

No. 795,562.

PATENTED JULY 25, 1905.

S. T. TATTI.  
ABSORBENT AND DEODORIZER.  
APPLICATION FILED JAN. 18, 1904.

Fig. 1.

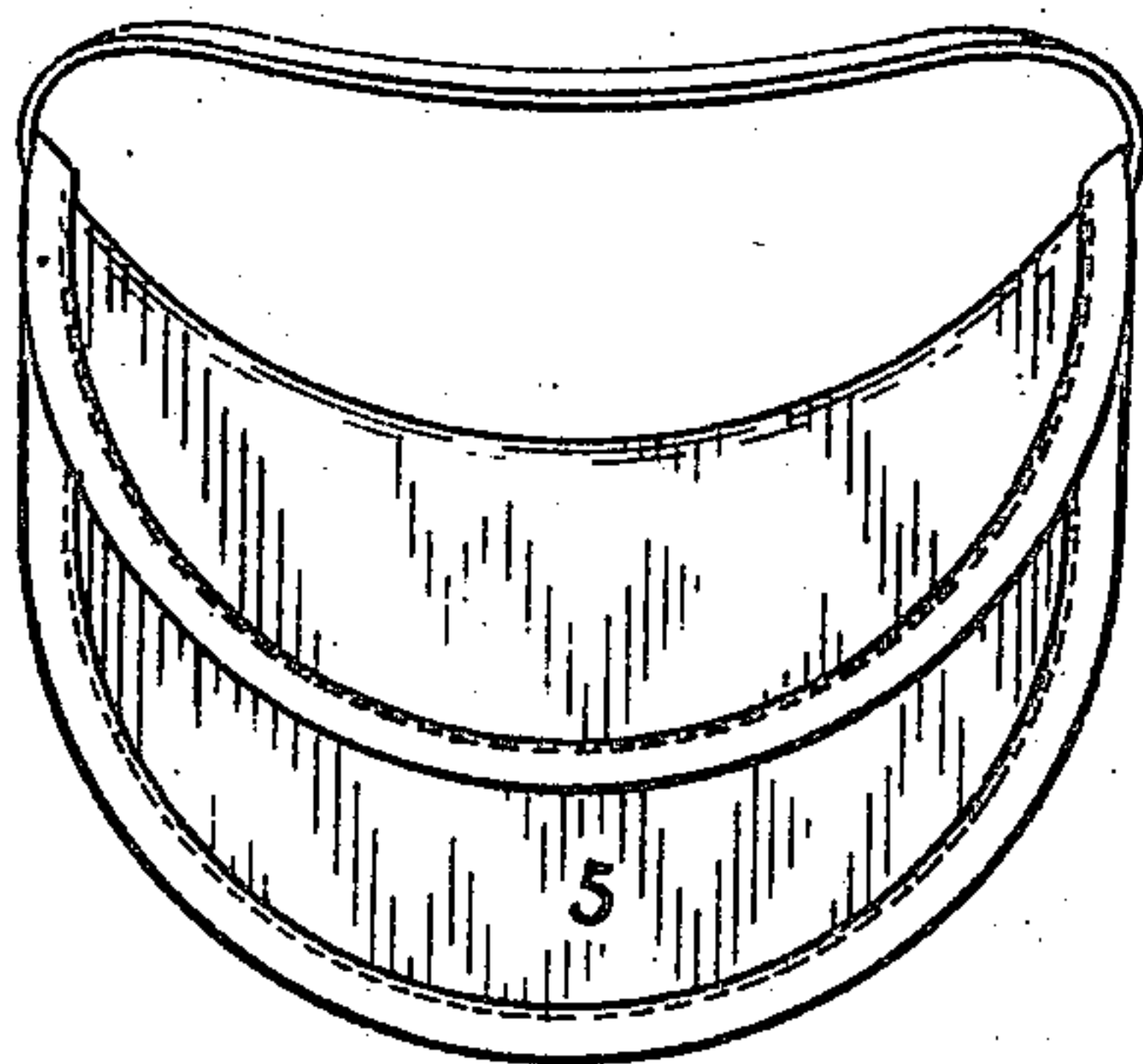


Fig. 2.



Fig. 4.

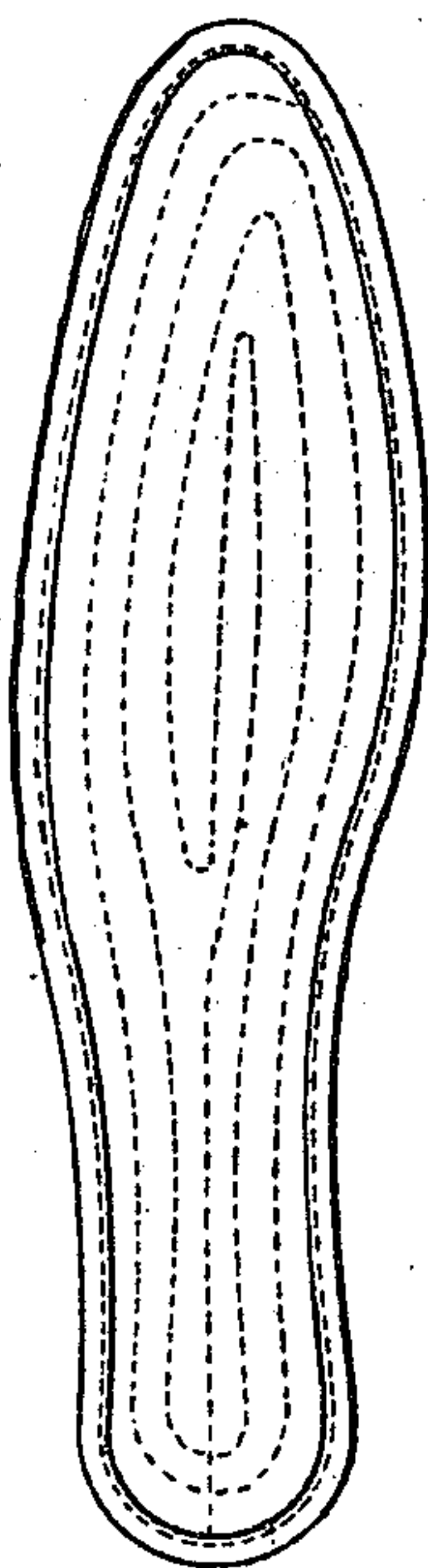


Fig. 3.

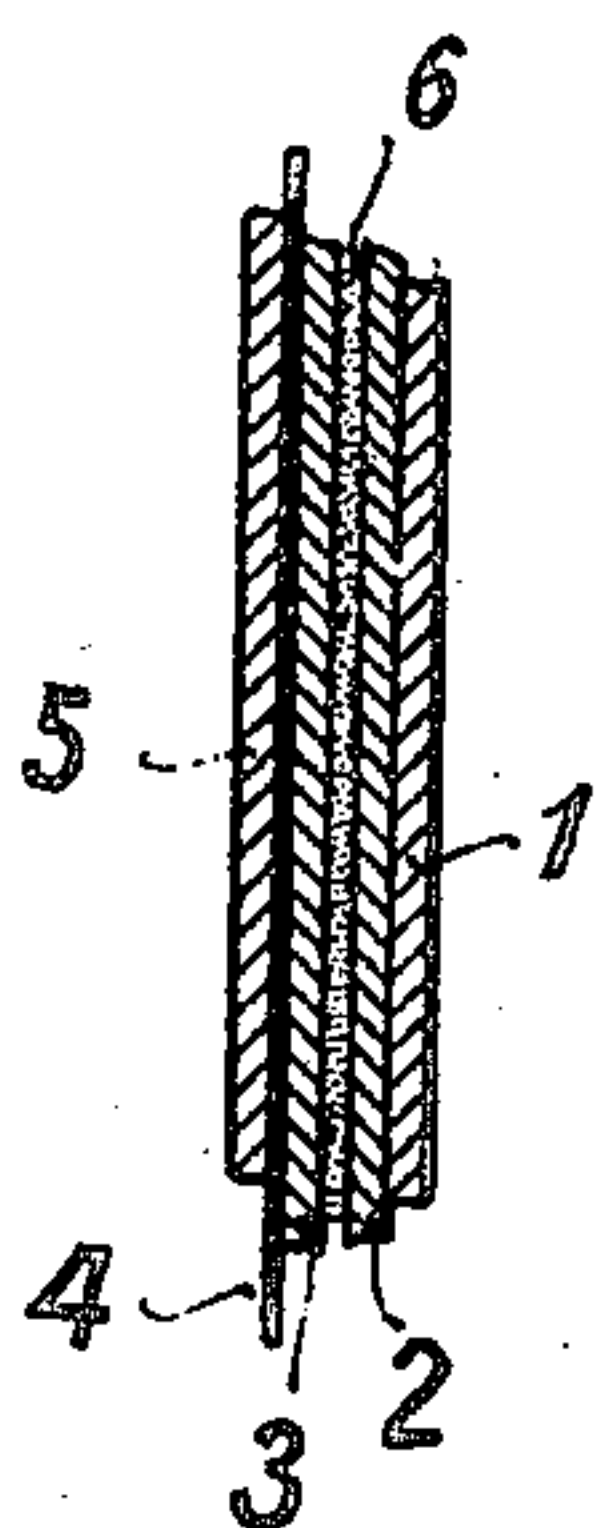
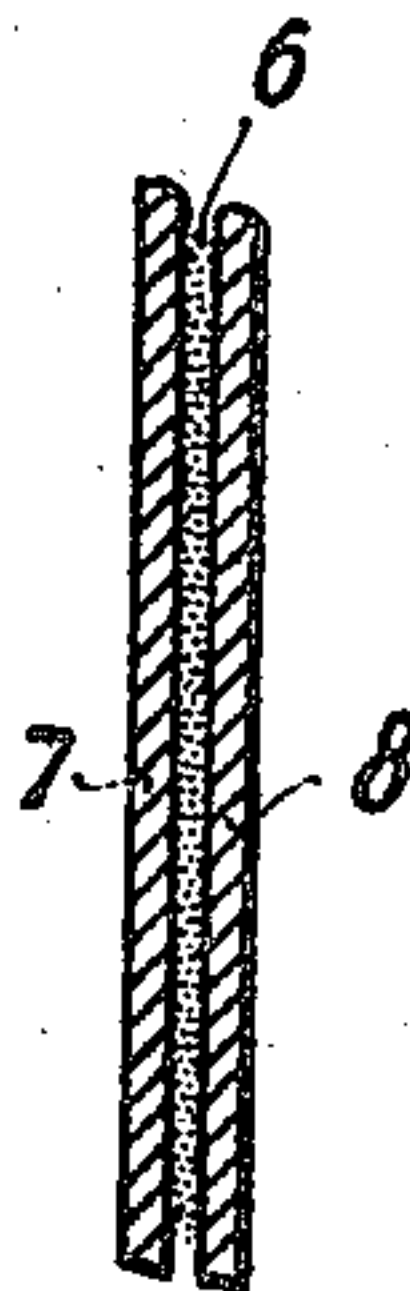


Fig. 5.



Witnesses  
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*Silvio Theodoro Tatti*  
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# UNITED STATES PATENT OFFICE.

SILVIO TEODORO TATTI, OF BUENOS AYRES, ARGENTINA.

## ABSORBENT AND DEODORIZER.

No. 795,562.

Specification of Letters Patent.

Patented July 25, 1905.

Application filed January 18, 1904. Serial No. 189,577.

*To all whom it may concern:*

Be it known that I, SILVIO TEODORO TATTI, doctor of medicine, a citizen of Argentina, and a resident of No. 745 Calle Tucuman, in the city of Buenos Ayres, Argentina, have invented a new and useful Improvement in Absorbents and Deodorizers, of which the following is a specification.

My present invention relates to dress-shields and insoles to which is applied a compound specially devised by me for the absorption, neutralization, and deodorization of the sweat.

As is known, the sweat is the product of the secretory function of the skin and comes from the sudorific and sebaceous glands situated in the skin. It is normally a colorless liquid having an odor *sui generis*, which varies according to the different races and persons. The quantity segregated also varies under the influence of the surrounding temperature, the work being at the time done by the different individuals and depends as well on the amount of liquids drunk. It has been demonstrated that sweat is of acid reaction. At the commencement of the sudorific secretion the reaction is more acid on account of the presence of a greater amount of lactic acid and volatile fatty acids. The elements ordinarily found in the sweat are: water, small quantities of grease, urea, cholesterin, lactic acid, nitrogenous acids, alkaline sulfates and phosphates, terreous phosphates, and iron oxid, some volatile acids—such as acetic, formic, butyric acid, &c.—free carbonic acid, and, according to some other authors, an albuminoidal body and sudoric acid. These several elements vary slightly in accordance with the increased or lessened function of the sudorific glands. Notwithstanding, the fixed elements diminish to a considerable extent as soon as the secretion becomes very abundant, particularly if the sweat comes from the arm-holes or from the feet. In these parts the sudorific secretion contains abundant fixed residues when it is normal and incloses odorous bodies (acids, fats, amines, sulfurous bodies;) but when the sweat is very abundant these elements diminish. In women the sweat of the arm-holes is more abundant and contains more odorous elements than in men. On the other hand, in the latter the same features occur as regards the sweat of the feet. In both cases the sweat has for results a great inconvenience for the clothes, which get wet, discolored, and give off a bad smell, which cannot be taken

away or corrected by any perfumes which may be employed to that end. Neither by personal hygiene, the frequent change of the under-clothes, stockings, &c., may the bad smell be suppressed when the upper clothes, dresses, trimmings, shoes, &c., have once become impregnated with the sweat, for these last-mentioned clothings may generally not be washed. I have now succeeded in avoiding precisely these nuisances as regards the spoiling of the clothes and the bad smell thereof by making dress-shields and insoles provided with a compound which I have discovered and which absorbs, neutralizes and deodorizes the sweat. I have discovered said compound after numerous experiments, departing from the scientific principle of the acid reaction of sweat and of the existence therein of volatile odorous acids. The said compound consists of the mixture of several substances which have sweat absorbing, neutralizing, deodorizing, and disinfecting properties. The formula of said compound is, by weight, parts: wood-charcoal, (C,) four hundred parts; calcined magnesium or magnesium oxid, (MgO,) four hundred parts; slaked lime or calcium hydrate,  $\text{Ca}(\text{HO})_2$ , one hundred parts; zinc oxid, (ZnO,) one hundred parts. The mixture of these bodies constitutes a powder the color of which varies from a grayish blue to black in relation to the predomination of one or the other of the ingredients, for the above formula is not absolute. Its absorbing power is most considerable and so are its deodorizing and disinfecting properties, as may be seen by the action of each of these substances. The wood-charcoal, which may be substituted by washed animal charcoal, absorbs the gases and condenses them within its pores. The oxygen on the surface escapes easily in the presence of oxidizable organic matters which occur in a gaseous state, (volatile products of the sweat.) The charcoal also assists in absorbing and retaining the sweat while the other elements are developing their action. It is at the same time a deodorizing and disinfecting agent, and although charcoal in general reunites both properties in the highest degree when in a dry state the moisture as long as it does not attain the degree of saturation does not prevent it from exerting said properties. The calcined magnesium or magnesium oxid, which may be reëplaced by carbonate of magnesium, ( $\text{MgCO}_3$ ), is little soluble in sweat. In the moist medium produced by the sweat the



magnesium oxid combines with the water of the former and with the carbonic acid, thereby forming a hydrocarbonate of magnesium, and thus neutralizing the acidity of the sweat. The calcium hydrate acts slowly by its alkalinity, and its disinfecting qualities also prevent the decomposition of the constituents of the sweat. The zinc oxid is an absorbing agent, and at the same time it renders the mixture more homogeneous.

My said compound is used industrially in connection with the manufacture of dress-shields and insoles for shoes and boots in the manner shown in the accompanying drawings, wherein—

Figure 1 shows a dress-shield. Fig. 2 is a lateral view of the same in which the outer seam has been opened up, so as to show the different tissues or fabrics which compose the dress-shield. 1 and 5 are the outer tissues, 2 and 3 are the inner sheets, between which the product or compound 6 is located, and 4 is a waterproof sheet of rubber or gutta-percha. Fig. 3 shows a cross-section, on an enlarged scale, of a dress-shield. Figs. 4 and 5 respectively represent an insole and a cross-section thereof, showing the compound 6 situated between the fabrics 7 and 8.

The compound may be applied directly, without the addition of glue or other adhesive matter, or with such addition, in order to facilitate its adhesion to a fabric or tissue, so as to adapt the same for use without the necessity of sewing the fabric whereto the compound has been applied. Another glue stuff may be applied for facilitating the application of the compound between two fabrics, which remain thus fixed together and are then stitched through, as may be desired. Traga-

canth or Arabic gum may be used as adhesive matter.

The shape of the insoles and dress-shields represented in the drawings may of course be varied without departing from the spirit of my invention, which embraces the application of the above-described compound, either affixing or gluing the same to one or both sides of a fabric or tissue or placing it between two sheets or fabrics, stitched or sewed in any direction or manner desired, with or without the aggregation of an adhesive material, such as tragacanth or Arabic gum, or any other similar substance.

Having thus clearly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is—

1. An absorbent and deodorizer consisting of a suitable material having applied thereto a composition consisting of charcoal, calcined magnesium, hydrate of lime and oxid of zinc.
2. An absorbent and deodorizer consisting of layers of textile material having an interposed layer of charcoal, calcined magnesium, hydrate of lime and oxid of zinc.
3. An absorbent and deodorizer consisting of layers of textile material, having interposed a layer of rubber and a layer of a composition containing charcoal, calcined magnesium, hydrate of lime and oxid of zinc.

In witness whereof I have signed my name to this specification in the presence of two subscribing witnesses.

SILVIO TEODORO TATTI.

Witnesses:

LUIS A. GALLI,  
P. A. BRENEY.