Jan. 25, 1949. C. H. WOODBURY 2,459,985

HAND COVERING

Filed July 16, 1946

Fig. 1.

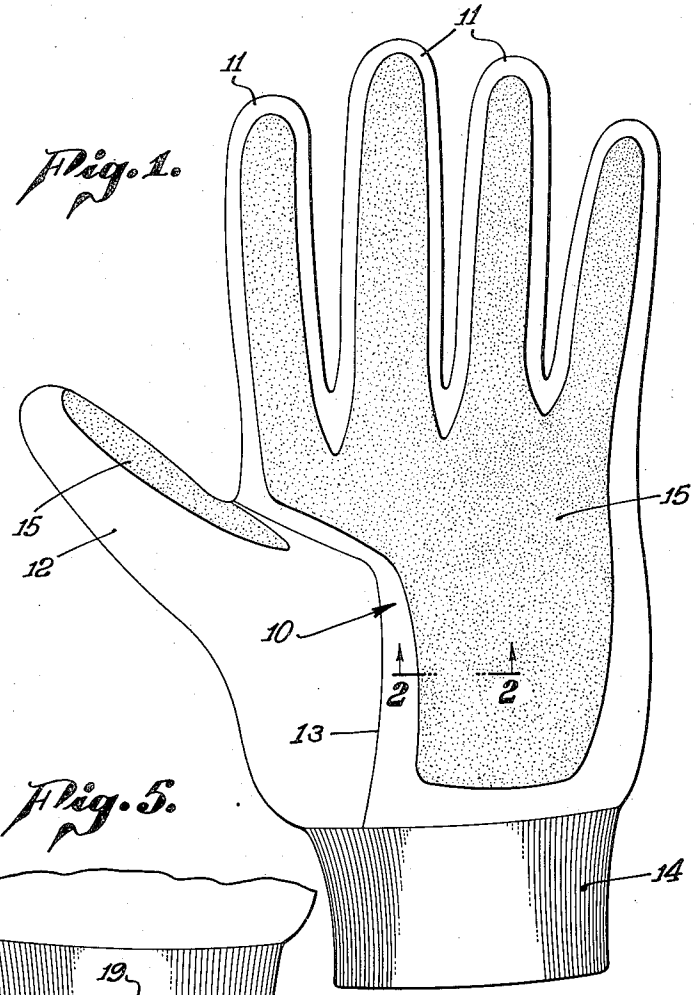


Fig. 4.

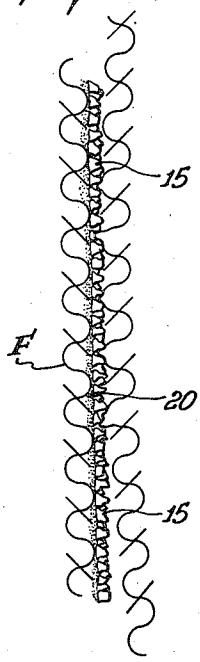


Fig. 5.

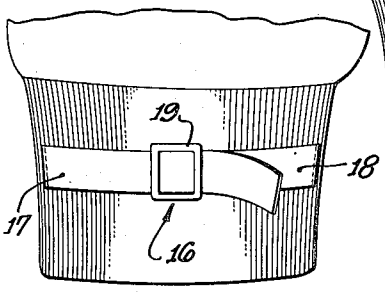


Fig. 2.

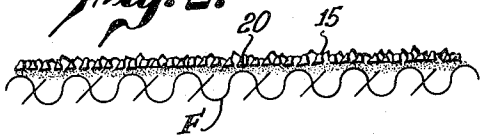
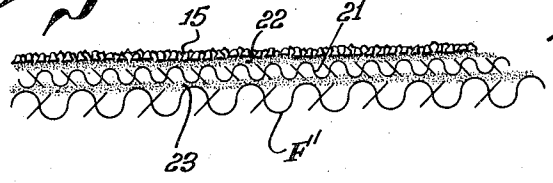


Fig. 3.



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Patented Jan. 25, 1949 2,459,985

UNITED STATES PATENT OFFICE

2,459,985

HAND COVERING

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Application July 16, 1946, Serial No. 683,922

3 Claims. (Cl. 2—161)

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This invention has to do with a hand covering in the general nature of a work glove, it being a general object of the invention to provide a glove or mitten to be used by a worker and which is useful, generally, to enable the worker or user to gain a secure, effective, grip on objects or articles being handled without marring or injuring them.

There are numerous objects or articles that are handled by hand or by workmen and which because of the nature of packaging or of the things themselves do not permit the use of mechanical grappling devices such as hooks. For example, fabric sacks are commonly used for grain, seeds, potatoes, flour, coffee and like products. These sacks vary as to quality or texture, depending upon the products handled. Further, fabric wrappings, usually burlap or the like, are employed for carpeting and various like items of commerce which are commonly wrapped or baled. There are other products such as cement, chemicals, plasters, fertilizers, etc. which for various reasons are commonly handled in paper containers or sacks. There is also a large amount of material handled in cartons of various sizes and shapes and formed of various grades of paper or cardboard.

The handling of fabric sacks, paper sacks, cartons and the like is generally difficult and laborious since grapples or hooks cannot be used and, rather, it is necessary for the workman to engage such objects in a most advantageous manner mechanically or to exercise unusual gripping action through the use of the fingers. In many instances so-called burns or other injuries are suffered by workmen and there is generally a loss experienced in the handling of goods in such packaging due to breakage when the packages are dropped.

Another similar situation exists in the case of men working on poles such as telephone or power line poles or in handling heavy or rough material such as lumber, etc. In such cases mechanical grapples are generally not suitable because of electrical hazards or because they are injurious to the materials handled.

Gloves are often employed by workmen handling objects or articles such as we have referred to, such gloves being of the type commonly known as working gloves. In many instances such gloves protect the hands, but do not facilitate the gripping of objects but rather merely interfere therewith. We are aware that gloves intended for certain classes of work that we have indicated have been made of various materials. For example, gloves have been made from or with rubber. However, it is immediately apparent that such material is not particularly effective for gripping objects such as we have mentioned, but rather is actually slippery under certain conditions, as for instance when moisture is present or when dust or powdered materials are present.

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Further, gloves have been proposed and are sometimes made with metal parts, usually in the nature of reinforcements, which project in a manner to bite into objects that are gripped, but in general such structures closely simulate mechanical grapples or hook devices and are generally unsatisfactory, particularly for handling objects or articles subject to being torn or mutilated.

It is in a general object of the present invention to provide a glove having a gripping face occupied by a multitude of fine yet sharp gripping particles which are such as to establish a mechanical grip or mesh for materials such as fabric or the like without so piercing or biting into such materials as to injure, mutilate, or deform them in any manner.

It is a general object of the present invention to provide a glove having its work engaging faces occupied by small or fine gripping particles which are of such shape or character as to grip rather than slide when in contact with articles such as are indicated above. The particles that we have provided act without cutting or abrading, but rather serve to mesh with the surface engaged so that no movement occurs likely to cause abrasion or cutting.

It is another object of the invention to provide a glove of the general character referred to in which the glove proper is formed of a suitable material such as fabric or leather and is itself sufficiently strong to withstand the use intended, while gripping particles occupy the surfaces that engage objects or articles as the glove is used and form a surfacing which is flexible or conformable to the objects or articles engaged.

The various objects and features of our invention will be fully understood from the following detailed description of typical preferred forms and applications of the invention, throughout which description reference is made to the accompanying drawings, in which:

Fig. 1 is a face or palm view of a typical work glove embodying the present invention. Fig. 2 is an enlarged detailed sectional view of the construction that we provide, being a view taken substantially as indicated by line 2—2 on Fig. 1. Fig. 3 is a view similar to Fig. 2 showing another

form of construction that may be employed. Fig. 4 is an enlarged detailed sectional view illustrating the manner in which the gripping surface that we provide meshes with or mechanically engages the surface of a fabric or the like, and Fig. 5 is a view of the back side of the glove showing the fastening means provided in connection with the gripping surface.

In the preferred form of our invention we apply it to or incorporate it in a conventional type of glove and since the invention is intended primarily for use by workmen we apply it to a work type glove and have, in the drawings, illustrated a typical form of such glove. The glove shown in the drawings involves, generally, a body of usual form characterized by a palm portion 10. A plurality of fingers 11 project from the body as does the usual thumb 12. A wrist sleeve 14 projects from the body portion and we provide this sleeve with a fastening means 16.

It is to be understood, of course, that the body with the palm portion 10 and the fingers and thumb are shaped, related and proportioned to properly accommodate the hand of the user. In the particular glove illustrated the thumb is joined to the body portion by a seam 13 and the wrist sleeve 14 is similarly joined to the body portion and projects from the body portion to extend over the wrist or forearm in the desired manner.

It is to be understood that we may, in carrying out our invention form the glove of any suitable material or materials and in practice the particular material used in any specific case may be governed largely by the circumstances or the conditions under which the glove is to be used. Since work gloves are commonly formed of leather or fabric or combinations of these materials we will, for example, point out that our glove can be formed of either one or both of these materials. We contemplate forming the glove of such materials and so connecting the various parts that the glove in and of itself is sufficiently strong and durable to stand up under the use intended, and it is not our intention that the gripping particles that we apply to the glove parts should be relied upon as structural elements of the glove necessary for adequate strength or durability, although they may add to or supplement the strength and durability of the glove.

The gripping particles that we employ are applied to the work engaging or article engaging portions of the glove to occupy such parts of the glove, preferably to completely cover them. It is to be understood that in practice the extent of coverage by means of the gripping particles may vary widely, depending upon various factors, such as the materials used as the particles, their mode of application to the glove or the working conditions to be served by the glove. In the drawings we have illustrated a typical arrangement or application of particles and it will be noted that we there show a plurality of areas of the glove occupied by gripping particles. For instance, we show an area on the inner side of the thumb 12 and an area that extends over the palm portion 10 and extends out along the inner sides of the several fingers 11. It will be apparent from this disclosure that these occupied areas of the glove may be varied in number, size, shape and arrangement as circumstances require.

The gripping particles that we provide are designated in the drawings as 15 and they are preferably applied to the parts of the glove such as we have just referred to and which we will

term the working surfaces or parts so as to completely cover or occupy such surfaces. In accordance with our invention the particles 15 are formed of hard, durable, crush wear resisting material such, for example, as emery or the material commonly known as Carborundum. Materials that we may use may be hard and are preferably sharp materials of the silicon carbide, aluminum oxide or garnet types.

It is to be understood that we contemplate suitable variation in the material or combination of materials employed in the particles as working conditions indicate. The particles, in addition to being hard and wear resisting are preferably irregular in form or shape and in most instances we prefer to employ particles that are sharp edged. Furthermore, we prefer to employ particles that are considerably coarser than those ordinarily employed in sandpapers or like abrasives. For instance, we employ particles that are about the size of very coarse sand or of very fine gravel. In employing sharp edged irregular particles 15 we prefer to apply them to the working surfaces of the glove so that flat or base portions of the particles are in while pointed or sharp parts are out, which arrangement of particles we have indicated in a general way in the drawings.

The manner of applying the particles to the working surfaces of the glove may vary widely. In the drawings we show two typical applications or manners of applying the particles. In Fig. 2 we show the working part of the glove as formed of fabric F and we show the particles 15 secured or bonded thereto by a suitable adhesive 20. We prefer to employ an adhesive which has some life or flexibility so that the working surfaces of the glove are not rendered stiff by the application of the adhesive thereto and in most instances we prefer to employ an adhesive that is water-proof. It will be understood that the desired adhesive can be applied to the working surfaces of the glove in any suitable convenient manner and that the particles 15 can be applied to or arranged over the layer or film of adhesive in any suitable manner to gain the desired gripping surface. In practice we anticipate that we may, for example, use methods of application such as are extensively employed commercially in applying materials known as Threemite.

In the form of the invention illustrated in Fig. 3 of the drawings we apply the particles 15 to the fabric F' of the glove through an intervening fabric 21. In this case the particles 15 are applied or bonded to the fabric 21 as by a suitable adhesive 22 and the fabric 21, in turn, is bonded to the fabric F' by a suitable adhesive 23. In this case, as in the first described, the adhesives employed are preferably such as to give the structure reasonable flexibility and in most instances it is preferred that they be waterproof. For example, we may, in practice, employ adhesives such as are known as animal, mineral or natural adhesives, or we may use combinations of different adhesives.

In Fig. 4 of the drawings we illustrate the manner in which the gripping particles 15 secured or bonded to the fabric of the glove engage a material such as a fabric so that the particles have mechanical mesh therewith, establishing an effective, secure gripping engagement. We have shown the particles engaging a fabric as such example serves best to illustrate the mechanical gripping action that we obtain, it being understood that this same general action is obtained

to a degree even when the particles are engaged with relatively smooth surface material such as paper, for in such cases the surface is not altogether smooth and is soft enough to allow limited penetration of the particles sufficient to establish the desired mesh or gripping engagement.

The fastening means 16 provided in connection with the wrist sleeve serves to effectively hold the glove on the hand and it is important since there is a marked tendency for the glove to pull from the hand due to the gripping action that we have provided. We have shown a strap and buckle construction involving straps 17 and 18 joined to circumferentially spaced parts of the sleeve and releasably and adjustably connected together by a suitable buckle 19.

From the foregoing description it will be apparent that we have, by our present invention, provided a glove with working surfaces occupied by gripping particles which are of such nature as to establish a meshing engagement with articles contacted by the user, and it will be apparent that as the glove is used slippage is minimized if not completely reduced and yet the articles handled are not in any way injured, mutilated, or torn. By reason of the effective gripping engagement gained through the structure that we have provided the user can handle articles with relative ease and security and it is unnecessary to apply great force through the fingers or to manipulate the articles to gain special gripping engagement therewith such as is necessary with the bare hands or with ordinary gloves.

Having described only typical preferred forms and applications of our invention, we do not wish to be limited or restricted to the specific details herein set forth, but wish to reserve to ourselves any variations or modifications that may appear to those skilled in the art and fall within the scope of the following claims:

Having described our invention, we claim:

1. A glove of the character described having a palm, a thumb and finger parts with work engaging faces, a continuous surfacing on said faces of the palm and finger parts, a separate surface on the thumb part, each surfacing including an outer layer of coarse sharp gripping particles and an adhesive bonding said particles directly to said faces.

2. A glove of the character described having parts with work engaging faces, and a surfacing on said faces including a layer of coarse gripping particles with sharp projections and a waterproof adhesive securing said particles to said faces with the said projections outermost.

3. A work glove of the character decsribed having parts with work engaging faces, a surfacing occupying said faces and including a layer of gripping particles the outer parts of which are irregular in form and have gripping edges, and a waterproof adhesive bonding the particles to said faces, the particles being so coarse as to establish mechanical gripping engagement with a fabric when applied thereto in the course of use of the glove, a wrist sleeve, and a strap and buckle device carried by the sleeve operable to make the sleeve tight around the wrist of the user.

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GAIUS FABIUS BROOKS.

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