Aug 5, 1941. A. J. WARTHA 2,251,647

SANDBLASTING STENCIL

Filed Sept. 26, 1940

Fig. 1.

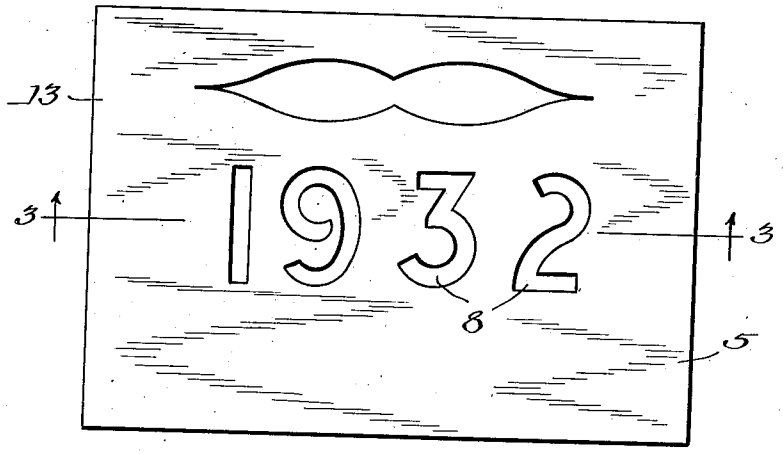


Fig. 2.

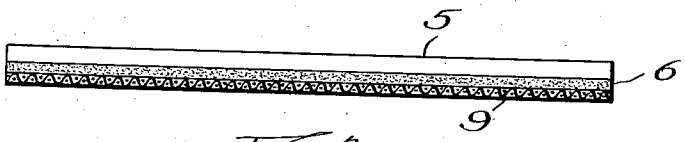


Fig. 3.

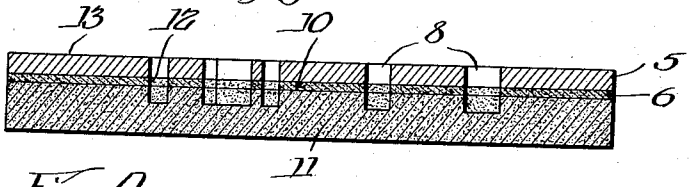


Fig. 4.

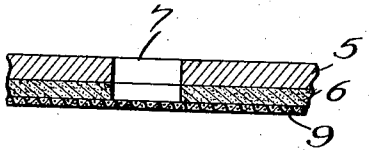
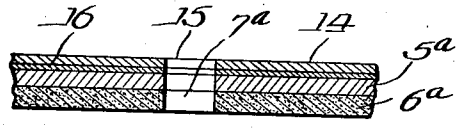


Fig. 5.



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2,251,647

SANDBLASTING STENCIL

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Application September 26, 1940, Serial No. 358,443

20 Claims. (Cl. 41—39)

This invention relates in general to sheet materials, and more particularly to such materials wherein the sheet material is of a nature to be inherently resistant to abrasion, such as it would be subjected to when used in a stencil material for sandblasting operations, and especially to such materials provided with an adhesive coating which is also characterized by resistance to abrasion and is desirably of a pressure sensitive nature. Furthermore, the adhesive is preferably water insoluble and normally non-drying. While the invention is described and claimed with respect to a sheet material particularly adapted for use in making stencils, it will be understood that the material may be employed for other purposes and the invention therefore finds a wide field of utility.

This application is a continuation-in-part of my copending applications Serial No. 659,110, filed March 1, 1933, and Serial No. 218,242, filed July 8, 1938.

The invention has special utility as stencil material for limiting the application of fluid in the form of spray or otherwise, and also for limiting the area of a given surface exposed to the action of sand particles in a sandblasting operation, it being understood, however, that such limited fields of specific use are cited merely for purposes of illustration as examples of the utility of the invention in its several phases. In the stone cutting and engraving industry, particularly with reference to the cutting of inscriptions on surfaces of stone, it was formerly necessary to do such work by hand, which made the operation very expensive and tedious. With the development of sandblasting equipment it became possible for this work to be done with a sandblast, using a procedure wherein the surface was protected by blasting resistant material having apertures of the desired design to expose the stone surface to the action of the sandblast. However, great difficulty has been encountered in obtaining a material which would properly protect the surface of the stone to give sharp edges to the inscription and prevent defacement of the covered area. The early attempts involved the use of glue film poured in place upon the surface, in which film the desired inscription was cut. This procedure was not only tedious but also unsatisfactory in that the glue material did not have proper resistance to the sandblast and was difficult to remove after the sandblasting operation had been completed. Such poured films of glue were tenaciously adherent to the stone surface, and the drying action of the glue would remove particles of the stone from the surface, thus defacing the same.

Attempts have been made to produce preformed films of glue material such as are described in Patent No. 1,882,526 of Charles D. Smith. Such films not only do not possess the necessary high degree of resistance to the sandblast, but also require the use of a flexibilizing agent for the glue, such as glycerine in order to make them practicable. When applied to the surface of a stone the glycerine content in such materials tends to migrate into the pores of the stone and remain there after the sandblasting operation is completed, and the stencil material removed. This results in the surface of the stone which was in contact with the stencil material being more susceptible to absorption of moisture when the climate is humid, thus producing visible staining of the area of the stone so affected. Additionally, the adhesive of such glue films was also of a glue composition requiring activation by water, and upon setting or drying had the like defect with respect to defacing the surface of the stone as that mentioned above with respect to poured glue films.

Further difficulties encountered in the use of glue films whether poured in place or precast, arise from the fact that glue material, particularly when combined with glycerine to flexibilize the same, is extremely susceptible to climatic conditions. Thus in hot humid weather the films become soft and lose their resistance to blasting operations to an extent which makes their use impossible, and in cold dry weather the films become brittle and will not adequately adhere to the surfaces to which they are applied, particularly if such surfaces are uneven.

It is therefore one of the principal objects of the present invention to provide a sheet material adapted for making stencils for use in the stone engraving industry where sandblasting operations are used, characterized by a tough flexible blasting resistant backing material coated on one surface with a blasting resistant adhesive which is of a pressure-sensitive nature adapted to retain the backing material on the surface of the stone to which it is applied to a degree sufficient to resist any action of the sandblast to remove the same, but at the same time permitting the stencil sheet to be readily removed when desired without defacing the stone surface in any way.

The principal objects and advantages of the present invention reside in the provision of a stenciling sheet which possesses unusual dura-

bility under the high pressures employed in pressure blasting; the provision of an improved adhesively coated stenciling sheet in which quick application of the same to a desired surface may be made in any kind of weather; the provision of a stenciling sheet and adhesive therefor in which the adhesive and the sheet are non-hardening and in which the adhesive is pressure-sensitive; the provision of an improved form of stenciling sheet which permits, in high-pressure sand blasting methods, of highly accurate work by the operator and to permit the operator to do what is known as fine edge carving; the provision of an improved form of stencil sheet in which the adhesive employed possesses a high degree of tenacity for the surface to which it is applied, thus preventing the stencil from leaving the stone while blasting and, at the same time, in which the adhesive will not offset on to the stone or pull away particles of the stone when it is removed therefrom.

It is further to be understood that this invention has, as objects, the provision of an improved stenciling sheet possessing the optimum of thickness, it being understood that, in order to do very fine lace work cutting with the sandblasting apparatus, the sheet must be as thin as possible, yet, at the same time, have desired resistance to impact by the sandblast itself; the provision of an improved stenciling sheet in which the sheet or backing is characterized by resiliency so as to withstand the severe impact of particles of sand, and which will prevent the penetration of the sand under those conditions into or through the sheet; the provision of an improved stenciling sheet wherein a pressure-sensitive adhesive is applied to one surface thereof and possessing the properties of being non-offsetting to the surface to which the stencil is applied, and in which the adhesive has greater adhesion inter se than for the surface to which it is applied; the provision of an improved form of stenciling sheet having a resilent and distensible backing provided with a pressure-sensitive adhesive on one surface which permits the sheet, when applied to a surface, to be sandblasted or coated immediately and remains secure on this surface; the provision of an improved form of stenciling sheet in which the backing is of a resilient and distensible nature, the adhesive is of a non-hardening and pressure sensitive character and wherein the sheets may be stored in stacks or rolls; the provision of an improved stenciling sheet of the character referred to wherein the backing employed is impervious to the solvents employed in lacquers, paints and varnishes ordinarily used in applying paint to automobile bodies and the like.

This invention is further characterized by the provision of a stenciling sheet, the backing of which is capable of readily receiving any kind of marking, such as those used as transfers in the monument trade or a design drawn with an ordinary lead pencil; and in which such a stenciling sheet may be employed as a substitute for so-called offset blanks employed by lithographers.

It is further to be understood that this invention has as objects thereof the provision of an improved method of inscribing or cutting materials such as stone involving the use of a stencil sheet formed of a plurality of layers of blasting resistant material, one of which layers is a backing of blasting resistant sheet material, preferably of rubber base material, the other being a coating of normally pressure sensitive adhesive, and involves applying the adhesive surface of the stencil sheet to the surface to be treated, and impinging the blast over the stencil so positioned, which urges the same into more intimate contact with the surface to be treated during the blasting operation and maintains the configuration of the stencil during the blasting operation, regardless of the intricacy of the design whereby very fine lace work cutting can be accomplished without distortion or warping or adversely affecting the true outline of the stencil by reason of the fact that the blasting operation impinges a force against the stencil which serves to retain the stencil in intimate contact with the surface to be treated and is rigidly suported against spreading or distortion by the surface to be treated and the intimate union between the surface to be treated and the stencil by the interposed pressure sensitive adhesive.

As an example of one form of the present invention, reference may be had to the accompanying drawing, in which

Figure 1 represents a sheet of the stencil material with apertures cut therein to provide a design and adapted to be used as a stenciling sheet;

Figure 2 is an enlarged sectional view of the sheet showing the backing and layer of pressure-sensitive adhesive; and

Figure 3 is a sectional view of the stencil sheet applied to a stone surface;

Figure 4 is an enlarged fragmentary sectional view of the stencil sheet prior to application to a surface;

Figure 5 is an enlarged fragmentary sectional view of an alternative form of this invention.

In producing this invention I find it convenient to employ a composite backing which may be termed a compounded rubber sheet or a rubber composition sheet and which has applied to one surface thereof a pressure-sensitive adhesive, this adhesive being conveniently of the water insoluble unified type compatible with the backing so as to have greater adhesion for the backing than for a surface to which the stencil may be applied.

The backing sheet is conveniently made up from a rubber compound including a rubber such as latex crepe, whiting, glue, a rosin, a resilient dispersible filler such as factice, and beta naphthol. In this composition the whiting provides finely divided base material which is bonded together to form a coherent mass by the rubber. Other comminuted base materials, such as Dixie clay, soapstone and the like, may be employed instead of whiting, in whole or in part. The glue component may be in the form of bone glue siftings which is a readily available form of finely divided glue which serves as a bodying ingredient in addition to the whiting, and also gives firmness to the composite sheet which enhances the ease and accuracy of cutting the apertures in the sheet to form the stencil. The rosin may comprise "Solros," which is a heat treated wood rosin used in this composition as a tempering agent particularly during the milling process. The beta naphthol is an antioxidant used to prolong the life of both the rubber and the glue of this composition. The rosin and beta naphthol may be omitted, if desired, and, in some cases, the glue, but the most satisfactory results have been obtained in following the formula as herein set forth.

Factice is a vulcanized or blown vegetable oil which mixes evenly with the rubber to increase

the homogeneity of the mass and also serves to modify and reduce the nerve of the rubber. This latter function is important in that the ordinary characteristics of rubber as to toughness and elasticity are not desirable in this composite sheet, as they would cause the sheet to be difficult to cut accurately to the desired design. Vulcanized vegetable oils known generically as "factice" are adapted to perform this function and modify the backing sheet. For example, such vulcanized vegetable oils as linseed oil, rape seed oil, tung oil, cotton seed oil, corn oil and sunflower seed oil, have been found suitable. The reduction of the nerve of the rubber is further accomplished by the intensive milling in preparation of the composite material as hereinafter disclosed. Other materials which may be employed as the resilient dispersible filler in place of factice, in whole or in part, are zinc naphthenate, bodied castor oil, blown tung oil, a composition of ethylene dichloride and benzene known under the trade name "A X F", polyvinyl alcohol gel, methyl cellulose water gel, gum tragacanth water gel.

While the proportions of these ingredients may be varied within reasonable limits, I have found proportions by weight according to the following formula to give a desirable composite sheet material.

Formula "A"

	Pounds
Bone glue siftings	20
Latex crepe rubber	20
Whiting	60
Solros	.9
Factice	5
Beta naphthol	.2

For my purposes it is preferred to place the rubber in a mill and then mill same until the mass follows the mill roll and gives the appearance of a smooth film covering the roll. This takes approximately ten minutes of milling time.

The bone glue siftings are then added and the rubber and glue, in substantially equal amounts, milled for approximately thirty minutes. From time to time the mass may be treated with steam applied directly thereto, thus moistening the glue content and causing the same to more rapidly melt into and mix with the rubber. A portion of the mixture may be retained in the glue content of the finished sheet unless high temperatures are employed in the milling operation.

I then mix thoroughly together the factice, whiting, Solros and beta naphthol and when well mixed they are added to the rubber-glue mass. This mass is then milled under steam appplication until the entire batch is thoroughly homogenized.

When the composite mass made according to the above formula has been thoroughly mixed, it is then sheeted or calendered to form a sheet of the desired thickness, which for example may be approximately .035 inch. This sheet is then allowed to cool for approximately 24 hours to impart firmness thereto.

After this operation has been completed the resultant sheet or backing is coated on one side with an adhesive made according to the formula hereinafter set out, the adhesive being warmed on the mill just prior to its application to the backing sheet.

The formula for the adhesive calls for ingredients which are similar to those used in the backing. Due in part to this similarity and in part to the nature of the adhesive compound, the bond which results when the adhesive is applied to the backing is of such strength that it is practically impossible to cause subsequent separation by mechanical means. This condition prevents lamination or separation even under the most adverse treatment.

The formula for the adhesive by weight may be as follows:

Formula "B"

	Pounds
Latex crepe rubber	40
Zinc oxide	20
Whiting	20
Solros rosin	26.7
Beta naphthol	.4

In this formula the relatively large ratio of pigments such as zinc oxide and whiting serve to make the adhesive blasting resistant, and the Solros rosin in this case serves as a tack producing ingredient to give the adhesive the desired normally tacky character.

The process of making the adhesive which I prefer to employ for the purpose of this invention is preferably carried out by milling the latex crepe material for six or seven minutes. The pigments, such as the zinc oxide and whiting, are then added, together with the beta naphthol, and the milling carried on until the pigments are completely dispersed throughout the latex crepe. I then add the Solros rosin and subject the whole batch to a thorough milling. The batch is then removed from the mill with a scraper and may be stored in trays with a powdered liner until ready for application to the sheeted backing.

As above stated, the adhesive mass is heated on the mill prior to application to the backing by a calender roll.

The adhesive of the foregoing formula possesses great tenacity, and I find that, for some purposes, there must be employed a liner between the adhesive layer and an adjacent surface, such as the backing of the stencil sheet itself. For the purpose of a liner I have employed starched Holland cloth applied directly to the surface of the adhesive. Where desired, I am able to reduce the tenacity of the adhesive and yet have it retain the desired degree of adhesion to a surface to which it is applied by reducing the adhesive character thereof. This is accomplished, for example, by increasing the proportion of filler, whiting or the like, and I have found that a liner made of paper treated with a material inactive to the adhesive, such as by sizing with shellac or glue, gives satisfactory results as a slip-sheeting between layers of the stencil sheet in such cases.

After application of the adhesive coating I may either apply a temporary cheesecloth liner to enable the coated sheet to be formed in temporary rolls and later remove the cheesecloth liner and apply the liner such as Holland cloth, or I may apply this liner to the adhesive coated surface directly after the adhesive is coated. In either case, the liner merely serves as a temporary protecting mask for preventing the outer exposed surface of the adhesive layer from adhering to the back surface of the backing when the sheets are rolled or stored in stacks. After the liner is applied, the sheeted material is then ready for slitting to various lengths and widths. In the finished stencil sheet the rubber composition sheet serves as a backing, and the adhesive, calendered to the surface of the backing

and having an affinity therefor, serves to anchor the backing to the surface to which the stencil is applied upon removal of the liner.

Thus the stencil generally comprises the rubber composition backing sheet, the coating of adhesive applied to one surface thereof, and a liner of suitable material such as starched Holland cloth applied to the exposed surface of the adhesive. This liner is, as pointed out, to be removed prior to using the stencil for application to a surface to which it is to be applied.

Suitable apertures defining the outlines of the design to be cut by the sandblast may be made in the sheet either before or after it is applied to the surface to be inscribed.

As an alternative construction of the stencil, and to reduce the cost of production as compared with the use of the starched Holland cloth, I provide a modified structure comprising the rubber composition backing sheet having the adhesive applied to one surface thereof, and as a protective liner I apply a parchmentized paper to the backing itself so that it is interposed between the adhesive coating and the opposite surface of the backing when the stenciling material is rolled upon itself or stored in stacks.

By this construction I am enabled to avoid starch transfer, that is, particles of starch offsetting on to the adhesive when the Holland cloth is being removed.

The parchmentized paper applied to the back of the backing sheet is of such a charatcer as to be readily removable by the application of cold water when the stencil is to be used. For this purpose I have employed a parchmentized sheet of paper treated with glycerine and primed on one side so as to have a partial affinity for the adjacent surface of the backing and thus retain a tenacious grip thereon until cold water is applied by the user when applying the stencil sheet to a surface for sandblasting purposes.

The primer employed for the parchmentized protective backing may be of a concentrated type made up in proportions by weight to the following formula:

Formula "C"

Rubber cement stock	lbs.	154
Solros wood rosin	lbs.	154
Benzol	gallons	22

In making the primer I take a dry mix of rubber cement stock, preferably direct from the mill, and Solros. These ingredients are dry-mixed and 5 lbs. steam pressure is applied on the jacket during the dry mixing. While mixing, small quantities of the rosin are added and the batch is allowed to become smooth between each addition of rosin thereto. The reason for permitting the batch to smooth out is that too rapid an addition of the rosin produces undesirable lumps in the mixture which cannot be worked out. When the mixing is completed, the batch is cooled and the benzol is then added in the proportions approximately as set out above. This primer forms a bond of sufficient strength to hold the parchmentized paper to the backing until the stencil is to be prepared for use. The parchmentized paper containing glycerine has a great affinity for water, and the presence of water causes the paper to swell and reduces the bond between the primed surface of the liner and the backing so that when cold water is applied to the surface of the liner no difficulty is experienced in removing the liner from the backing when the user is preparing the stencil.

This parchmentized liner thus has imparted to it affinity for the backing and will tenaciously remain on the backing for indefinite periods until removed by application of cold water.

Due to the unified nature of the parchmentized backing strip, and in part to the presence of glycerine, the exposed surface thereof is repellent to the adhesive and the stenciling sheet may be safely rolled or stacked for storing, the adhesive readily stripping off from the adjacent back surface of the liner when it is desired to unroll the sheet for use.

Referring now more particularly to the drawing, one form of the stencil sheet is illustrated in Figures 1 to 4 and is composed conveniently of rubber composition backing sheet **5**, made according to the formula and process herein set out, provided with an adhesive coating **6**, which is of a pressure-sensitive nature and made in accordance with the formula for the adhesive herein set forth. Apertures are cut in the stencil sheet to provide the desired design, as indicated at **7**, or numerals or letters, as the case may be, indicated at **8**.

When the sheet and adhesive are combined, they are provided with a liner of material such as starched Holland cloth, indicated at **9** in Figures 2 and 4, to prevent excessive adhesion between contiguous layers and a consequent offsetting of the adhesive on to the backing as hereinabove pointed out. This liner is removed before the stencil is applied to a surface, such, for example, as is shown in Figure 3. The design forming apertures **7** and **8** may be cut in the stencil sheet either before application to the surface or after such application. When cut before application the liner **9** may, if desired, be left intact as shown at Figure 4.

When the stencil sheet is applied to a surface indicated at **10** in Figure 3, the adhesive coating tenaciously adheres to this surface, which may be the surface of a marble slab **11**. The nature of the adhesive is such that it provides dams **12**, at the margins of the openings **7** and **8**, so that the sandblast striking the exposed surface of the slab through these openings will cut away recesses corresponding in shape to the openings. Owing to the intimacy with which the adhesive engages the surface **10**, the sandblast cannot creep under the adhesive, and where the stencil is used for paints and varnishes the same applies.

Due to the resilient nature of both the adhesive and the backing, the particles of sand striking the exposed surface **13** of the backing **5**, and striking the walls of dams **12**, is caused to be repelled or deflected without wearing away these surfaces. Owing to the snug manner in which the stencil engages the surface to which it is applied, it is possible for an operator to do fine edge carving and what is known as fine lace work cutting.

Referring now to Figure 5, here the stencil includes the backing **5*a*** and the adhesive coating **6*a***, provided with a suitable aperture **7*a***, representing the desired design.

The parchmentized liner **14** is applied to the back of the backing **5*a*** and is of a character which is repellent to the adhesive **6*a***, thus preventing excessive adhesion and yet permitting the stencil to be rolled or stacked in sheets. The parchmentized sheet **14** may be provided with apertures **15** corresponding to the apertures in the stencil for convenience in identifying the stencil, though it is to be understood that the parchmentized sheet may be continuous for the

reason that it is to be removed before the sandblast is applied to the surface. Additionally the design forming apertures may be cut in the sheet after it is applied to the surface.

When the stencil shown in Figure 5 is to be used, water may be applied to the liner for a minute or two, sufficient to reduce the bond between the liner 14 and the backing formed by the primer 16, so that the liner 14 may be readily removed. Owing to the moistureproof nature of the stencil itself and its adhesive, immersion in water has no deleterious effect upon the stencil structure.

By virtue of the rubber content of the backing and the combining of the ingredients thereof, a tough, resilient and distensible sheet material is produced which, because of these properties, adequately resists penetration and wearing away by the high velocity sand particles used in sandblasting operations. Furthermore, when applied to uneven surfaces, such as curved surfaces, the distensibility of the backing and adhesive permit of the application of the stencil sheet snugly at all points so that danger of the sandblast or spray paint or the like flowing under the stencil is prevented, the intimacy with which the adhesive engages the surface to which the sheet is applied, together with the backing itself, serving as a dam to prevent penetration of the sand or flowing of liquids past the desired confines afforded by the walls of the openings in the stencil.

From the foregoing it will be understood that the invention may be produced in two general forms, that is to say, the stencil sheet may be made up with a liner such as Holland cloth on the adhesive coated side thereof as a protection against offsetting of the adhesive on to the back of the sheet when rolled or stacked. This liner is to be removed when the stencil is prepared for use. In the other forms of the invention the liner on the adhesive surface may be omitted and a parchmentized paper or other suitable cellulose material protective liner may be applied to the back of the backing sheet and attached thereto by virtue of the affinity which the priming solution thereof has for the backing. This latter liner may be removed, if desired, when the stencil is to be used, by application of cold water.

As an alternative formula for the composition backing, I have had success with a composition wherein the quantity of factice employed is increased to about twice that shown in the Formula "A" above. This gives a mass which is more readily slit, but does not have as high resistance to impact of the particles used in the sandblast.

It will be understood that the drawing forming a part of this specification is merely illustrative of certain applications of the invention and that the adhesive and the backing to which it is applied may be produced alone for certain purposes, and that I consider my invention as possessing novelty whether an adhesive or protective liner is applied or not.

In the specification and claims where I refer to a "blasting resistant" material or "blasting resistant" characteristics or "blasting resistance," I mean to include thereby a physical character of resiliency, deforming under the impact of an air blast and material entrained thereby, to reassume its normal contour without experiencing substantial abrasion, drying, or hardening, as distinguished from an objectionable warping, shrinking, expanding, drying, hardening and abrasion of other stenciling or masking materials known to me, which under the action of an air blast and materials entrained thereby, exhibit the objectionable characteristics referred to, after blasting.

Thus, the active condition of the normally pressure-sensitive adhesive responds to the blasting force to hold the sheet forming the stencil in more intimate contact with the surface to be treated and is not itself affected by the material entrained in the blast nor hardened, warped, swelled or otherwise adversely affected to maintain a faithful and accurate outline during the blasting operation and upon repeated use.

From the foregoing description of my present invention, its preferred embodiment, and the method in which it is effectively utilized, it will be appreciated that I have also provided an improved process of producing intaglio effects on the surface of various objects, such, e. g., as monuments, even where such surface is of varying contour, as in the case of rough-hewn granite, and that I am enabled so to do without leaving any detritus having present or future undesirable results such as are comprehended within the term "staining" as used in the art.

Having thus described my invention and illustrated its use, what I claim as new and desire to secure by Letters Patent, is:

1. As a new article of manufacture, sandblast stencil sheet material having the properties of flexibility and resistance to impact of abrasive particles, said sheet material including whiting and glue particles bonded together by a binder, said binder comprising major proportions of rubber and minor proportions of a vulcanized vegetable oil adapted to reduce the nerve of said rubber and provide a sheet material capable of being readily and accurately cut to form a sandblast aperture.

2. As a new article of manufacture, sandblast stencil sheet material having the properties of flexibility and resistance to impact of abrasive particles, said sheet material including a comminuted base material bonded together by a binder, a said binder comprising major proportions of rubber and minor proportions of factice as a modifying material to provide a sheet material capable of being readily and accurately cut to form a stencil aperture.

3. As a new article of manufacture, sandblast stencil sheet material having the properties of flexibility and resistance to impact of abrasive particles, said sheet material including a comminuted base material bonded together by a binder, said binder comprising major proportions of rubber and minor proportions of a vulcanized vegetable oil modifying material to provide a sheet material capable of being readily and accurately cut to form a stencil aperture.

4. As a new article of manufacture, sandblast stencil sheet material comprising comminuted base material bonded together by a binder, said materials being in proportions to form a self-sustaining sheet having the properties of flexibility and resistance to the abrasive impact of a sandblast, said binder comprising major proportions of rubber and minor proportions of a vegetable oil modifying material in such quantities that the nerve of the rubber is reduced to render the sheet material formed of said composition capable of being readily and accurately cut to a design.

5. As a new article of manufacture, sandblast stencil sheet material having the properties of flexibility and resistance to impact of abrasive

particles, said sheet material comprising comminuted base material bonded together by a binder, said binder comprising major proportions of rubber and minor proportions of a vulcanized vegetable oil modifying material adapted to, and in sufficient quantities to, reduce the nerve of said rubber and provide a sheet capable of being readily and accurately cut to form a sandblast opening, and a coating of adhesive on one face of said sheet material.

6. As a new article of manufacture, a stencil designed for use in cutting letters, symbols or designs on a surface by way of sandblasting and comprising a sand resistant sheet adapted to be placed against the surface and upon proper shaping thereof to control the sandblast so that it forms or cuts the desired letters, symbols or designs on said surface and formed of rubber and an admixture of substantially an equal amount by weight of glue whereby the sheet is rendered substantially inelastic, and an adhesive coating on the back face of the sheet for holding the sheet in adhesively connected relation with said surface.

7. As a new article of manufacture, a stencil designed for use in cutting letters, symbols or designs on a surface by way of sandblasting and comprising a sand resistant sheet adapted to be placed against the surface and upon proper shaping thereof to control the sandblast so that it forms the desired letters, symbols or designs on said surface, and formed of rubber and an admixture of substantially an equal amount by weight of glue whereby the sheet is rendered substantially inelastic, and a coating of permanently tacky, pressure-sensitive adhesive applied to and covering the back of the sheet and adapted to hold the sheet in adhesively connected relation with said surface.

8. As a new article of manufacture, a stencil designed for use in cutting letters, symbols or designs on a surface by way of sandblasting and comprising a sand resistant sheet adapted to be placed against the surface and upon proper shaping thereof to control the sandblast so that it forms the desired letters, symbols or designs on said surface, and formed of rubber, an admixture of substantially an equal amount by weight of glue whereby the sheet is rendered substantially inelastic, and a filler in greater amount than either the rubber or the glue, and an adhesive coating applied to and covering the back face of the sheet and adapted to hold the sheet in adhesively connected relation with said surface.

9. As a new article of manufacture, a stencil designed for use in cutting letters, symbols or designs on a surface by way of sandblasting and comprising a sand resistant sheet adapted to be placed against the surface and upon proper shaping thereof to control the sandblast so that it forms the desired letters, symbols or designs on said surface, and formed of rubber, an admixture of substantially an equal amount of glue whereby the sheet is rendered substantially inelastic, and whiting in an amount by weight substantially equal to the combined amount of the rubber and glue, and a coating of permanently tacky pressure-sensitive adhesive appled to and covering the back face of the sheet and adapted to hold the sheet in adhesively connected relation with the surface.

10. A new article of manufacture, sheeted material comprising an inherently flexible rubber compounded blasting resistant backing having a layer of adhesive material affixed to one surface thereof and a protective layer or coating of a glycerinized material applied to one surface of the article, said protective layer being water absorbent to facilitate removal of the same from said article.

11. A new article of manufacture, sheeted material having a non-drying normally pressure-sensitive, inherently blasting resistant adhesive applied to one surface thereof, and a protective liner adhesively connected with the opposite surface of the article and removable therefrom by immersion in water.

12. In a new article of manufacture, a sheeted backing including an inherently blasting resistant rubber compounded material, and an adhesive coating applied thereto including a rubber compounded material having more or less tacky blasting resistant characteristics, and a parchmentized cellulosic material affixed to one surface of the article, said cellulosic material being removable from the article by application of moisture thereto.

13. In a new article of manufacture, a sheeted backing including an inherently blasting resistant rubber compounded material, and an adhesive coating applied thereto including a rubber compounded material having more or less tacky blasting resistant characteristics and a protective liner applied to the back of said article and containing a primer for affixing the same thereto.

14. A new article of manufacture, sheeted material comprising a flexible mass containing as ingredients thereof bone glue siftings, rubber, whiting, Solros, factice and a solvent and a normally pressure-sensitive rubber-base adhesive coating affixed to one surface thereof, said composite being inherently blasting resistant.

15. A new article of manufacture, sheeted material comprising a flexible mass containing as ingredients thereof twenty pounds bone glue siftings, twenty pounds of latex, sixty pounds whiting, nine-tenths pound Solros, fixe pounds factice and a solvent and a normally pressure-sensitive rubber-base adhesive coating affixed to one surface thereof, said composite being inherently blasting resistant.

16. As a new article of manufacture, sheeted material comprising a flexible mass containing, as ingredients thereof, glue, rubber, whiting, a rosin and factice and a normally pressure-sensitive, rubber base adhesive coating affixed to one surface thereof, said composite being inherently blasting resistant.

17. As a new article of manufacture, sheeted material comprising a flexible mass containing, as ingredients thereof, glue siftings, rubber, whiting, Solros and factice, and a normally pressure-sensitive, rubber base adhesive coating affixed to one surface thereof, said composite being inherently blasting resistant.

18. As a new article of manufacture, a stencil designed for use in cutting letters, symbols or designs on a surface by way of sandblasting and comprising a sand resistant sheet adapted to be placed against the surface and, upon proper shaping thereof, to control the sandblast so that it forms the desired letters, symbols or designs on said surface and formed of rubber and glue, and whiting in an amount equal to or greater than the combined amount of rubber and glue, and minor proportions of a resilient solid filler material having less cohesive strength than rubber and being insoluble in rubber but dispersible

therein and adapted to decrease the nerve of the rubber without destroying its blast resistance, and a coating of permanently tacky, pressure-sensitive rubber base adhesive applied to and covering the back face of the sheet and adapted to hold the sheet in adhesively connected relation with the surface.

19. As a new article of manufacture, sandblast stencil sheet material having the properties of flexibility and resistance to impact of abrasive particles, said sheet material including a comminuted base material bonded together by a binder, said binder comprising major proportions of rubber and minor proportions of a resilient, solid filler material having less cohesive strength than rubber and being dispersible in rubber but insoluble therein, and adapted to decrease the nerve and strength of the composite sheet material without destroying its blast-resistance and to provide a sheet material capable of being readily and accurately cut to form a stencil aperture, and a coating of normally pressure-sensitive rubber base adhesive on one face of said backing sheet material.

20. As a new article of manufacture, sandblast stencil sheet material having the properties of flexibility and resistance to impact of abrasive particles, said sheet material including a comminuted base material bonded together by a binder, said binder comprising major proportions of rubber and minor proportions of a rubber nerve reducing, rubber-insoluble filler selected from the class consisting of factice, zinc naphthenate, bodied castor oil, blown tung oil, polyvinyl alcohol gel, methyl cellulose water gel, and gum tragacanth water gel.

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