

War May Revive Making of Armor Such as Was Used in Ancient Times

History is repeating itself, with no more variation than it usually displays when it repeats itself, in the number of individual armor for soldiers. Aside from the question as to whether the American soldier will wear "hardware" after it is designed and made for him, there is every indication that our troops in France, especially those chosen to lead the attack, will soon be equipped with fairly complete metal costumes.

Major Bradford Dean, Ordnance Department, United States Army, the curator of armor in the Metropolitan Museum of Art, recommends the new armor highly, but expresses some

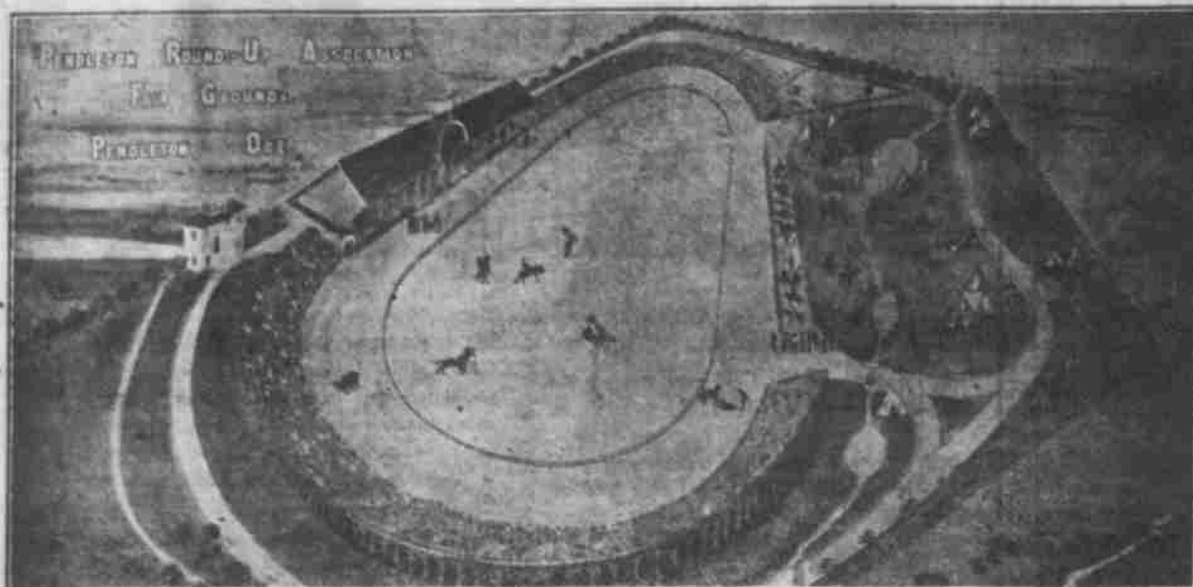
There are helmets and various kinds of body armor. But will the men wear them? Any one who has been to the front and knows the kind of ground they have to go over will realize that they may not want to carry extra weight, or to be slowed up even slightly by it. Armor has been tried by all the Allies, but only in the German army is it compulsory. There are two kinds of armor, the heavy, used by the Germans, and the light, used by the British. The heavy stops a rifle ball at 100 yards, but it is cumbersome and weighs twenty-five pounds. Our men are now wearing a copy of the British helmet, and the Belgians

man, French and English. The German helmets weigh almost three pounds, the French are very light, and the American and English ones are the low, flat ones now familiar here. All the metallurgists of the country, Major Dean says, are now working on the problems of the best steel to be used.

Experiments in the making of modern armor have been going on for some time, and are still under way, in a carefully guarded workshop in the basement of the Metropolitan Museum. Here is "a complete armorers' shop, where a master armorers pines his inherited art with a skill that puts

have already done, the percentage of killed and wounded in this present war.

When the war broke out Mr. Robinson, director of the Metropolitan Museum, learning that the government was in need of models for the preparation of armor, obtained the sanction of the trustees in placing the department of armor at the disposition of Secretary of War Baker. Bradford Dean, curator of the department and a man who has given his life to the study of the subject, was commissioned as a major and immediately sent abroad to report on the status of armor—what was already in use and



Technical Sketch Showing Round-Up Grounds and Track.

doubts as to how the men will take to it. He is quoted in the New York Evening Post:

"Body armor is a personal matter, and must meet the favor of the people who wear it. The soldier may not stand for it. The soldier is hampered already with his regular equipment. But it would be worth the discomfort to him, for with armor you can stop missiles of middle and low velocity, and hospital statistics show that more than three-fourths of wounds are caused by low-velocity missile sources, be they bullets or bullets comparatively spent. Three beds out of four are filled with men whom armor would have kept out. Our experimental workshop is a remarkable place for the making of models, and in it we have had produced adapted armor in ballistic metal.

"They have been sent to the front. We send by 'us' I mean the Committee on Armor of the Council of National Defense have done our part. Now it is up to the men themselves.

Italians and French are wearing the helmet this to fill the hospitals with after he had seen a soldier saved by the metal clasp on a little notebook that the result of the invention of this helmet was to fill the hospitals with men suffering from head wounds. But the answer to this is that before the helmet was invented the men were killed outright, and so had no need of hospitals. We have used the old armor as a point of departure, and have tried to blend all the good points into the new.

In the Civil War there was some armor made, Major Dean says, but it was light and not worth much. It was made in Hartford, Conn., and worn by the Northern soldiers. In the Museum are ancient armors, both solid and scaled, worn in the time of Louis XIV. and in the Franco-Prussian War. And much of this was used after the discovery of gunpowder. Some show the marks of balls. Also shown are the helmets now worn by the Ger-

him on a level with some of the great armorers of the Middle Ages," says the New York Tribune, and continues:

This artisan is Mr. Daniel Tachaux, and those few who have been permitted to enter his shop door—those quite like another along the corridor—may well count themselves among the fortunate blessed, for they have seen a shop like no other in this country—a shop now closed to the public and guarded by all the impassable and invulnerable barriers of government regulation.

For here, in a workshop originally established for the purpose of cleaning, repairing, and, in some rare cases, restoring pieces of defective armor, Mr. Tachaux and his young French assistant, Sergeant Bartel, of the Ordnance Department are carefully working out designs and models of defensive armor that can be worn by the Allied soldiers, and which it is expected will result in cutting down to a very great degree, as the helmets

what additions might feasibly be made

He returned to the United States late in January of the present year, and has since kept the armor workshop of the Museum busy, on holidays and week days, turning out models in accordance with the suggestions of General Pershing and the Ordnance Department. After careful and patient experimentation by experts forty models have been made, and are even now being tried out on the fighting front.

The personal history of Mr. Tachaux, head armorer for the United States government, reads like a page from a medieval romance.

Born in Alsace and a descendant of men who had been for generations workers in metals and skilled artisans in the art of making weapons of offense and defense, himself a craftsman of great skill even as a boy, and filled with all the love of one who is born to a craft and to whom is entrusted the privilege of keeping that craft alive, he went to Paris in the 70's as apprentice to the famous Klein. The latter had been brought from the Dresden armory by order of Napoleon III, to clean and repair the armor which he was then installing in the beautiful Chateau de Pierrefonds.

Under such tutelage Tachaux perfected himself and soon had an atelier of his own, from which his reputation as an armorer spread until he became recognized as one of the greatest living masters of his art, and considered by many students superior to all in hammer-work. Ten years ago he was brought to this country to assist Major Bradford Dean in retraining—the technical term for riveting and readjusting the fastenings of armor (a process requiring high skill)—repairing, and restoring the pieces in America's greatest collection of arms and armor.

Here in the little workshop where the sun comes in through miniature panes and is deflected in myriad colors by small, tools, age old, bits of brass and bronze, steel bright from pounding, and armored suits wrought with the intricate intricacies of medieval decoration, Mr. Tachaux plies with deft skill and the ease of long practice the very tools used by his ancestors and handed down from father to son through hundreds of years. The museum has collected from all parts of the world the implements used in the fabrication of ancient armor, comprising some ninety kinds of anvils and "stokes," several hundred different types of hammers, curious shears, and instruments whose use would be quite unknown were it not that six armorers— heirs of a past skill—are living today. One of these is in Dresden, one in Switzerland, two in Japan, one in London, and the other America has in the person of Mr. Tachaux, who has collected about him the dusty remnants of an almost forgotten art, in his corner of an ultra-modern city, has labored to preserve the relics of those storied centuries when knights were bold and ladies passing fair.

Huge of figure and generous of girth, beneath the protection of a leathern apron he has heretofore sat day by day before a large wooden block, swinging his hammer upon old steel, cunningly shaping and refitting parts bent by a blow given in just or actual battle, bringing forth the beauty of some time-worn piece, some tarnished helm or pliant harness blade worth a prince's ransom. His hands, large and muscular, move over his work with the swift surety of accustomed handling and the dexterous ease of a master in recreation. No skillful is his work, so accurate, that the portions of armor which he has restored—even those parts so small as the scale of a gauntlet—are each plainly marked with the word "restored," the date, and his name, "D. Tachaux," so that in future no possible mistake can be made in confusing his restoration with a piece of the original armor.

Through a door just behind Mr. Tachaux, and to his left, one can see the great forge, with hoods and bellows, where the tools are heated, and the anvil where they are pounded into

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