

Have You Any Ideas for 'Secret Weapons'?

Inventors' Council Wants To Know Them

Many War Machines Were Developed by Civilian Amateurs

Want to help finish winning the war?

Well, just settle down some night in that favorite easy chair, light up the old pipe, take out pencil and paper and figure out an easy way of generating an artificial fog—one that can be laid just where you want it and really do the business.

Sounds simple, doesn't it? But the army would give a great deal for a practical solution to the problem of covering advancing troops this way. It can be done. A number of methods have been tried out; but most of the equipment is too big and cumbersome for effective action at the front. The army is still looking for a simple, effective way of providing this cover.

And while it is looking for a way to create an artificial fog, it is also on the alert for any new methods of dispelling such a fog laid down by the enemy. Here, too, a number of methods have been suggested, some have been tried with a degree of success; but the problem hasn't yet been really licked.

This is where the National Inventors' council comes in. It was set up within the framework of the department of commerce in 1940 to serve as a clearing house for just such ideas that military men might find valuable. Headed by Charles F. Kettering, a past president of the society of Automotive Engineers, and composed of the nation's leading scientists and engineers, it serves as a funnel between the American ingenuity of the man in the street and the proper military authorities.

The council is dedicated to the principle, widely accepted both within the government and outside, that all modern warfare is largely a battle of inventive ideas. The heavily gunned and armored tank, the superbomber, the aircraft carrier and the robot bomb—all have been responsible for major changes in strategy as well as tactics in the battles of this war.

Another thing the council keeps firmly in mind is the fact that many of the weapons of modern war, or the key principles which go into them, were the product of the civilian mind—the submarine, the torpedo, the motor driven airplane, the internal combustion engine.

Naturally, most of the major improvements on the weapons of war come from expert technicians or outstanding engineers, thoroughly familiar with the particular field in which they lie. But many of the 200,000 ideas or inventions that have been submitted to the council since its inception have come from the rank and file of the people.

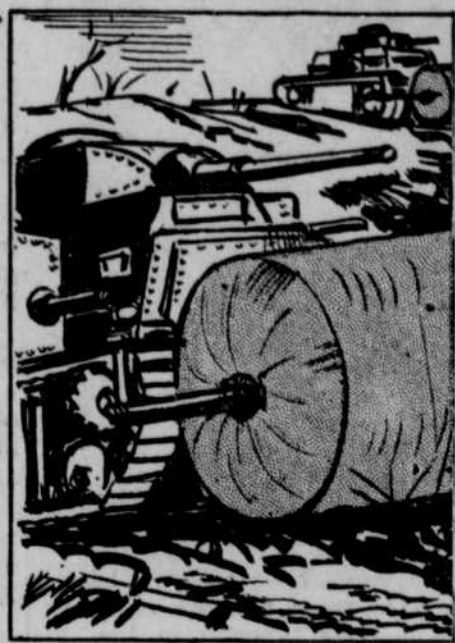
From farmers, teachers, factory workers, business men, youngsters in school, and even a few women, have come suggestions that have proved of considerable assistance to



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the armed forces. And these inventive suggestions follow a definite pattern in volume with each new phase of the war or induction of new weapons by the enemy.

For example, when the submarine menace was at its height, the council was receiving an average of 100 letters a day describing how torpedo nets could be used to keep the "tin-fish" from blasting the sides of merchant ships. Now that the submarine menace has been licked, such suggestions are rare. Right now, suggestions for combatting the robot bombs are on the upswing;



Can tanks be equipped with explosive-absorbing rollers to lessen the effectiveness of minefields?

but none as yet has furnished the complete solution.

When the soldiers and marines first began landing on Pacific beaches in the face of heavy enemy fire there were scores of suggestions that infantrymen be equipped with shields. This idea had to be discarded, the council says, because the weight of such a shield, if it were to prove capable of stopping a military projectile, would be too great for a fully-equipped infantryman to handle.

Ideas from Soldiers.

Some of the suggestions, too, come from men at the fighting fronts and in army camps. A lieutenant-colonel on duty in Italy wrote in with an idea for equipping tanks to blow up enemy mines without danger to the tank-crew. His suggestion was equipping a heavy tank with a gigantic explosive absorbing roller, to be pushed ahead of the vehicle as it waded through the mine field.

An army sergeant, Lauren N. Elkins Jr., figured out an improved design for a field kitchen, tested it himself on maneuvers, found out it worked and submitted his idea to the council. Within 24 hours it had won acceptance of the army quartermaster corps and test models were constructed. Along with the new type field kitchen, Sergeant Elkins submitted an idea for a shipping case for the kitchen, which broke down into two benches and a table.

Another invention which has saved scores of lives is a simple signaling mirror which can be directed straight into the eyes of pilots searching for crews of sunken ships or airmen down at sea. This mirror, cheap, light and easy to construct has been known to send a shaft of sunlight into the eyes of a pilot up to 10 miles away 36 times in a single minute. And there is no trick to focusing it.

Value of Milkweed Floss.

From the floss of the common milkweed, the researches of a civilian scientist filled one of the most pressing of military needs at the outset of the war. Supplies of kapok, used in the heavy jackets of high-altitude fliers and in life belts, had been shut off by the advancing Japanese. This scientist showed that milkweed floss could do the job better and that it could be used, too, for insulating and soundproofing.

Many of the ideas adopted, the council's records show, have served to speed up quick repairs in the field, to get planes and guns back into the battlelines faster than they could have been readied previously.

But not all of the inventive and mechanical problems of the armed forces have been solved. Many new ideas still are urgently needed, even in fields where considerable improvements have been made since the start of the war.

For example, there is a crying need for some means of controlling fires in tanks until the personnel have had time to evacuate. At present, the council's records show that carbon dioxide under pressure in a small metal container is being used with some success. But the carbon dioxide treatment doesn't serve to prevent the live oxygen-carrying ammunition from exploding within the tank as the fire soars past the burning point of TNT. An improvement over this method would be widely welcomed if adapted to the peculiar needs of the tank, where interior space is so limited.

Tanks Need Improvements.

The cramped quarters of the present-day tank make it a fertile field for improvements. The operator's vision is extremely limited when the tank is "buttoned-up" for battle. He can see only ahead. Performance of gyroscopic compasses and other instruments on the control panel could be stepped up. Improvements already have been made, through ideas submitted to the council, in

methods of ventilating the tanks to reduce the extreme heat under which its crew must operate. At present a roof-suspended unit that takes in air through a bullet-proof enclosure is in use in many types. But the field for improving the comfort and fighting ability of the men who man the tanks has by no means been exhausted.

Another invention the council would like to put its hands on is a voice-transmitting gas mask which would permit its wearer's voice to be heard clearly. At present the new type masks are using a flexible diaphragm. Others combine the features of a lip microphone and a portable transmitter. But the field is still wide-open for improvement.

Keenly needed, too, as a protection to fliers, is a means of inflating carbon dioxide life rafts more speedily at high altitudes. Fliers forced to bail out in cold North Atlantic areas at 30,000 feet find that their carbon dioxide supply has been burned to dry ice by temperatures ranging as low as 60 below. In the rapid parachute descent, the carbon dioxide doesn't have time to resume its gaseous state and shock of the icy water, if the life raft isn't immediately available, is often fatal in far northern latitudes.

Range finders, too, are important factors in directing artillery fire at enemy positions. Delicate optical instruments, they are subjected to hard usage in the field and reflect sudden temperature changes. A method of providing more sturdy construction and at the same time reducing the width without reducing the accuracy of operation is a real need. Right now, the council is particularly interested in homely ideas that might aid in destroying or removing obstacles to landing op-



This signalling mirror can be directed into the eyes of pilots who are searching for crews of sunken ships or airmen down at sea.

erations that have proved so costly in lives in the far Pacific and on the beaches in Normandy. A simple idea from a mechanic or a farmer might develop a technique that would preserve the lives of the men who must go out ahead of the main landing parties and clear the way.

Japs Clever, Too.

The council cited the report from Saipan that men, clad only in bathing suits and armed with rifles and detonating charges, had to swim to the obstacles off shore and blast them individually from the path of the oncoming troops.

The Japanese, too, have shown themselves ingenious in adapting simple decoy devices to battle-front use in attempting to confuse or mislead attacking forces.

One Japanese sniper had rigged up an over-sized "puppet show" to harass American landing forces. He concealed six dummies in trees surrounding his position and attached them to his own station with ropes. When his shots attracted American fire in his direction, he would jerk the cord, let one of the dummies fall from a tree. Each time the American troops were confident they had eliminated his sniping post. Then he'd wait his chance and open fire again.

Some ideas along that line, developed by Yankee ingenuity from close experience from hunting and fishing, from work around farm machinery, or from bench and lathe, the council believes, might go a long way in saving the lives of our fighting men and give them opportunity to develop tactics of surprise that could come in handy in many a close encounter.

The American people have responded tremendously to the need for wartime inventions of all sorts and character, the council believes, but there are still hundreds of ways in which American "know-how" can be applied to the problems of a mechanized war.



THE only trouble with being a fine actor in Hollywood is you're worked to death. Sydney Greenstreet knows all about that. In less than three years here Sydney, who is my idea of a really excellent actor, has made 12 pictures.

Tenure Solved by Dad-Son Partnership

National Farm Life Can Be Made Secure

"One of the fundamental needs of agriculture is to have a succession of the same family on the same land throughout succeeding generations," according to H. C. M. Case, University of Illinois college of agriculture. In making that statement, Case said that he was thinking of the good of the individual, the community and the nation.

One of the major problems of agriculture is the movement of capital and earnings from the country to the city. In a period of ten years, approximately six and one-half million people go from the country to the city during normal conditions. The costs of their education, the inheritance of farm property by city dwellers and collection of rent from a farm property by city dwellers make a heavy drain on the land. This situation also makes it difficult for young people remaining in the country to secure a foothold as farm operators and eventually to become owners of farm property.

One way of meeting the situation is by means of father-son partnerships on the farm. Case offered four specific suggestions, each based upon a well-kept system of records regarding kinds of father-son arrangements which may be made to facilitate the young man getting a start on the farm:

(1) Where the father owns all the land, equipment and livestock, and the son supplies only his labor. The common arrangement is to guarantee the son hired-man wages, but if a given share of the farm income agreed upon by the father and son exceeds the amount of wages, then he receives an additional amount at the end of the year.

(2) Where the father is a tenant and the son contributes only labor. The plan is similar to the first one in so far as the son is guaranteed a going wage, but he receives a correspondingly larger share of the income received by the father because his labor will amount to a larger proportion of the contribution to the farming operation than it would if he also owned the farm.

(3) Where the father and son operate a farm jointly. If the son lacks capital, he can give his father a promissory note and pay interest on his share of the investment of the operating capital, which would put him in the status of a tenant with his father. Under this plan, the father would receive the landlord share of the income from the farm, but in addition the father and son as equal tenants would divide any additional earnings between them.

(4) Where the father is ready to retire. In this instance, the son as tenant may take over the ownership of the operating capital, even though he lacks the capital to purchase it outright. He may give his father a note and pay interest on the investment or the operating capital and become a full operating tenant of the farm. Or it may be desirable for the father to retire while still owning the operating capital. Under this scheme, the son may accept a smaller share of the income from the farm in order to give his father adequate pay for his investment in both the farm and the operating equipment.

Health Improved by Control of Parasites

Cattle grubs spoil one out of every three hides by puncturing the skin, and also cause considerable loss of meat. Similar damage is also done by ticks, mites, lice and other anthropol parasites which interfere with growth and make animals unthrifty. Rotenone and selected dips are recommended as an antidote.

Worm parasites of the digestive tract injure older stock, and cause many deaths, especially among young animals. As much as 125 million dollars a year is lost by the damage they inflict. Nodular worms, for example, spoil sheep intestines for catgut sutures and sausage casings. Phenothiazine is the principal recommended remedy.

Animal livers are spoiled for food and for use in medicinal preparations by liver flukes (flat, leaflike parasites) and tringed tape worms. Wartime research has produced a hexachlorethane-bentonite suspension for the control of liver flukes in cattle.

Two slices of bread wasted once a week in each home equal three million wasted loaves per year.

Protein for Poults

Young turkeys thrive on a simple vegetable-protein diet which does not require any of the animal proteins in scarce supply because of the war. U. S. department of agriculture research has determined. Soybean meal and peanut meal were the chief high-protein feeds used in the test diets. Most rapid growth to six weeks of age came from a mash containing ground wheat and soybean meal, together with some alfalfa-leaf meal.



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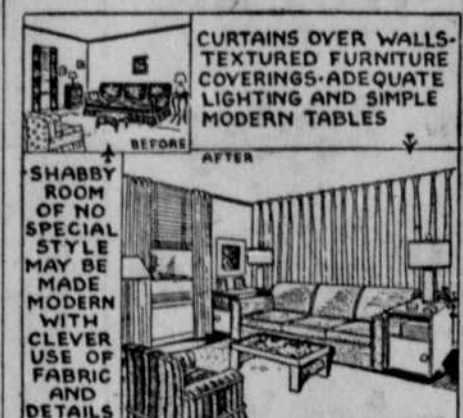
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The Use of Fabric and Thread in Decorating Homes of Tomorrow

By Ruth Wyeth Spears



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Archives of Patent Office Hold Story of American Greatness

The files of the patent office contain the graphic story of the progress of America and the achievements of the men who helped build this great country of ours. In these files are the "birth certificates" of the hundreds of thousands of inventions that have placed America away out in front in scientific and industrial achievement. Every week, every day in fact, these files grow bigger. For Americans are still inventing, even though most of their

brain children will not see the light of day until the war is over.

The institution of patenting is provided for in article I, section 8, of the constitution of the United States, which states that congress shall have the power "to promote the progress of science and useful arts, by securing for limited times to authors and inventors the exclusive right to their respective writings and discoveries." To date, the U. S. patent office has issued nearly 2,500,

000 patents, some of which marked turning points in the history of the world.

The steam engine, telephone, electric light and airplane are only a few of the more obvious ones. The others are broken down into 310 classifications, under which there are some 50,000 sub-classifications. A patent gives the owner the exclusive right to make, use or sell his invention or discovery through out the United States and its territories for a period of 17 years.

War Broadens Niven

Latest report from the unofficial war correspondent, David Niven, who forgot to mention that he had just been made a colonel—and who, when he comes back to the films, should write as well as act: "Sorry I haven't been exactly swamping you with letters, but as you can imagine, what with one thing and another, we in the army have lately been quite busy! I have seen many of your friends since I last wrote."