of invention shown herein, and in like manner the locking means shown in Figures 11, 12 and 11a may be used with any of the forms of invention shown herein.

I claim:

1. An arrowhead comprising three arrowhead forming elements, each of said elements including a pair of elongated obtusely angled portions joined together along the inner edges thereof, said elements being disposed in confronting relation to each other with each of said angled portions abutting an angled portion of another of said elements to provide a radially extending blade, each of said elements being formed at the inner edges of said portions with a plurality of longitudinally spaced apart offset arcuate bands adapted to extend through the other of said elements and to coact with the arcuate bands on said other elements to provide a shaft receiving socket.

2. An arrowhead comprising three arrowhead forming elements, each of said elements including a pair of obtusely angled elongated portions and means connecting the inner edges of said angled portions together, said elements being disposed in confronting relation to each other with each of said angled portions extending radially and abutting an angled portion of another of said elements to provide three radially extending obtusely angled blades, each of said means including a plurality of longitudinally spaced apart offset transverse arcuate bands adapted to engage between the means on the other of said elements and to extend therethrough to provide a shaft receiving socket.

3. An arrowhead as set forth in claim 2, in which means are provided for securing said abutting angled portions to each other.

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REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
2,182,320	Pearson	Dec. 5, 1939
2,370,270	Trittin et al.	Feb. 27, 1945
2,373,216	Zwickey	Apr. 10, 1945