J. A. GAVIN.

WATERPROOF STORM SHIELD.

APPLICATION FILED NOV. 9, 1917.

1,273,765.

Patented July 23, 1918.

3 SHEETS—SHEET 1.

Fig. 1.

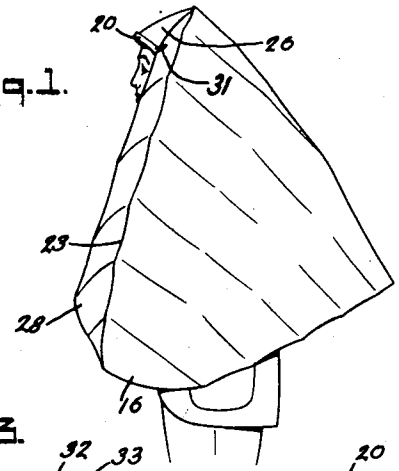


Fig. 2.

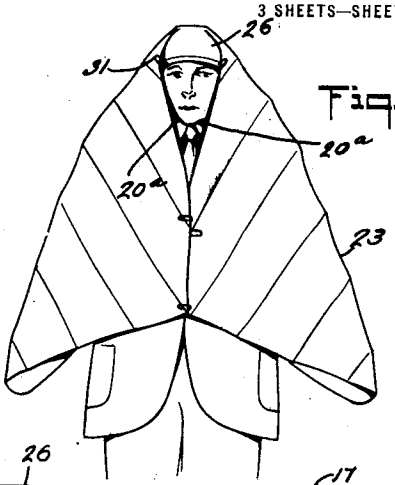


Fig. 3.

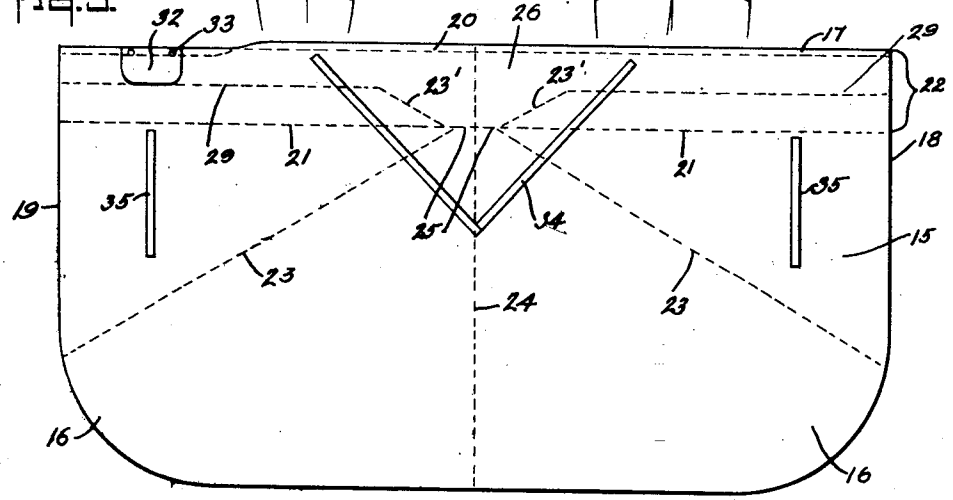


Fig. 4.

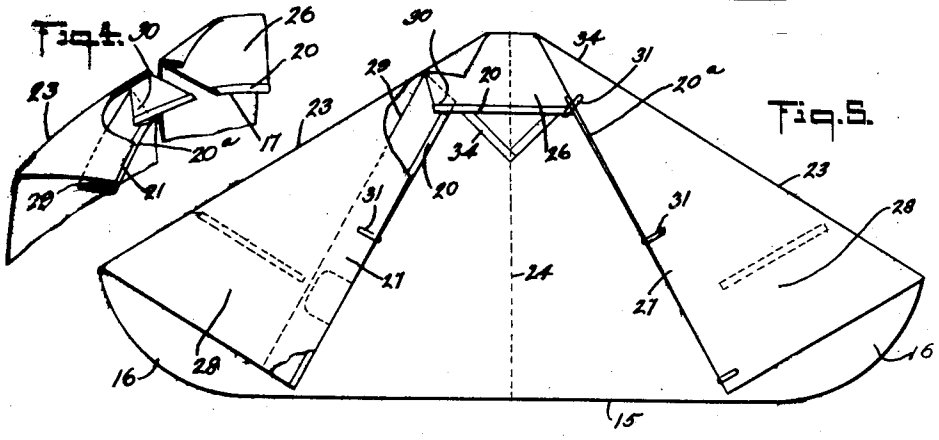


Fig. 5.

WITNESSES

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3 SHEETS—SHEET 2.

Fig. 6.

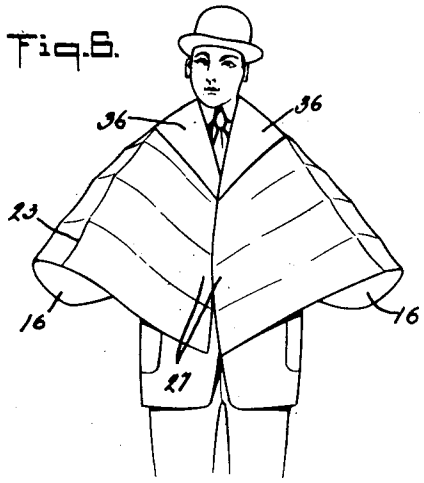


Fig. 7.

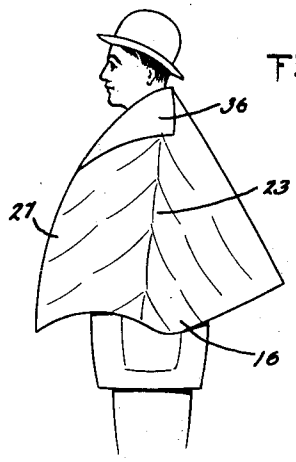
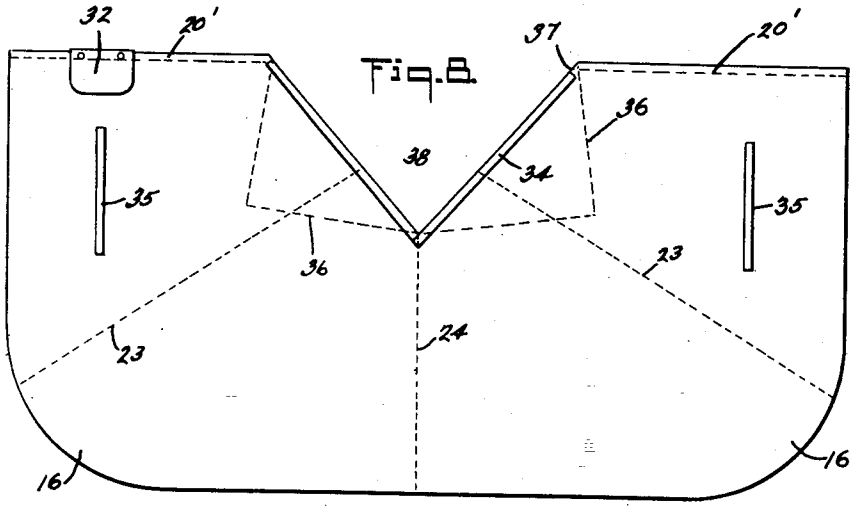


Fig. 8.



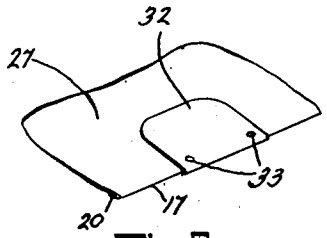


Fig. 9.

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3 SHEETS—SHEET 3.

Fig.10.

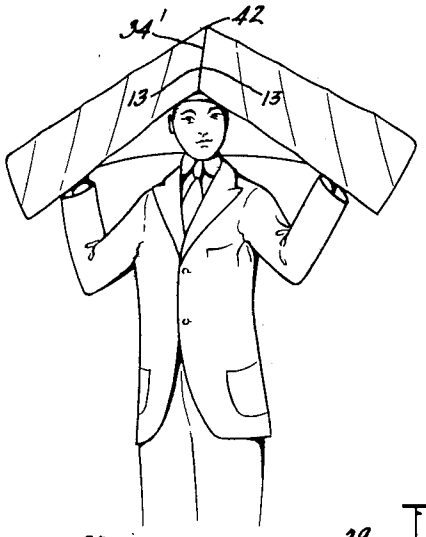


Fig.11.

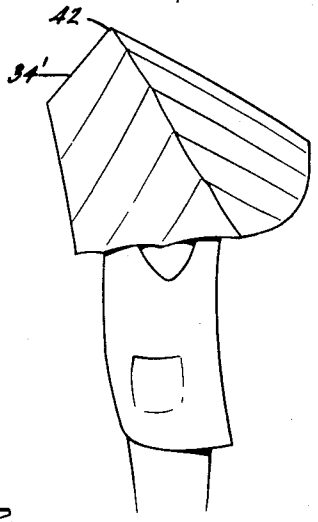
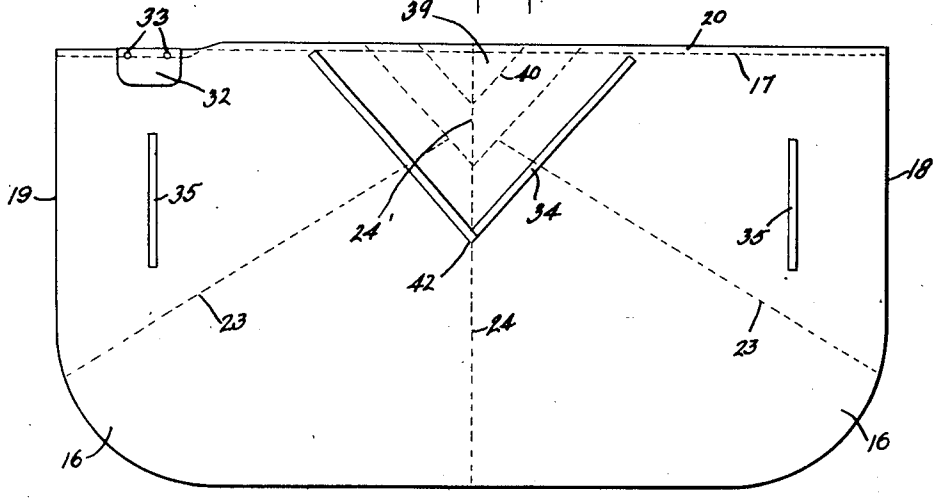


Fig.12.



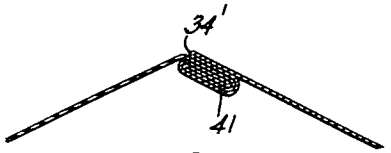


Fig.13.

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UNITED STATES PATENT OFFICE.

JOSEPH A. GAVIN, OF BROOKLYN, NEW YORK.

WATERPROOF STORM-SHIELD.

1,273,765. Specification of Letters Patent. Patented July 23, 1918.

Application filed November 9, 1917. Serial No. 201,126.

To all whom it may concern:

Be it known that I, JOSEPH A. GAVIN, a citizen of the United States, and a resident of the city of New York, borough of Brooklyn, in the county of Kings and State of New York, have invented a new and Improved Waterproof Storm-Shield, of which the following is a full, clear, and exact description.

This invention relates to emergency shields or protectors to be used by individuals in the event of rain or snow storms or the like, and has particular reference to protecting means of a cheap yet comfortable and reliable nature.

Among the objects of the invention is to provide a shield in the nature of a coat, cape, or umbrella, that is made principally of a waterproof material such as paper, but of a nature cheap enough for the shield to be sold on the market and thus placed within reach of any member of the public for a few cents.

Another object of the invention is to provide a storm shield made of a material adapting it to be folded into a compact package suitable to be dispensed through coin controlled machines or be carried in one's pocket or shopping bag for repeated use.

A further object of the invention is the provision of a storm shield made of paper or some suitable equivalent cheap material and so folded that the creasing thereof will serve at least two important functions: First, the facility for the draping of the device over the head or shoulders, and, secondly, the better shedding of rain than if the shield were not creased.

A still further object of this improvement is to provide a device which though made chiefly of a cheap quality of material is still reinforced in such a manner as to afford ample strength for the purpose for which the device is intended and also to adapt it for use in any one of several different ways such for example as a covering for the head as well as the shoulders, and as a shoulder cape.

With the foregoing and other objects in view the invention consists in the arrangement and combination of parts hereinafter described and claimed, and while the invention is not restricted to the exact details of construction disclosed or suggested herein, still for the purpose of illustrating a practical embodiment thereof reference is had to the accompanying drawings, in which like reference characters designate the same parts in the several views, and in which

Figure 1 is a side elevation of one adaptation of my improvement.

Fig. 2 is a front elevation of the same.

Fig. 3 is an inner face or plan view of the device before it is folded, but indicating in dotted lines the folding lines with reference especially to the adaptation shown in Figs. 1 and 2.

Fig. 4 is a fragmentary view indicating the manner of folding at the cheek portion of the device.

Fig. 5 is a front elevation of the device in the form indicated in Figs. 1, 2 and 3 after the folding is completed and ready to wear.

Fig. 6 is a front elevation showing that adaptation of the device for use as a shoulder cape.

Fig. 7 is a side elevation of the same.

Fig. 8 is an inner face view with the neck portion open to adapt it for a shoulder cape.

Fig. 9 is a detail view indicating the nature of the hand piece or holder.

Figs. 10 and 11 are front and side views of another adaptation of the improvement as an umbrella.

Fig. 12 is an inner face view of the device indicating in dotted lines the manner of folding the same to produce the umbrella effect; and

Fig. 13 is a transverse sectional detail on a plane corresponding substantially to the line 13—13 of Fig. 10, and indicating the manner of folding or rolling the front central portion of the device to produce a tent effect.

Referring now to the first set of figures I show a shield or garment made preferably mainly from a single strip or sheet of paper and of substantially rectangular form as indicated at 15, but having two of the corners indicated as rounded at 16 so as to improve the fit or appearance of the garment.

I will now describe the manner of folding the sheet of material to produce the effect or adaptation indicated in Figs. 1, 2 and 5. Considering the view in Fig. 3 to be that of a sheet of paper of a character or quality such as what is commonly known as asphaltum paper or of a paper corresponding to a good quality of manila or kraft with the outer face coated with asphaltum or some other material having the function of

not only rendering the paper waterproof, but even of a water repellent nature so that when the wearer comes in out of a heavy rain, the shield or garment will be perfectly dry and ready to be folded and put away for subsequent use. With the sheet having its uncoated face or inner side toward the observer the front or upper portion is first folded along the line 17 from one end 18 thereof to the other at 19 forming an outside flange 20. This flange 20 serves at least two important functions as follows: First, since it doubles the material along this edge much strength is added; secondly, the inner or clean face of the sheet is thus turned out and the flange forms a protector of the wearer's face, at least to a certain extent, from the coloring matter applied to the outer waterproofed surface of the material, and, thirdly, this outturned flange 20 serves to act as a gutter to direct the water flowing over the shoulder portions of the device down toward the ends thereof instead of flowing over what would be the exposed side portions of the garment when in use.

The next step in the folding operation is to turn the entire top or upper portion of the sheet toward the observer along the line 21 which extends preferably in a straight direction from one end of the sheet to the other forming what may be termed a panel 22. The next step is to fold the upper right and left corner portions along the diagonal lines 23, these folds being made toward the observer so as to bring the device into somewhat the form indicated in Fig. 5. The diagonal folding lines 23 intersect the horizontal folding line 21 at some distance, say for example an inch and a half, at each side of the vertical median line 24, as indicated at 25. The depth of the panel portion 22 may for an ordinary head covering be made approximately five inches, the purpose of which is to cover the top of the wearer's head, while the diagonal portions are adapted to be drawn more or less closely around the wearer's face. In order, however, to provide the required depth of that portion 26 of the panel 22 that may be regarded as the crown piece and still accommodate the front portions 27 for their proper fitting and holding functions, I make another fold with respect to each wing portion 28, this fold being made preferably after the diagonal crease is formed along the line 23 for each wing. In other words after the crease is formed at 23 the panel 22 in its folded position along the line 21 is laid back straight again and the then lower edge of the same, including the flange 20, is then folded up and around the line 29 to the said line extending from either end 18 or 19 over toward the crown piece, but stopping at its inner section with the crease 23′ formed coincidentally with the forming of the crease at the line 23. As indicated, however, at 20ª, Figs. 4 and 5, that portion of the panel 22 that is folded up is extended slightly beyond the waterproofed portion of the structure adjacent to the folding lines 21. In other words the flange portion at 20 or 20ª serves in the practice of the invention to prevent any possibility of any discoloration from the exterior surface of the paper coming into contact while wet with the wearer's face or ordinary clothing. With this fold made along the line 29 and with the crown portion still remaining flat as in the position of Fig. 5, the wing portion is then as a whole folded forwardly again around the line 23 which automatically forms a double fold or dart 30 which serves several important functions. First, it disposes of the surplus material incident to the extra fold along the line 29 and the subsequent refold along the line 23; secondly, this dart which may be either projected upwardly or downwardly constitutes an eight ply reinforcement where any suitable fastener or clip 31 may be attached to make the fold complete and secure and hold the garment in wearable shape, and, thirdly, with the dart folded downwardly as indicated in Figs. 4 and 5 it serves as an auxiliary gutter serving to direct the water from the crown piece 26 away from the wearer's face. Additional clips 31 may be applied along the front 27 if desired to insure the permanency of the proper shape for the garment after it is folded.

The extra folding in each of the fronts incident to the folding along the lines 29 produces a quadruple ply of material which gives sufficient strength for all practical purposes and furthermore the wearer by grasping that portion thereof that projects within the outer ply is given a good grip upon the fronts for the purpose of donning the garment, adjusting it to his head and shoulders, and holding it in protective position while subjected to the storm. That is to say the wearer's fingers in the practical operation of the garment throughout are at no time either exposed to the weather or to the damp surface of the garment. In some instances an auxiliary hand hold such as indicated at 32 may be employed on either or both of the fronts. This hand hold 32 may be in the nature of a heavy piece of cardboard or some other equivalent material fastened as by eyelets 33, or their equivalent, directly upon the first fold at 20. In my experience I have found that one of these hand holds 32 is ample and by it the wearer may not only draw that wing to which the hand hold is fastened into proper position, but furthermore he may hold said wing over upon the outer face of the opposite wing and so hold the garment with sufficient security with but one hand, while the other hand will be free.

With a device made and folded or assem-

bled as indicated in Fig. 5 it is in position to be folded for convenient shipping or transportation. This folding may be effected in various ways, but for the most convenient and especially for the best draping, water shedding, and appearance when worn, the folding is preferably done as follows: With the garment laid out as shown in Fig. 5 one half thereof is lifted and folded directly upon the other half around the median line 24. It is then folded successively in narrow vertical panels beginning along the vertical center adjacent to the line 24. These panels may in an ordinary instance for example be from three and one half to four and one-half inches in width. This folding along vertical parallel lines in succession produces a flat roll of approximately four or four and one half inches in width, and of a length equal to the vertical height of the garment in the form shown in Fig. 5. After this rolling folding action is completed the entire garment may be folded transversely at about its middle forming a complete flat parcel of a length of about eleven or twelve inches, hence of a size easy to carry in one's pocket or shopping bag either with or without a special cover or envelop therefor, not shown.

In all forms of my invention I prefer to provide reinforcement strips of tape, strong paper or the like, along the inner face of the sheet at several various places. For example, in Fig. 3 I show a V-shaped reinforcement 34 bounding the crown piece 26, the point of the V lying in the median line 24 while the branches of the V intersect the diagonal and horizontal folding lines and terminate adjacent to the folding line 17. This reinforcement 34 as indicated adds sufficiently to the strength of the garment that there is no reasonable danger of tearing or bursting thereof at the head or neck portions. I also show in Fig. 3 a pair of reinforcement strips 35 secured upon the inner face of the garment parallel to the ends 18 and 19 and not far remote therefrom along the wing portions 28.

In Figs. 6, 7 and 8 I show another adaptation of the device, namely for use as a cape as distinguished from a head covering. This form of the device approximates very closely, in a general way, that previously described, but instead of the crown piece being provided that portion of the sheet of material that in the other form of the invention is used for the crown piece is in this instance split along the vertical median line and each collar portion thus formed as indicated at 36 is folded outwardly along a diagonal line 37 parallel and close to a portion of the reinforcement strip 34. Thus a V-shaped neck opening 38 is provided and with the folding of the entire garment preferably in the manner already described so as to secure the narrow vertical panels and the diagonal lines 23, the garment fits neatly and closely about the wearer's neck and provides a reliable protection for his shoulders, chest, and arms. The collar portions 36 being folded outwardly with the clean or uncolored surface of the material exposed for direct contact with the wearer's face and neck it is assured that there shall be no soiling incident to the waterproofed outer surface of the fabric. In this connection I will state also that the flanges 20′ are provided for the fronts of the garment similar to those already described and also the hand hold 32 is relied upon.

In Figs. 10 to 13 I show a further adaptation of the device adapting it for use as an umbrella for protection against either wet weather or heat of the sun. The sheet in this form which may preferably be of a heavier stock than for shoulder wear is still of approximately the same general design and size as in the other two forms, but for best service may be provided with the gutter strip 20, and reinforcement strips 34 and 35. In some cases I prefer to put the device on the market in the flat form of Fig. 12, leaving it optional with the customer whether he will adapt it for the shoulder cape use as shown in Fig. 6, or for the umbrella effect as shown in Fig. 10. If for the former he will split it down at the medial line at 24′, or for the umbrella effect the sheet will be folded first in half along the vertical line 24 and then the corner portions 39 will be rolled or folded successively around the diagonal lines 40, the roll coming on the inside as indicated at 41 in Fig. 13. The two branches of the reinforcement 34 are thus brought in close parallelism producing a stiff rib at 34′ down along the central front part of the device. This forms the shield into a conical or pyramidal form with its apex or point at 42. With fairly stiff stock employed for this structure the folding and rolling in the manner just indicated produces an exceedingly stiff structure which may be reliably manipulated by the operator's hands applied to the reinforcement strips 35 for convenience, or to any handles that may be attached thereto. As in the other forms of the invention the diagonal wing lines 23 may be employed for the purpose of facilitating the most desirable folding creases or panels.

Reverting again to the neck opening 38 shown best in Fig. 8 I wish it to be understood that any other form of this opening than that particular form shown may be employed and still come within the scope of this invention, so long as the neck opening is suitably reinforced and otherwise arranged for practical service.

I claim:

1. The herein described waterproof storm shield of relatively cheap sheet material,

the same comprising an oblong sheet or strip folded along a central median line in two equal parts, each one-half being diagonally folded forming front wing portions, a V-shaped reinforcement member having its apex at the median line and with its branches extending across said diagonal lines, and hand hold means formed on the inner surface of the device.

2. In a storm shield of the character set forth, the combination of an oblong sheet of paper having a clean inner surface and a waterproofed outer surface, the front edge portion of the strip being folded outwardly forming a gutter to shed the water from the front edge and serving also as a protector of the person from the waterproofed surface, and a V-shaped reinforcement strip applied to the inner surface of the sheet with the apex thereof in the median line of the sheet and with the branches thereof projecting diagonally toward said front edge flange structure.

3. In a waterproof paper storm shield, a substantially rectangular sheet of paper waterproofed by any suitable means and folded as follows: First outwardly along one edge forming a gutter to prevent the rain water from flowing over the fronts thereof, then inwardly around a line parallel to the first folding line, then folded inwardly around diagonal lines forming two front or side wings, then portions of the fronts being folded outwardly nearly parallel to the first mentioned fold, the last mentioned folding lines, however, stopping short in length of the first two folding lines whereby a crown piece is produced, the fullness at each wing portion incident to the last mentioned fold being then folded into a dart closely adjacent to the crown piece and serving as a means to shed the water flowing from the crown piece away from the wearer's face, and hand hold means applied to the inner surface of the shield.

4. The herein described storm cape including a protector for the shoulders and arms, said cape being formed from a strip or panel of relatively cheap material, each of the two upper corner portions being folded over a diagonal line extending toward the central portion of the top edge of the panel forming wings, then one portion of the device being folded over the other remaining portion along a vertical median line bringing one wing portion directly upon the other wing portion and then folded to form vertical panels parallel to said median line, producing in the finished device creases in the back portion of the garment parallel to the median line, and creases in the wing portions parallel to one another but oblique to the first mentioned diagonal folding lines.

JOSEPH A. GAVIN.