Nov. 8, 1938. J. SLIZUS ET AL 2,135,853

PNEUMATIC BOXING GLOVE

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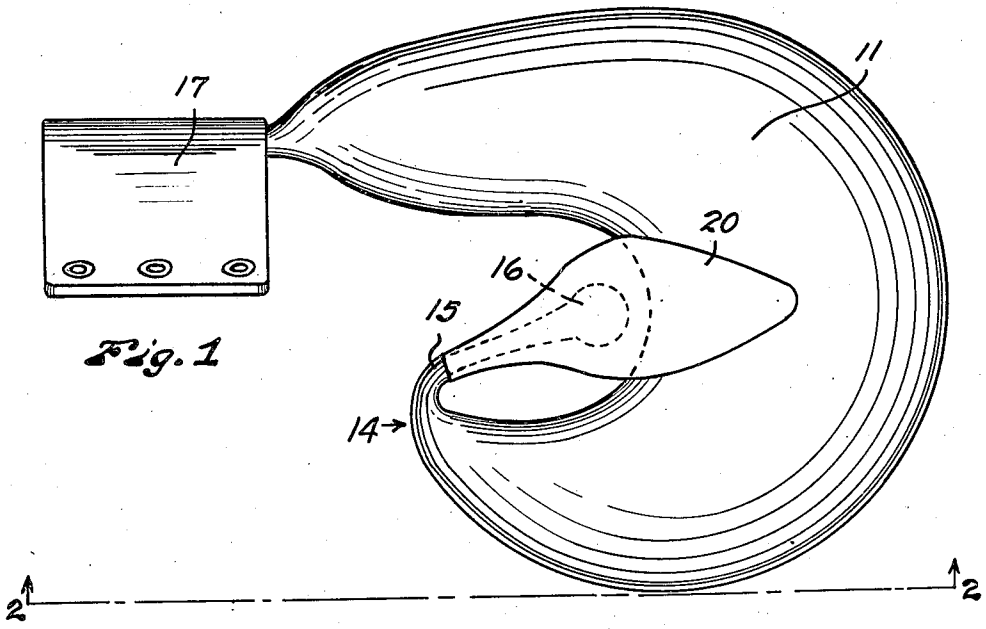


Fig. 1

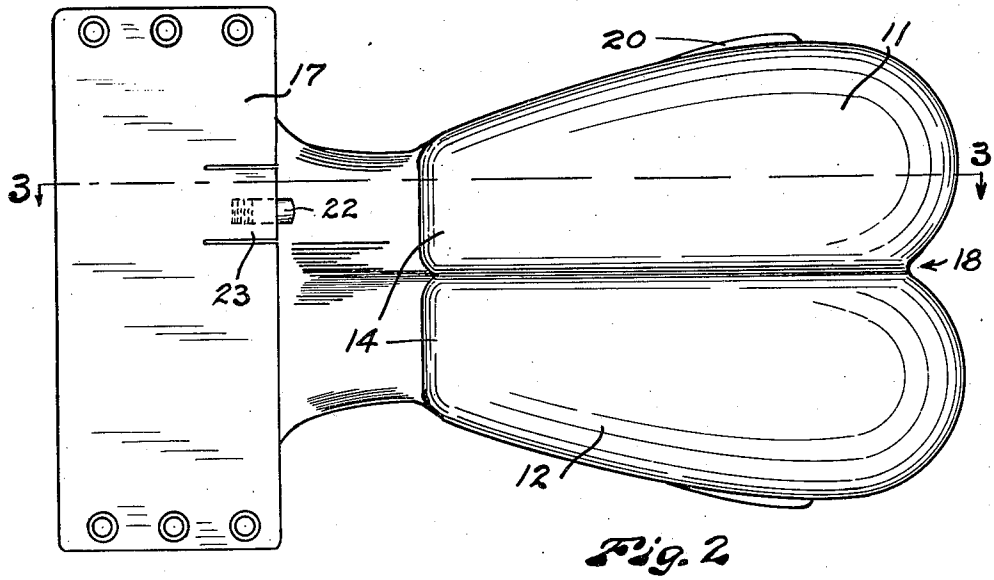


Fig. 2

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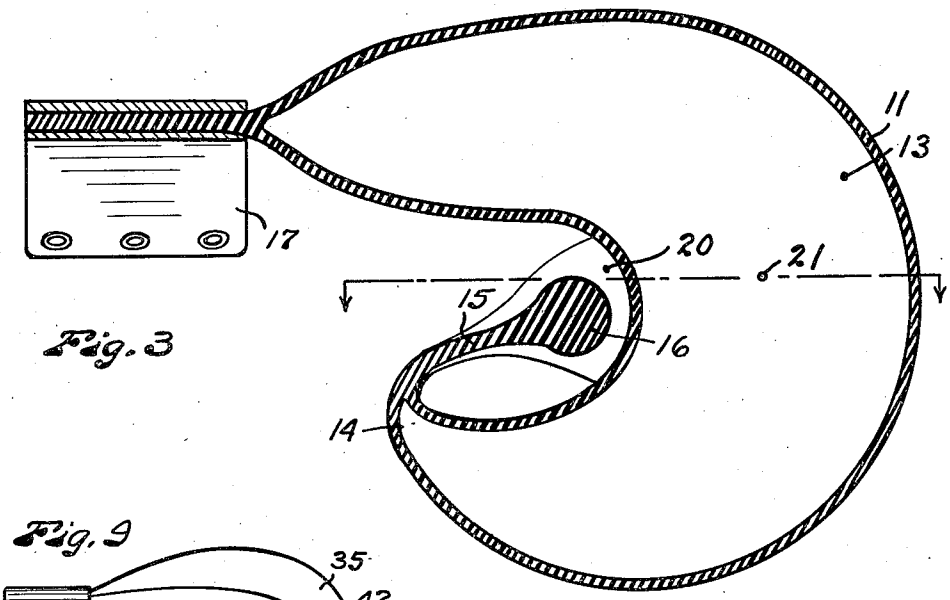
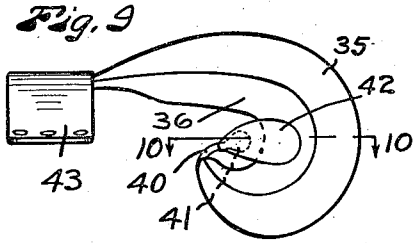


Fig. 3

Fig. 9



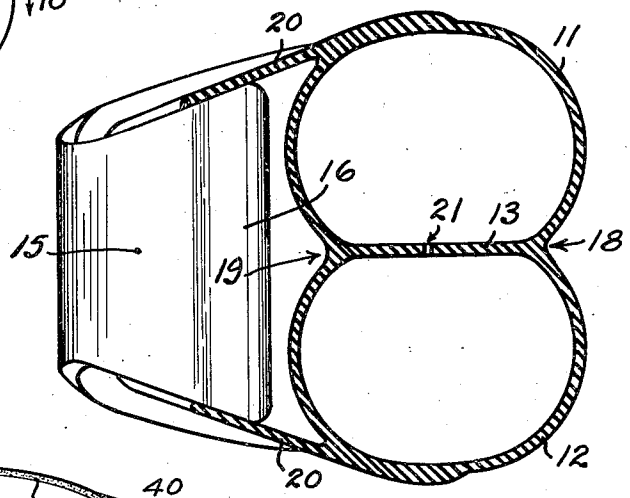
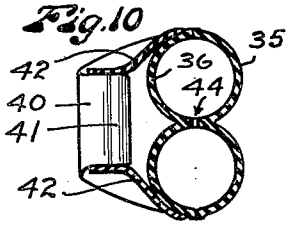
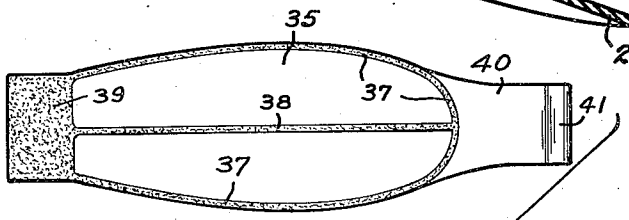


Fig. 4

Fig. 10





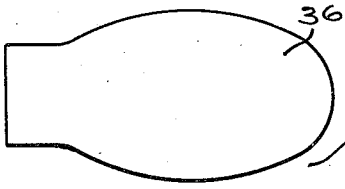


Fig. 11

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PNEUMATIC BOXING GLOVE

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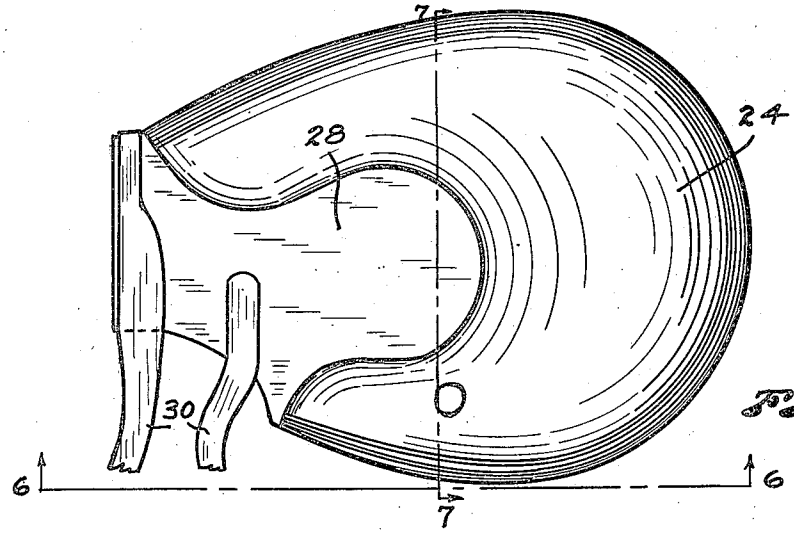


Fig. 5

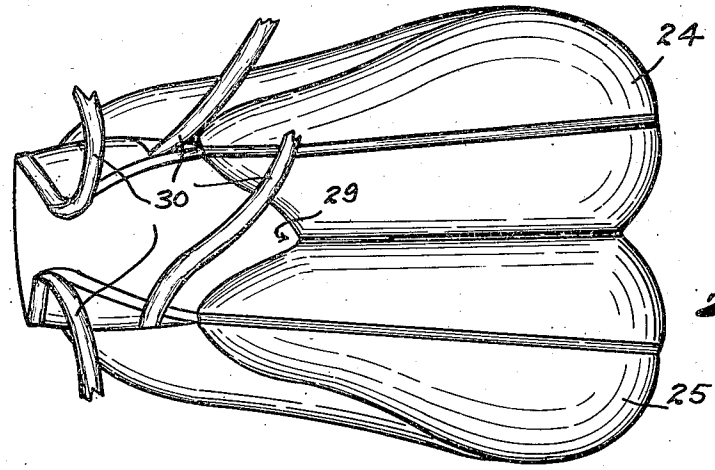


Fig. 6

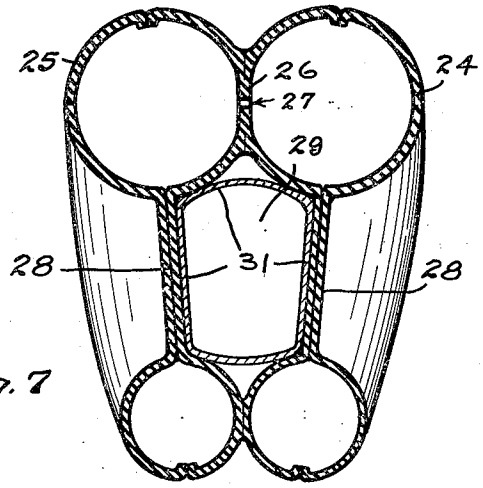


Fig. 7

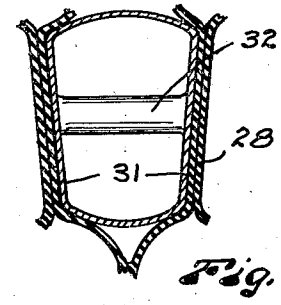


Fig. 8

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Patented Nov. 8, 1938 2,135,853

UNITED STATES PATENT OFFICE

2,135,853

PNEUMATIC BOXING GLOVE

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Application July 17, 1937, Serial No. 154,225

11 Claims. (Cl. 2—18)

This invention relates to a pneumatic boxing glove and the primary object of this invention is to provide a pneumatic boxing glove of simple and efficient construction having a striking surface which is cushioned by air thus reducing to a minimum the danger of injuring a person who is struck with the glove and providing a more resilient striking pad for the hand of the user of the glove.

When a boxing glove is on the hand and the hand is clenched, the boxing glove will be held in a clenched shape in which it conforms substantially to the shape of the letter J. When a pneumatic boxing glove is inflated the resilient air pressure tends to straighten the glove out and if the boxing glove is free to substantially straighten out it becomes a tiring strain on the hand of the boxer to hold the glove clenched. It is an object of this invention to provide a pneumatic boxing glove of this nature which is formed of rubber and which, when inflated, will assume substantially the clenched shape required for use without requiring any muscular effort on the part of the user.

Another object of the invention is to provide a pneumatic boxing glove which is formed with two side by side pneumatic compartments having therebetween a wall with an opening of small size therein whereby the pressure between said two compartments will always be substantially equal but sudden rushes of air from one compartment to the other or to the atmosphere will be prevented.

A further object of the invention is to provide a pneumatic boxing glove of this nature which is shaped so as to provide spaced apart points of contact with the clenched fist and spaced apart points of contact with the object struck by the glove so that the glove will be prevented from rolling when a blow is delivered and the tendency to sprain the wrist and hand of the user will be minimized.

Another object of the invention is to provide a pneumatic boxing glove formed of rubber which may be used without any cover or casing or which may, if desired, be placed within a cover or casing of leather or any desired material.

Other objects of the invention are to provide a pneumatic boxing glove which is simple and inexpensive in construction and which is very satisfactory in use.

Other and more specific objects of the invention will be apparent from the following description taken in connection with the accompanying drawings.

In the drawings Fig. 1 is a side elevation of a pneumatic boxing glove constructed in accordance with this invention.

Fig. 2 is a plan view of the same looking in the direction indicated by broken line 2—2 of Fig. 1.

Fig. 3 is a view in longitudinal section, substantially on broken line 3—3 of Fig. 2.

Fig. 4 is a sectional view substantially on broken line 4—4 of Fig. 3, parts being shown in elevation.

Fig. 5 is a side elevation of a boxing glove which differs slightly from the glove shown in Figs. 1 to 4.

Fig. 6 is a plan view of the glove shown in Fig. 5, looking in the direction indicated by broken line 6—6 of Fig. 5.

Fig. 7 is a sectional view substantially on broken lines 7—7 of Fig. 5.

Fig. 8 is a detached view of a modified form of lining for the glove shown in Figs. 5 to 7.

Fig. 9 is a side elevation, on a smaller scale than the preceding figures, of a modified form of pneumatic boxing glove constructed in accordance with this invention.

Fig. 10 is a cross section substantially on broken line 10—10 of Fig. 9.

Fig. 11 is a plan view showing the two parts used in constructing the glove illustrated in Figs. 9 and 10, as said parts may appear before they are placed together and vulcanized to form the glove.

Like reference numerals designate like parts throughout the several views.

Figs. 1 to 4 show a pneumatic boxing glove preferably of integral construction molded, vulcanized or otherwise made of the desired shape. This glove comprises two tube like receptacles or compartments 11 and 12 positioned side by side and separated by a wall 13 which extends longitudinally of the glove in the medial plane of the same and has a small hole 21 therein. The body of the glove is permanently shaped to the curved or clenched shape shown in the drawings the outermost or striking portion being curved along substantially cylindrical lines as viewed from the side and the inner or palm portion being of suitable shape and size to receive the clenched hand of the user. When viewed from the side the glove is relatively narrow at the wrist and widens out and becomes thicker at the portion in front of the position of the clenched fist of the user and then tapers to a thin portion 14 at the tip and terminates in a flat portion 15 which extends into the palm

portion of the glove and has a grip portion 16 formed at the end thereof. The glove may be described as of approximately the shape of a letter J.

A wristband 17, which may be laced or otherwise fastened around the wrist of the user, is secured to the wrist portion of the glove.

Cross sectionally considered the glove presents the appearance of two side by side tubes separated by the wall 13. A groove 18 extends around the outside of the glove at the location of the wall 13 and another groove 19 extends around the palm or inside portion of the glove. The groove 18 provides a depression on the outer or striking surface of the glove so that when the glove strikes against a relatively flat surface it will have two spaced apart points of contact instead of a single medial point of contact and the tendency of the glove to roll will be minimized. The groove 19 on the inner surface of the glove helps to provide a receptacle for the knuckles of the wearer and the inwardly protruding portions of said glove on each side of the groove 19 provide spaced apart points of contact for the knuckles of the wearer thus further minimizing the tendency of the glove to roll sidewise on the hand when a blow is struck. Overcoming the tendency of the glove to roll greatly lessens the danger of the user spraining his wrist when blows are struck with the glove. The grip portion 16 is connected at its respective ends with two tie members 20 which are connected with the outer side walls of the glove so that the grip portion 16 is firmly secured to the body portion of the glove.

When the glove is in use the grip member 16 is firmly gripped in the hand of the user, the wrist portion 17 is laced snugly about the wrist and the clenched knuckles rest against the inner portions of the two compartments 11 and 12 of the glove. This gives the hand a firm connection with the glove and adequately protects all portions of the hand so that it will be substantially impossible for the wearer of the glove to strike an adversary with the hand instead of the glove.

In the event the rubber which forms either of the receptacles or compartments 11 or 12 is torn or burst by a blow and one compartment collapsed the air in the other compartment will escape slowly through the small hole 21 and the other compartment will afford an ample cushion to prevent the fist of the user of the glove from coming in direct contact with the person struck. This safeguards the person who is struck with the glove against injury due to the bursting of one pneumatic compartment of the glove. A valve 22 is provided in the wrist portion of the glove to permit inflation. A flap 23 is provided to cover the valve 22.

The wall 13 is positioned in the medial plane of the glove and extends throughout the length of the pneumatic compartments. This wall provides stability to the glove and helps to overcome the tendency of the glove to straighten out when it is inflated. By forming the glove in the clenched shape required in use and by providing the wall 13 therein to help overcome the tendency of the glove to straighten out it is possible to provide a glove which does not subject the hands of the user to any gripping strain to hold the glove clenched or closed when the glove is in use. The palm portion of the glove conforms to the shape of the hand and is pressed snugly against the hand by air pressure when the glove is in use.

In Figs. 5, 6 and 7, we have shown an improved form of this boxing glove embodying all of the essential and important features of the glove shown in Figs. 1 to 4, but differing somewhat in details of construction. The glove shown in Figs. 5, 6 and 7 comprises two side by side pneumatic compartments or air receptacles 24 and 25 separated by a medial wall 26 having a small hole 27 therein. The pneumatic compartments 24 and 25 are curved to conform to the closed or clenched shape of the glove. Each pneumatic compartment is preferably formed of two pieces of rubber and these two pieces of rubber are vulcanized together at the locations which extend along the sides of the hand of the wearer to form side portions 28 between which is a pocket 29 for the reception of the hand. The wrist portion is open on the inner side, as shown in Fig. 6, and tie strings 30 or other suitable securing means are provided in connection with said wrist portion to fasten about the wrist of the user. The pneumatic compartments 11 and 12 extend from the location of the wrist along the back portion of the glove, around the front or striking portion and thence along the palm portion of the glove almost back to the wrist thus substantially surrounding the hand and making it substantially impossible for the user of the glove to strike an adversary directly with his hand.

Preferably a lining 31, as of cloth or leather, is provided within the pocket 29 which receives the hand. As the hand is substantially completely enclosed when in the pocket 29 and as the glove is resilient and fits snugly to the hand it is not essential to provide a grip in this boxing glove. However, if desired, a grip may be extended between the side portions 28—28. This grip may be secured to the side portions 28—28 or it may be secured only to the lining 31. A grip 32 which is secured only to the lining is shown in Fig. 8.

In use the glove disclosed in Figs. 5, 6 and 7 is substantially the same as the glove disclosed in Figs. 1 to 4. The two air receptacles 24 and 25 provide for two points of contact, both with the knuckles of the user and the object against which the blow is delivered thus reducing to a minimum the tendency of the glove to roll. The glove has no tendency to straighten out and does not have to be held in closed or clenched position by the hand. The medial wall 26 provides a reinforcing between the two compartments 24 and 25 and the small hole 27 in said wall 26 provides for equalization of pressure between the two compartments 24 and 25 but prevents a rush of air from one compartment to the other when one compartment receives the impact of a blow and prevents a rapid escape of air from one compartment in case the wall of the other compartment is broken.

A valve 33 is provided in the wrist portion of the glove shown in Figs. 5 to 7.

Figs. 9 to 11 inclusive show a modified form of pneumatic boxing glove which differs from the boxing gloves shown in Figs. 1 to 8 chiefly in method of construction. The boxing glove shown in Figs. 9 to 11 is made of two flat pieces of rubber, namely a longer back portion 35 and a shorter palm portion 36, Fig. 11. Before these two pieces are vulcanized together vulcanizing material is placed around the marginal portion of one of these portions preferably the longer

back portion **35**. This vulcanizing material is indicated by **37** in Fig. 11. Also a strip **38** of vulcanizing material is placed longitudinally of the back portion **35** mid way between the two sides thereof. Also vulcanizing material **39** is placed on the wrist part of the back portion **35**. The palm piece **36** is then stretched until it conforms in length to the back piece **35** and is placed face to face on the back piece **35**. The palm piece **36** is maintained in a stretched condition while the two pieces are being vulcanized together. The vulcanizing unites the two pieces **35** and **36** along the lines of the vulcanizing material **37** and **38** and at the wrist portion of said pieces, leaving the spaces between the vulcanizing strips **37** and **38** free from each other to serve as air compartments. Suitable valve means is provided in the wrist portion of this glove and when the glove is inflated, after it has been vulcanized or cured, the tension of the palm portion **36** will cause said glove to assume the clenched shape shown in Fig. 9. An extension or end tab **40** is provided on one of the glove portions, as on the back portion **35** and a grip member **41** is secured to this end tab **40**. Side pieces **42** similar to the side pieces **20** in Figs. 1 to 4, connect the grip member **41** to the sides of the glove. Also a wrist band **43** is provided on the glove. Also a small hole **44** is provided in the wall **45** between the two compartments of the glove as shown in Fig. 10.

All of the gloves herein disclosed have the two side by side air compartments with the longitudinal wall between and the small hole in the longitudinal wall. Also all of said gloves have the fully clenched shape, when inflated, relieving the wearer of the necessity of exerting muscular effort in holding the glove closed. Also all of said gloves are designed for use without any covering external to the rubber.

These boxing gloves are inexpensive and are especially well adapted for the use of amateurs and persons who wish to practice boxing.

The gloves are not heavy and are soft enough so that the boxers may strike as hard as they wish without danger of seriously injuring an adversary. Dividing the glove into two compartments with a small communication opening between them makes it substantially impossible for air to rush out of one part of the glove and permit the fist to strike directly against the object which receives the blow of the glove.

The foregoing description and accompanying drawings clearly show a preferred embodiment of our invention but it will be understood that this disclosure is merely illustrative and that changes may be made within the scope and spirit of the following claims.

We claim:

1. A one piece pneumatic boxing glove, comprising a plurality of longitudinally extending parallel air receptacles of elastic material positioned side by side and separated by longitudinally extending partition wall means, said partition means being common to the adjacent air receptacles and providing integral internal reinforcing means retaining the adjacent air receptacles in correct relative positions at all times and cooperating to maintain the glove in the correct shape without the use of external retaining or supporting means.

2. A one piece pneumatic boxing glove, comprising two longitudinally extending parallel air receptacles of elastic material positioned side by side and separated by a longitudinally extending medially disposed partition wall, said partition means being common to the adjacent air receptacles and providing integral internal reinforcing means retaining the adjacent air receptacles in correct relative position at all times and cooperating to maintain the glove in the correct shape without the use of external retaining or supporting means.

3. A one piece pneumatic boxing glove, comprising a plurality of parallel air receptacles of elastic material extending longitudinally of the glove and having a permanent longitudinal curvature substantially the shape of a letter J, whereby a glove of permanently clenched shape is provided, said air receptacles being separated by longitudinally extending integral partition wall means, said partition wall means being common to the adjacent air receptacles and providing integral internal reinforcing means retaining the adjacent air receptacles in correct relative positions at all times and cooperating to maintain the glove in the correct shape without the use of external retaining or supporting means.

4. As an article of manufacture, a pneumatic boxing glove having air receptacles which are permanently curved, as considered longitudinally of the glove, to provide a glove of clenched shape corresponding substantially to the shape of a letter J, said glove being capable of retaining its clenched shape when inflated without the use of external retaining or supporting means.

5. A one piece pneumatic boxing glove, comprising a plurality of longitudinally extending parallel air receptacles of elastic material positioned side by side and separated by longitudinally extending partition wall means, said partition wall means having air passageway means of small area therein providing for an equalization of air pressure between adjacent air receptacles and preventing a rapid escape of air from the air receptacles.

6. A one piece pneumatic boxing glove, comprising two longitudinally extending parallel air receptacles of elastic material positioned side by side and separated by a longitudinally extending partition wall, said air receptacles being of substantially cylindrical cross section and being longitudinally curved to provide a clenched shape corresponding substantially the shape of a letter J, said partition wall being integral with the two air receptacles and cooperating to retain said air receptacles in substantially J shape in opposition to internal air pressure and said partition having air passageway means of small area therein.

7. A pneumatic boxing glove, comprising two longitudinally extending tubular air receptacles positioned side by side and of substantially the shape of a letter J longitudinally considered; a longitudinally extending wall providing a partition between said two air receptacles, said partition being common to the adjacent air receptacles and constituting integral internal reinforcing means retaining the adjacent air receptacles in correct relative positions at all times and cooperating to maintain the glove in the correct shape without the use of external retaining or supporting means; and means forming a hand receptacle in the palm portion of said glove, said hand receptacle being open at the location of the wrist.

8. A pneumatic boxing glove, comprising two longitudinally extending tubular air receptacles positioned side by side and of substantially the shape of a letter J longitudinally considered; a

longitudinally extending wall providing a partition between said two air receptacles; means forming a hand receptacle in the palm portion of said glove, said hand receptacle being open at the location of the wrist; and a grip member connected with the glove and positioned within the hand receptacle.

9. A pneumatic boxing glove comprising two longitudinally extending tubular air receptacles positioned side by side and of substantially the shape of a letter J longitudinally considered; a longitudinally extending wall providing a partition between said two air receptacles; side walls extending between the longer and shorter portions of said J shaped receptacles at two sides of said glove cooperating to provide a hand receptacle between said side walls, said hand receptacle being open at the wrist portion of the glove; and wrist band means provided on the wrist portion of the glove.

10. A pneumatic boxing glove, comprising two longitudinally extending air receptacles positioned side by side and of substantially the shape of a letter J longitudinally considered; an extension member on the shorter end of said air receptacles curved inwardly and extending into the palm portion of said boxing glove; and a grip member on the end portion of said extension member.

11. A pneumatic boxing glove, comprising two longitudinally extending air receptacles positioned side by side and of substantially the shape of a letter J longitudinally considered; an extension member on the shorter end of said air receptacles curved inwardly and extending into the palm portion of said boxing glove; a grip member on the end portion of said extension member; and flexible tie members positioned at the ends of said grip member connecting said grip member and said extension member with the adjacent side portions of said air receptacles.

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