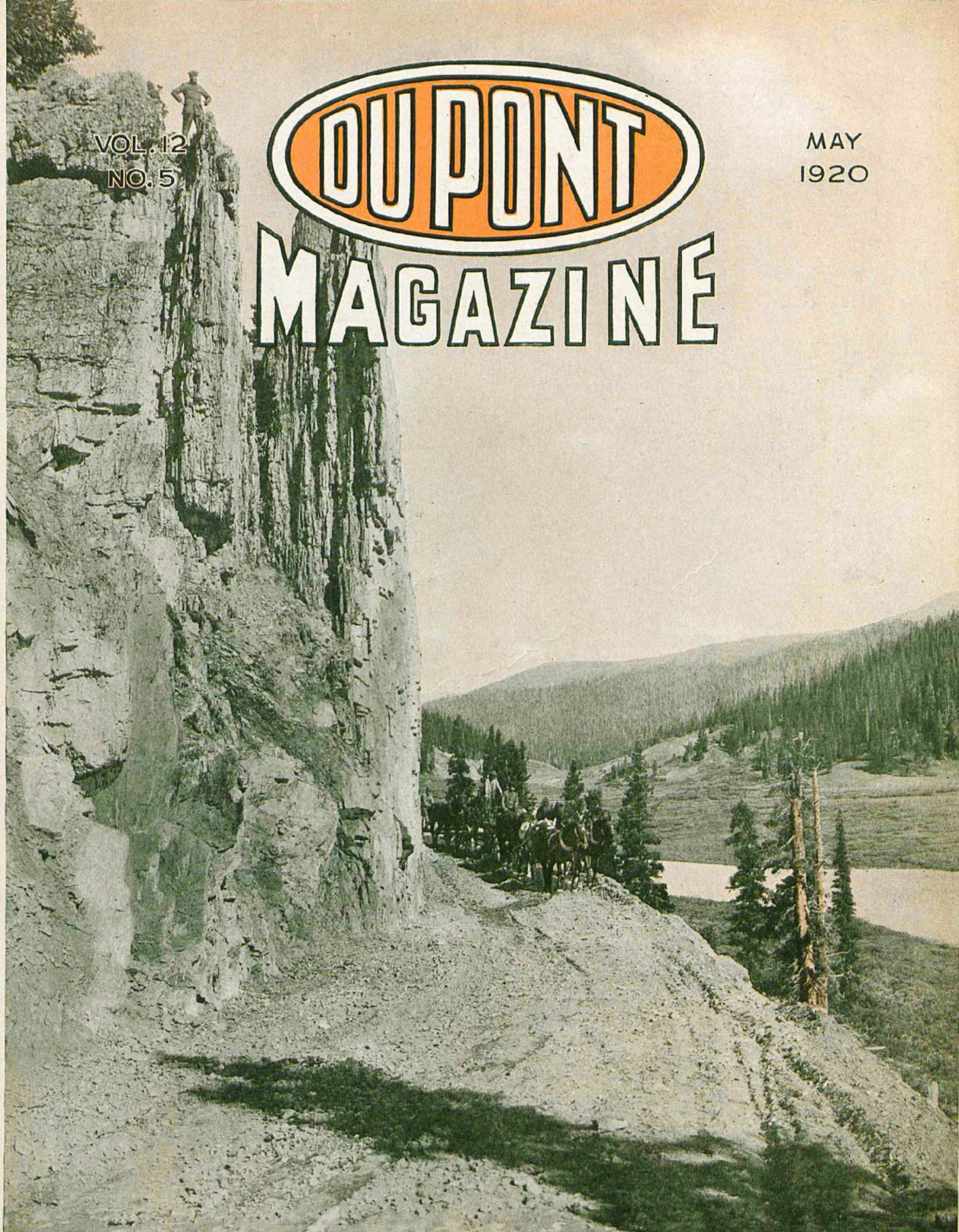


VOL. 12
NO. 5



MAY
1920

MAGAZINE





"**T**HERE are paints and *paints*. Seems like I have tried out most of the 400 brands made in this country, but my mind is made up now as to which is best and I'm resting easy. Every can has the Du Pont Oval on it and that goes for Varnishes, Enamels, Stains and Finishes, too—so I just look for that and then I know I'm right.

"Stands to reason, a concern that has been in business over a hundred years must make the finest there is or they would not be where they are today.

"I can go right down here to the Du Pont dealer and get most anything I want, as the Du Pont people have big warehouses scattered over the country. They sure do give you service, and, as for the paint I'm using here, you have

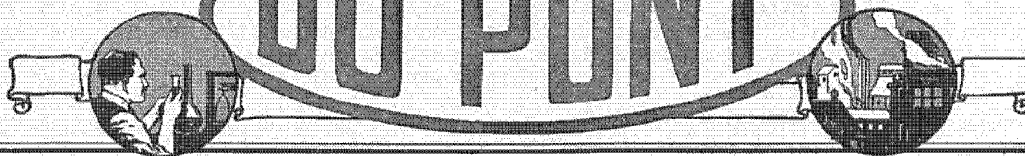
"The Satisfaction of Knowing It Is Made by Du Pont."

E. I. DU PONT DE NEMOURS & COMPANY, INC.

Sales Dept.: Paint and Varnish Division
WILMINGTON, DELAWARE

If you do not sell Du Pont Paints and Varnishes, and, therefore, cannot supply the Master Painter—write for Dealer's Proposition.

DU PONT MAGAZINE



Volume XII

MAY, 1920

Number 5

The Banking Situation

The significance of the condition of the combined Federal reserve banks

THE general banking situation is especially important at this time. Money is tight: interest rates are high and loans are becoming increasingly difficult to obtain. During the past year the general price level has risen rapidly, on top of an already great rise since 1915; this has made necessary a corresponding increase in the amount of money required to do business. The demands for capital are unusually large, due partly to the rise in general prices, partly to restrictions upon business and upon the issuance of new industrial securities during the war, and partly to the great need of Europe for goods for which it has not the money to pay. These things have placed an unusual strain upon the banking resources of the country. What, then, is the present banking situation and to what does it point?

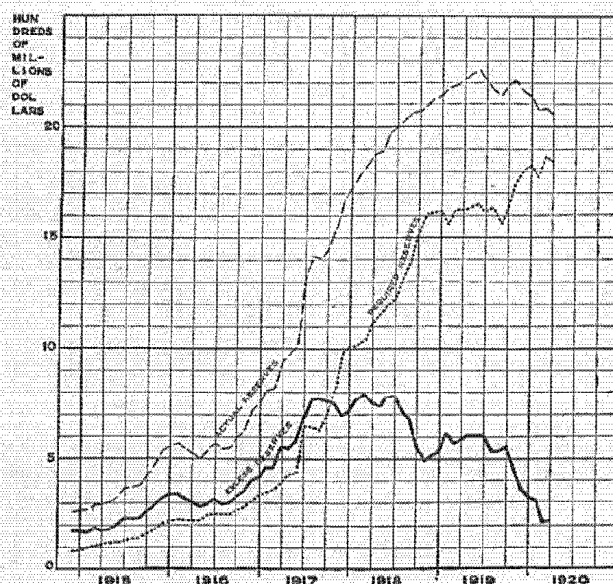
The best index of the general banking situation is the consolidated statement of the Federal reserve banks. The reason for this is apparent when one considers the nature of the Federal reserve system and the functions of the Federal reserve banks.

Under the Federal reserve system the United States is divided into twelve districts, in each one of which is a Federal reserve bank having certain relations to the banks in that district which are members of the system. The twelve Federal reserve banks are under the general supervision of the Federal Reserve Board at Washington. All national banks are required to be members of the Federal reserve system and any other bank may become a member by complying with certain requirements. While the Federal reserve system does not include by any means all of the banks in the United States, it does include, in addition to all the national banks, over 1,200 state banks and trust companies, making a total of more than 9,000 banks which are now members of this system. The legal reserve of all these

By F. LESLIE HAYFORD
Economic Statistician
E. I. du Pont de Nemours & Co., Inc.

banks must be kept in the form of deposits in the twelve Federal reserve banks. The importance and unified strength of the Federal reserve system are thus indicated. When reference is made in the following paragraphs to a "member bank," any bank (except the twelve Federal reserve banks) which belongs to the Federal reserve system is meant.

RESERVES—ACTUAL, REQUIRED AND EXCESS



The twelve Federal reserve banks are essentially bankers' banks, as they have very slight dealings with the public directly. Among their most important functions are the following:—

1. They may accept deposits from the United States Government and from member banks in their respective districts, but not from individuals or corporations. Against its deposits a Federal reserve bank is required to keep a cash reserve of 35 per cent.

2. They may rediscount commercial notes, drafts and bills of exchange arising out of actual commercial transactions and endorsed and presented by member banks.

3. They may discount short-time notes of member banks secured by certain collateral.

4. They may purchase in the open market anywhere certain kinds of negotiable paper.

5. They may establish rates of discount subject to review

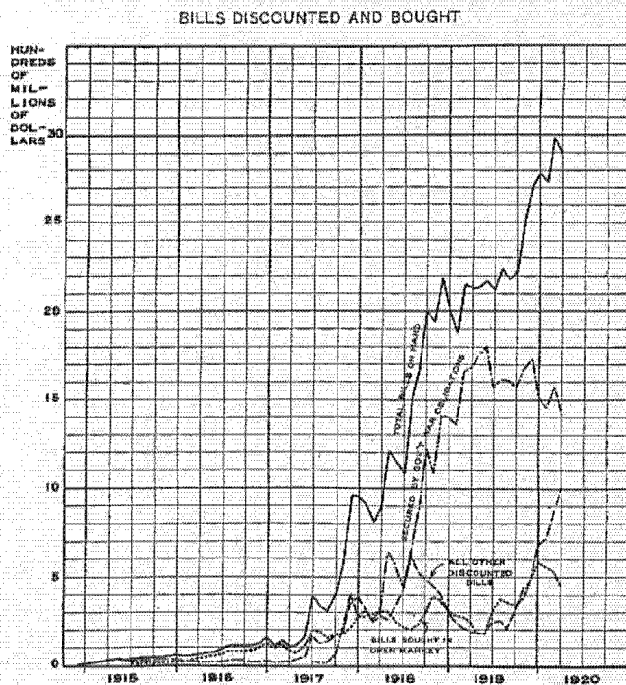
and determination by the Federal Reserve Board.

All of their rediscounting operations are subject to the supervision and control of the Federal Reserve Board.

6. Under the supervision and regulation of the Federal Reserve Board they may issue Federal reserve notes, which are "a first and paramount lien on all the assets" of the issuing Federal reserve bank and which have back of them, specifically pledged, certain high-grade collateral equal to 100 per cent of the face value of the notes. A gold reserve of not less than 40 per cent must be maintained by each Federal reserve bank against its outstanding Federal reserve notes.

The relations of member banks to the Federal reserve banks are briefly these:—

1. The legal reserve of a member bank must consist of a deposit in the Federal reserve bank of its district. The required reserve of a member bank is 3 per cent of the time deposits of its customers and from 7 to 13 per cent of the demand deposits (13 per cent for banks located in New York, Chicago and St. Louis;



10 per cent for banks located in certain other cities, and 7 per cent for all other member banks, called "country banks").

2. A member bank can borrow from its Federal reserve bank by rediscounting its customers' paper or by discounting its own collateral notes. In this way a member bank can increase its deposit with its Federal reserve bank and using this deposit as its legal reserve it can increase its loans to its customers.

It is apparent that the reserves of the combined Federal reserve banks are vital in the banking situation. If the excess reserves are large it indicates that considerable possibility of credit expansion exists. If the excess reserves are small the indication is that such expansion must be curtailed. It is apparent from the graph on the preceding page that a radical decline in excess reserves has taken place since the middle of 1918. In the past six months alone excess reserves have fallen from over 500 million dollars to scarcely more than 200 million (\$217,423,000 on March 26, 1920). This decrease has been due partly to the withdrawal of gold for shipment to South America and the Orient and partly to a very rapid expansion of loans. It would appear from these facts that loan expansion must be checked if a sound banking situation is to be maintained.

Since the drawing down of the excess reserves has been largely caused by an increase in loans made by the Federal reserve banks, a brief examination of the loan item in the consolidated statement should prove of interest. The graph headed "Bills Discounted and Bought" portrays the essential features in this regard. "Total bills on hand," which represent all loans made by the twelve Federal reserve banks, have increased by leaps and bounds since the middle of 1917. At the end of March they amounted to almost 3 billion dollars (\$2,901,109,000), having increased by \$800,000,000 in the last six months. A separation of these loans into three kinds is shown in the graph. It appears that the great increase in loans since early in 1918 has been based on notes secured by Government war obligations (United

States certificates of indebtedness and Liberty Bonds). This, of course, was due to the purchase of large amounts of such securities both by member banks and by their customers, who borrowed a large part of the money required to pay for them.

Purely commercial bills formed, until very recently, only a comparatively small part of the paper discounted by the Federal reserve banks. Changes in this regard, however, have been apparent in the last few months, the amount of discounted bills secured by Government war obligations having been slightly reduced and the amount of commercial bills ("all other discounted bills" and "bills bought in open market") having increased considerably. Further reduction in loans secured by Liberty Bonds and United States certificates is unquestionably desirable.

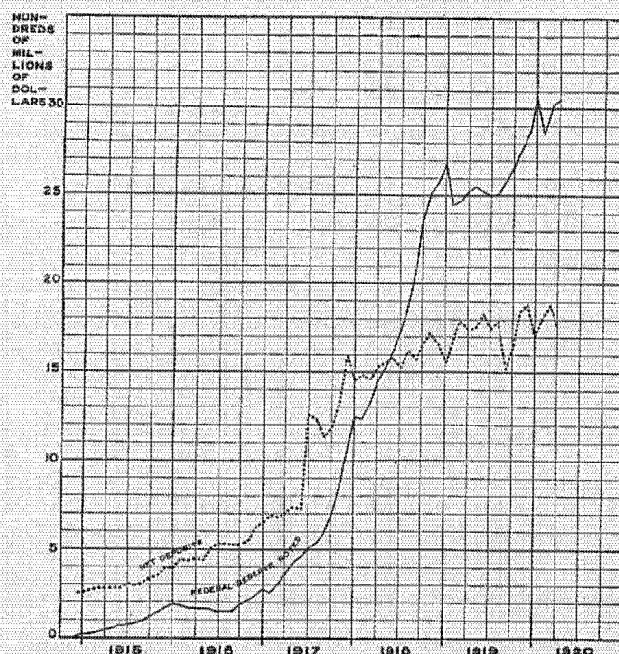
Two other items in the consolidated statement of the Federal reserve banks are significant. These are deposits and Federal reserve notes in actual circulation. From the graph showing the changes in these items it is apparent that net deposits have grown rapidly since the time when the United States entered the war, increasing from a trifle over \$700,000,000 in May, 1917, to \$1,772,904,000 on March 26, 1920.

Federal reserve notes in actual circulation have had an even greater increase, growing from less than 500 million dollars in the early part of 1917 to over 3 billion at the present time.

The great expansion in loans and in Federal reserve notes is intimately related to the rise in commodity prices. As the Federal Reserve Board said last October, "the dollar has lost its purchasing power because expansion of credit, under the necessities of war financing, proceeded at a rate more rapid than the production of goods." If prices are to be kept from rising further, credit expansion must be checked.

But, regardless of the price situation, the financial resources of the country must be conserved if business is to reach a sound

NET DEPOSITS AND FEDERAL RESERVE NOTES IN CIRCULATION



position. This involves restriction of speculation and of unnecessary expenditure in order that essential business needs may be met. This would tend to bring about some decline in general prices and some slowing up of business activity, but how far either might go cannot be clearly foreseen at present. There seems to be no reason, however, to fear any dire results. No sudden contraction of loans is likely to occur and certainly no such thing as a "panic." The money market, however, will probably be tight for some time longer.

A New Upholstery Material That Solves an Old Problem

*Craftsman Fabrikoid keeps its leather-like appearance no matter how tightly it is stretched
Scientific manufacture has done away with every suggestion of "clothiness"*

THE manufacturer of a leather substitute like Du Pont Fabrikoid has many advantages over the tanner of natural leather. One advantage particularly worth mentioning is his ability to select raw materials and adjust operating processes in accordance with the service demanded of his finished product.

The tanner works with a basic raw material, having inherent characteristics which he cannot alter to meet the service requirements of the finished leather. Hides are hides. The tanner takes them as they come and turns out the best leather he can—leather that varies little from the product of past centuries because the limitations of the raw material always dominate its manufacture.

In making Du Pont Fabrikoid there are very few basic limitations. There is a considerable flexibility both as to formulae and processes that makes it possible to adapt the finished product to almost any requirement that develops in its use. Improvement along necessary lines is aided by a great latitude in the selection of raw materials and a fundamental control of their use, which gives the desired combination of qualities sought after. There is scope for such radical changes in the product as the research work of the Du Pont laboratories suggests.

Again and again, new qualities of Du Pont Fabrikoid have been developed for specific uses, and existing qualities made more suitable for the purposes employed. The development of upholstery materials that will meet every service condition has been one of continuous effort ever since Fabrikoid was first marketed. It has been an effort invariably crowned with success. Craftsman Fabrikoid, which for some years has been the

By H. L. HOPKINS

standard leather substitute for high-grade upholstery work—millions of yards have been used annually—has been growing more nearly ideal each year.

Only one major problem still awaited solution in this upholstery material at the beginning of 1919. That was the problem of clothiness when tightly stretched—a problem now solved for the first time in an improved type of Craftsman Fabrikoid, a material which, at last, meets every test to which good taste or hard wear can put it.

In covering furniture, auto cushions and other articles with any kind of material there are always some places where the upholsterer must stretch and pull the material considerably until it conforms to and lies smoothly over those places. On the arms of an easy chair, for instance, the upholstery material must be pulled and stretched considerably to make a perfect job.

The ordinary high-grade leather substitute looks exactly like leather and entirely unlike cloth in all the conditions under which it is used excepting the tightly stretched condition mentioned above. When tightly stretched over the arms or back of a chair, davenport or other piece of furniture, any leather substitute, excepting this improved Craftsman Fabrikoid, has a tendency to reveal the pattern of the cotton fabric upon which it is built. In other words, there are visible on the surface certain lines which indicate or suggest the weave of the cloth that lies beneath the coating. These lines will seldom be noticed by the casual observer, as they are not usually very prominent; however, to the critical observer, the furniture dealer, and, particularly, the manufacturer, they constitute a real objection.

For some years this appearance of clothiness was accepted

Continued on page 14



The furniture of luxuriously appointed hotels is upholstered with Fabrikoid

Road Building in the Rockies

Explosives play an important part in making the scenic wonders of the West more accessible

THE Rocky Mountain region of North America abounds in natural scenery, surpassing that of the Alps, but it has not been sufficiently exploited. Americans have crossed the seas by thousands to travel in Europe, and have spent large sums of money to see its much-advertised scenery, yet here in America we have much that is grander, more rugged, and more picturesque, because it is more wild and natural.

During the progress of the war, tourist travel to Europe was stopped and thousands of tourists were compelled to seek for thrills in their own native land. But where? Many of them, of course, believed that the scenic places in the Rockies were over-rated, and that by no possibility could they measure up to the charms of European lakes and mountains; still as there was no other alternative thousands of tourists, who habitually crossed the Atlantic, boarded transcontinental trains, or stepped into automobiles and rolled over the national highways toward the West. They have returned with a new conception of the United States and a new appreciation of the scenic wonders of the Rockies; of lakes more beautiful than Switzerland's Lake Lucerne; of mountain peaks more imposing than the Matterhorn.

The grandest scenery, however, has remained inaccessible because these regions are sparsely settled; and it is impossible to finance the building of roads either by direct taxation or by local bond issues. Federal aid has helped to build roads between mining centers and agricultural districts, and some roads of this type pass through sections of unusual scenic interest. The Forest Service, too, is building many roads to make the forests more accessible to the rangers who patrol them and fight destructive forest fires; these, also, lead through stretches of striking and romantic scenery. The National Parks are being opened up by magnificent boulevards, and many of the beauty spots are being made into national playgrounds for the health and recreation of the people. Thus, road building in a literal sense is paving the way for a greater appreciation of the vast scenic domains of the West—and thousands of Americans are discovering for the

By A. E. ANDERSON

first time that the United States is really richer in natural scenery of the first order than any

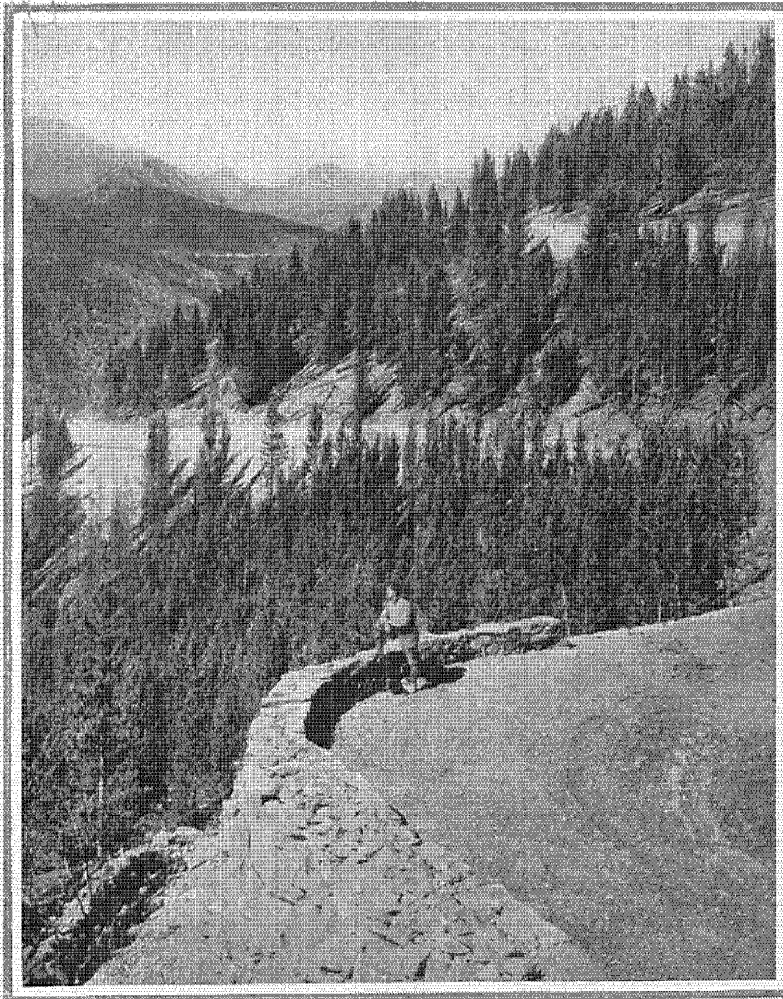
other country.

Road building in the Rockies is like road building in other parts of the country, except that it is more difficult, and more expensive, for the earth material in the Rockies is generally true to name—it is rocky. Nevertheless, good roads have been

built through places that seemed impossible to traverse. The tourist who rides in an automobile over one of these finished roads has no adequate idea of the difficulties which have been overcome in its construction. In mountainous regions all classes and kinds of construction are encountered, as well as all kinds of soil, earth and rock.

In the valleys, clay, earth, and sand-roads are graded with plows, scrapers, and road excavators, and surfaced with graders. If the surfacing material is near at hand, they are cheap and easily constructed. But in the mountains, disintegrated granite is usually within reach, and this material makes the finest and best road surface that can be found.

On the hillsides, black blasting powder is used to blast out weathered or disintegrated rock mixed with earth. This material is usually partially or entirely wasted. Sometimes a hillside is covered with timber so that it is necessary to saw this timber and blast the stumps, or else blast the trees



Along the western slope of the Fall River Pass in Grand County, Colorado

entirely. This is done by boring a hole under the stump or tree, and exploding a charge of low grade Red Cross Extra Dynamite.

In weathered, cracked or soft rock, 20 or 30 per cent Red Cross Extra is used, or Duobel, a nitrate of ammonia explosive.

Boulders are blasted from the right of way, either by digging under them and exploding charges of some high explosive, or by drilling holes in the boulders and breaking them up with light charges of high explosive. When blasting very large boulders explosives in 10-pound bags are sometimes used, because in this form they are more convenient to handle. If it is desired to throw the rock or waste it, a hole is drilled to the desired depth, then sprung or chambered with small charges of high explosive. After the hole has cooled—usually the next day—the resulting

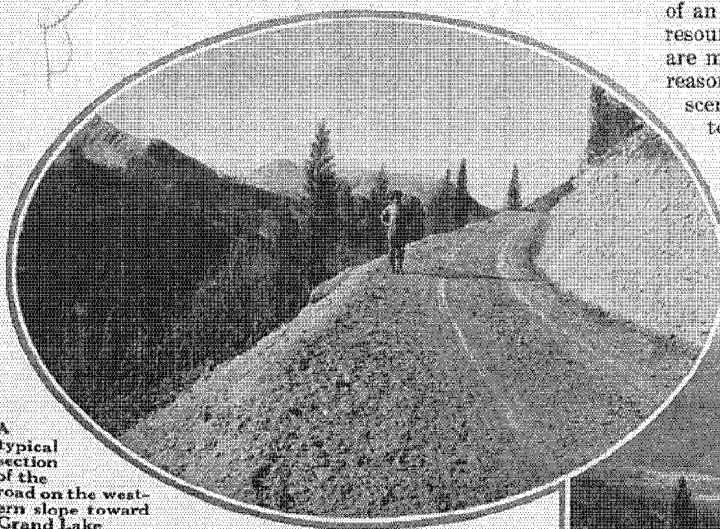
chamber in the bottom of the hole is loaded with railroad blasting powder, which is exploded by means of an electric blasting cap inserted as a primer in one or more sticks of dynamite. Railroad blasting powder is a mixed grain black powder with practically no voids; it is more dense than a powder of uniform granulation, and exerts more force.

In hard rock construction, holes are usually drilled by means of air drills and portable air compressors, although steam drills are sometimes used. Such holes are loaded with 30 or 40 per cent Red Cross Extra, Duobel, or Monobel—another nitrate of ammonia explosive—and a large number of holes fired simultaneously. Rocks that are too large to handle with a stoneboat or team and chain are drilled and re-blasted. This is called blockhole blasting. When it would cause delay to drill the rocks, they are blasted by placing several sticks of powder on top or under the rock, covering the charge with adobe or clay and firing it. This method, however, is not so economical as blockhole blasting, because larger quantities of the explosive are required to do the work.

Sometimes it is necessary to traverse a particularly inaccessible cliff, or other natural obstruction, by blasting deep rock cuts or even by driving a tunnel for the road. These tunnels or cuts are driven by drilling a round of holes and blasting out the solid rock with high explosive, such as 40 or 60 per cent dynamite. The modern practice is to fire these holes in the desired rotation by means of delay electric blasting methods.

Electric blasting is the method used in almost all modern road construction. Blasting machines, electric blasting caps and galvanometers, with the addition of the necessary wire, constitute the equipment needed. The electric blasting method has the following advantages:

1st. Any number of holes may be fired simultaneously,



A typical section of the road on the western slope toward Grand Lake

thereby increasing the execution of a given amount of explosive.

2d. It increases the speed of construction, for it eliminates delays incident to the use of fuse and caps.

3d. With electric firing it is unnecessary to call off the workmen until all the holes are loaded and connected and the circuit is tested with a galvanometer to make sure that all connections are properly made.

4th. As electric blasting caps are practically waterproof, misfires are eliminated. Thus, electric blasting is safer and more economical and produces quicker and better results.

Although roads are usually built to connect two important cities or communities by the cheapest and most direct route, it is often true in the Rocky Mountains, as in other mountainous regions, that roads are built to secure greater accessibility to the

rough and rugged sections where tourists may travel to enjoy the marvelous scenic effects.

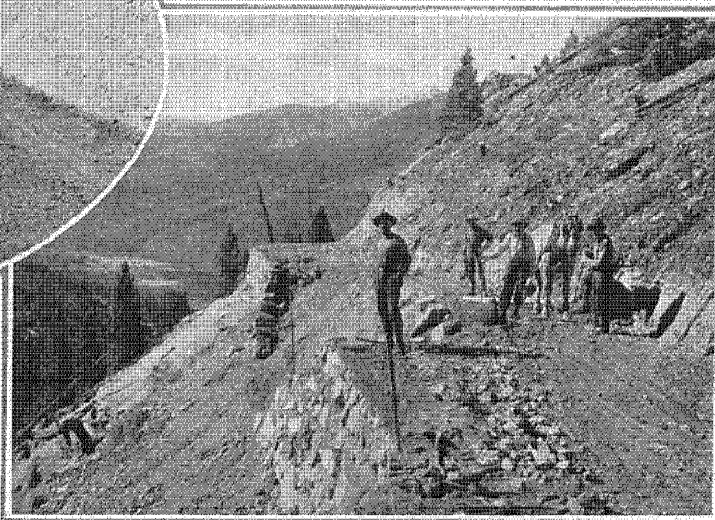
Modern roads are built on a uniform grade and with regular curvatures to avoid steep pitches and dangerous curves, in much the same way that railroads are built. In fact, the construction of an automobile road in the Rockies is just as much an art and science as is the construction of a railroad, for it requires engineering ability and skill and forethought to secure low-cost production and inexpensive maintenance. It is sometimes necessary to build miles around a mountain to obtain an easy grade, or to locate the road on the sunny side of a mountain to avoid trouble with snow and to insure keeping the road open during the winter months.

The cover illustration and the accompanying views show sections of a particularly difficult road-building project which is nearing completion in Colorado. It is the new automobile road which crosses over the continental divide, connecting the eastern and western gateways to the Rocky Mountain National Park. From Estes Park to Grand Lake this road leads over the "top of the world," opening up to tourists wonderful vistas of mountain scenery, lakes, vales and glaciers in constantly changing panoramas. The contractors, who started work in the foothills, have built this highway along the mountainsides until they have attained an elevation of more than 10,000 feet. At one place the touring motorist this summer may stop his car and survey the marvelous landscape from an altitude of 11,800 feet above sea level.

This road will make accessible to American motorists places that only John Muir and others of similar bent have seen.

The building of good automobile roads should be encouraged. Apart from the service they render in developing a community and making its natural resources available, they confer benefits of an incalculable value to the nation at large. For the scenic resources of the nation are as definitely an economic asset as are mines and mills and farms and factories. And there is no reason why our nation should not make its public health and scenic domains as available to all its citizens and to foreign tourists as Switzerland and Italy make theirs.

It may reconcile those who think that money spent on such luxuries is wasted to know that sober-minded



In building along the slopes, retaining walls are necessary to prevent the road from slipping down the mountainside

traffic men of the railroads estimate that \$100,000,000 usually spent in European travel was divided among the railroads, the hotels and their supporting enterprises in this country during one year of the war.

The building of good roads is a big factor in the program to SEE AMERICA FIRST.



Panoramic view of the U. S. Government rifle range at Camp Perry, Ohio, where the National Matches will be held in August this year

Making the United States Again a Nation of Riflemen

The Government is solidly behind the movement and is offering exceptional inducements to arouse civilian interest in small-bore rifle shooting

THE coming season will mark a new epoch in the history of small-bore and military rifle shooting. In all parts of the country appear evidences of a renewed interest in this sport. Rifle clubs are being organized in every wide-awake town and hamlet. In the city of Chicago alone more than 12,000 people use the indoor galleries and outdoor ranges every week. The same interest is evident in other cities, particularly the densely populated centers of the East where for years rifle shooting has been handicapped by lack of range facilities.

The Government has observed the "signs of the times" and is making every effort this year to provide range facilities, and to give such other assistance as newly organized clubs need. Through agencies such as the National Board for the Promotion of Rifle Practice and the National Rifle Association arrangements have been made to open Government-owned ranges to civilians. Competent instructors will be detailed to handle the firing points, free rifles and ammunition will be issued, and qualification medals will be awarded.

To sustain interest and arouse community spirit leagues will be organized and a great deal of newspaper publicity will be given to the matches and winners. Even with the opening of Government ranges there will be too few ranges conveniently located near the larger cities. To meet this situation small-bore—.22 calibre—shooting is being backed this year as never before.

Medals will be awarded to those who qualify with small-bore rifles as well as to those who qualify with the service rifle. Leagues will be organized, and a place will be reserved in the National Matches for the small-bore rifle enthusiast. In this connection the following bulletin will be of interest:

War Department

National Board for the Promotion of Rifle Practice

Washington, March 15, 1920.

Qualification Course

Small-Bore Rifle:

A course of fire upon which qualifications will be awarded for proficiency with the small-bore rifle has been adopted and the

By T. G. SAMWORTH

details are herewith published for the information of all concerned:

Small-Bore Qualification Course:

Open to life and annual members of the N. R. A. and N. R. A. Rifle Clubs. Unlimited entries.

In colonial times the man who couldn't shoot a rifle and hit the mark was almost as scarce as an albino crow.

We were then a nation of riflemen; but it would be extravagant to make such a claim today.

Every red-blooded American can learn—should learn—to shoot; it is a duty as well as a privilege of citizenship.

The Government offers you inducements to qualify as a marksman either with a small-bore or with a regulation army rifle. The complete details will be of interest to you.

Marksman and Sharpshooter Course:

50 yards, 10 shots, slow fire, standing.
50 yards, 10 shots, slow fire, kneeling or sitting.

50 yards, 10 shots, rapid fire, kneeling or sitting.

100 yards, 10 shots, slow fire, prone.

100 yards, 10 shots, rapid fire, prone.

Time limit: Slow fire, 5 minutes for each 10 shots; rapid fire, 2 minutes for each 10 shots, contestants to start with rifle and magazine empty.

Rifle: Any .22 calibre rim-fire rifle.

Necessary to qualify as Marksman, 400 points.

Necessary to qualify as Sharpshooter, 450 points.

Expert Rifleman's Course:

Open to all who have qualified as Sharpshooter in the preceding course.

Twenty shots, 200 yards, slow fire, prone, target 200 yards decimal: 10-ring, 4 inches; 9-ring, 8 inches, comprising aiming ball; 8-ring, 12 inches; 7-ring, 16 inches; 6-ring, 20 inches; and 5-ring, 24 inches; on rectangle, 26 inches wide and 28 inches high.

Time limit, 20 minutes.

Rifle: Any .22 calibre rim-fire rifle.

Necessary to qualify as Expert Rifleman, 175 points.

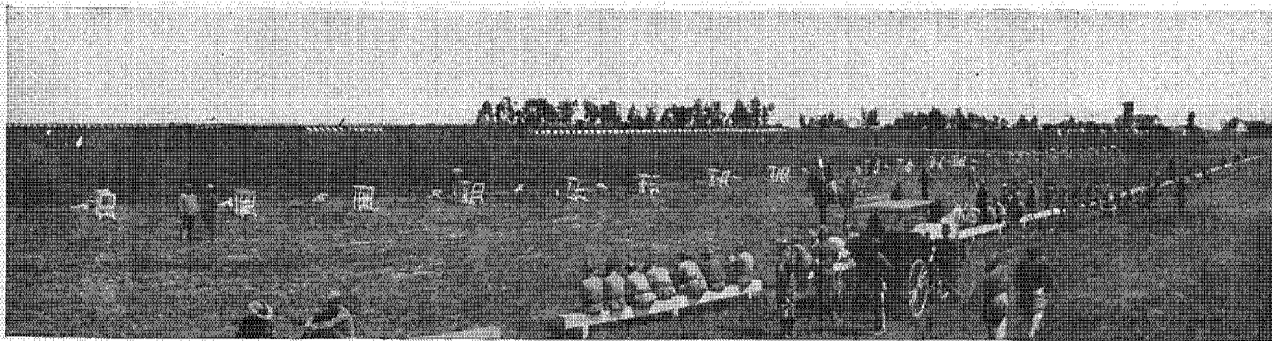
Badges will be awarded to all qualifying by N. R. A.

Scale of Official Score Sheets: All scores for qualification must be entered on official score sheets, and properly certified to. Score sheets will be sold to clubs at 25 cents each, and will be sold by them to individuals at 50 cents each, this to assist the club in paying for targets, labor, etc. Upon receipt of properly authenticated score sheets the N. R. A. will mail badge to the individual qualifying.

Bulletin No. 2

Small-Bore;

The conditions of the Small-Bore Rifle Competition to be held during the months of May and June, 1920, under the auspices



The individual rifleman who uses a small-bore gun will have an opportunity to test his skill in competition with the nation's best shots

of the National Rifle Association are published for the information of all concerned.

The dates of holding the matches are May 3 to June 12, 1920. This period is known as the Small-Bore Season.

Team matches are open to rifle clubs, schools and military organizations affiliated with the National Rifle Association.

Individual matches are open to life and annual members of the National Rifle Association. (Life membership cost, \$25. Annual membership cost, \$2.00. Address the secretary of the association for membership blanks.)

Small-Bore Team Match, 50 and 100 yards:

A club may enter one or more teams. Ten men or less may shoot on each team, the scores of the highest five men to count for record. The course will be fired six times, once each week during the first six weeks of the season. A team may shoot on any day of the week, but all the scores must be fired on the same day. Each member of the team to shoot scores as follows:

Fifty yards, 10 shots, slow fire; time limit, five minutes for ten shots, any position without artificial rest.

One hundred yards, 10 shots, slow fire; time limit, five minutes for ten shots, any position without artificial rest.

Rifle: Any .22 calibre rim-fire rifle; any sight not containing glass. Entrance fee, \$10.00, which includes all six matches.

Prizes: 10 bronze medals to winning team, 10 bronze medals to high team in each State where 5 teams are entered, and bronze medals to all individual contestants making 90% scores.

Small-Bore Individual Match, 50 and 100 yards, slow fire:

One entry only. May be fired any time during the season.

Fifty yards, 20 shots (10 shots on a target), slow fire; time limit, 5 minutes for each ten shots, any position without artificial rest.

One hundred yards, 20 shots (10 on a target), slow fire; time limit, 5 minutes for each ten shots, any position without artificial rest.

Rifle: Any .22 calibre rim-fire rifle; any sights not containing glass. Entrance fee, \$1.00.

Prizes: 10 bronze medals to ten high contestants, a bronze medal to the high entrant from each State where 5 entrants from any one State compete and bronze medals to all individuals making 90% scores.

Small-Bore Individual Match, 50 yards, rapid fire:

One entry only. Twenty shots (10 shots on a target); position, any without artificial rest. Time limit, 2 minutes for each ten shots, contestants to start with rifle and magazine empty, magazine in rifle, magazine must be filled within the time limit, loading tubes not permitted.

Rifle: Any .22 calibre rim-fire rifle; any sights not containing glass. Entrance fee, \$1.00.

Prizes: 10 bronze medals to ten high contestants, a bronze medal to the high entrant from each State where 5 entrants from any one State compete and bronze medals to all individuals making 90% scores.

Small-Bore Individual Match, Long Range:

Wimbledon Cup conditions. One entry only. Twenty shots,

200 yards, target C-5, time limit, 20 minutes, any position without artificial rest.

Rifle: Any .22 calibre rim-fire rifle. Entrance fee, \$1.00.

Prizes: 10 bronze medals to ten high contestants, a bronze medal to the high entrant from each State where 5 entrants from any one State compete and bronze medals to all individuals making 90% scores.

Other Conditions of Matches:

Sighting shots: Sighting shots are not permitted in any match or qualification, but there is no objection to prior practice on non-official targets.

Preservation of targets: All targets used in matches will be preserved by the club secretary (or the individual in individual matches) for six months to use in deciding ties, disputes, etc.

Other regulations, ties, etc.: Small Arms Firing Manual 1913, U. S. A., will govern in regard to all regulations, ties, etc., not mentioned herein.

The following are the dimensions of the regulation small-bore bull's-eye targets referred to in preceding paragraphs:

Rings	50-yard target inches	100-yard target inches
Ten-ring, sighting	1	2
Ten-ring, sighting	1	2
Nine-ring, bull's-eye	2	4
Eight-ring	3	6
Seven-ring	4	8
Six-ring	5	10
Five-ring	6	12

Target C-5 for use at 150, 175 and 200 yards is a rectangle 14.4 inches high and 24 inches long.

The black bull's-eye is 7.2 inches in diameter and counts 5 points.

The four-ring is 9.6 inches in diameter.

The three-space is 14.4 inches square.

The two-space is the remainder of the target, being an exact reproduction of the 1,000-yard target, reduced to one fifth size.

FRED. H. PHILLIPS, JR., *Executive Office and Recorder.*

Bulletins will be distributed fortnightly to riflemen on the mailing list of the N. R. A. Plans for galleries and outdoor ranges will also be distributed free to those who wish them.

The culminating event of the year will be the great National Matches which will be held at Camp Perry, Ohio, in August. A civilian team of seventeen men will be selected from each State to attend the National Matches. The Government will furnish to each team board, lodging, ammunition, and even a rifle after the shooters arrive on the grounds. As an additional incentive each civilian team will be privileged to go to Camp Perry two weeks before the meet starts for practice instruction under the most expert coaches of the Army, Navy and Marine Corps. The expenses of these teams during this instruction period will also be paid by the Government.

The Secretary, National Rifle Association, Woodward Building, Washington, D. C., will be glad to answer in detail any inquiries that may be directed to him.

Foundations for Our Infant Industry

This article takes up the problems faced by American color manufacturers in developing a dyestuffs industry

THE results of the world-wide war for Liberty will be chronicled in history chiefly in connection with the emancipation of numerous nationalities from political serfdom, and possibly of humanity, as a whole, from the shackles of militarism.

In the economic annals of this country, however, great emphasis will also be laid upon the liberation of American industry and of our consuming public in general from dependence upon foreign sources—chiefly German—for a large variety of manufactured wares, practically indispensable in a highly organized civilization.

Our Technical Problems in 1915

Early in 1915 we were cut off from commercial relations with Germany. In quick succession the demands came from one industrial branch after another for various products, the lack of which threatened to entirely dislocate normal activities.

American inventive genius was promptly spurred to the utmost, first, to devise emergency substitutes, next to create domestic sources of the most diversified articles. For the past four years there has been a marvelous effort on the part of our men of administrative ability, and of our men of scientific training, combined in a determination to win a decisive victory in the domain of technology, fully as stern and unyielding as that which actuated our warriors on the battlefield.

And they have won it! A complete command of the home market, favoring legislation, the patriotic support of consumers—these three factors contributed to bring about the desired result. In practically all fields American manufacturers are producing wares equal in quality to those formerly imported from Europe, and destined at an early date, likewise, to equal them in quantity and variety.

Campaign for a National Coal-Tar Chemical Industry

No effort in this widely diversified province has excited so much public interest as the bold campaign to create a self-contained, national, coal-tar chemical industry. Technically and commercially it means the establishment on our soil of the most complicated and highly organized industry thus far known, based upon the use exclusively of American raw materials. It means, further, the emancipation from dependence upon German products of domestic branches of manufacture employing many million operatives. The category includes the producers of textiles, paper, leather, furs, feathers, ink, paints, varnishes, pharmaceuticals, foods, perfumes, photographic materials and numerous allied branches, as well as the many trades furnishing them with raw material or utilizing their wares. As a matter of fact, every American household and nearly every form of industrial activity make daily use

By Dr. THOMAS H. NORTON

of the colors, flavors, perfumes and synthetic remedies derived from coal tar. A constant, uninterrupted supply of these varied articles is essential to the comfort, health and happiness of every American. The campaign undertaken is, therefore, of prime interest to each one of our fellow citizens. In this campaign the dominant factor is the creation of a comprehensive, self-contained, synthetic color industry.

Creation of a Synthetic Color Industry

Prior to the war there were in this country a half dozen firms engaged in the production of artificial colors. The primary materials, so-called "coal-tar intermediates," were nearly all of German origin. Operatives and salaried staff numbered less than six hundred. An output of about 3,000 tons formed one-tenth of the total American consumption of coal-tar colors.

Since 1914 the plants of the few firms in question have been greatly enlarged and several score new companies have undertaken the production of coal-tar intermediates and artificial dyes. Most of the latter have attempted the manufacture of a limited number of colors, aiming rather at quantity than at variety. In one way or another, most of the urgent needs for colors in our diversified industries have been met. Today there is no material shortage of dyes, in a collective sense, in the United States, but on the contrary a notable export trade has come into existence, the value of which, at the current elevated prices, exceeds the sum expended annually abroad by us for these wares prior to 1915. This statement is to be taken in a quantitative sense. We are still far from producing all of the many hundred colors regularly imported from Germany five years ago, often in small amounts, but of very pronounced value in specific cases. Such colors are constantly being added to the lists of our American

Five years ago we were dependent, directly or indirectly, upon Europe for practically all the artificial colors which form a small but indispensable factor in the great textile, leather, ink, paper, and scores of other basic American industries, busying millions of American operatives, and contributing to the comfort, satisfaction and happiness of every American home.

Today nearly all the dyes needed by these industries are made in American works, by American workmen, from American raw materials. A few years hence the adverb "nearly" will disappear from the above sentence.

This branch of industry—the most complicated on the face of the globe—forms the last link in the completed chain of American technical organization. Its swift march towards symmetrical completeness amidst the clash of arms and the crash of falling thrones forms the most dramatic scene yet revealed on the panorama of human development.

This magazine plans to present to its readers a series of short, non-technical articles, by one who has been a leading factor of the drama, portraying in bold relief the essential features of each phase in the evolution of the new American industry.

houses. Five years hence, probably only a very few dyes, for which there is a normal, even if restricted, demand in our country, will be imported from foreign sources.

As stated above, most of the factors in our new dyestuff industry have concentrated their efforts along the lines of least resistance. They have rapidly created the requisite plant and organization for the production on a large scale of small groups of staple dyes, involving a minimum of operations, and the use of the more common intermediates, and meeting the more general and pressing demands of the textile and allied trades.

In but a very few instances, notably in the case of the Du Pont Company, has the effort been made to lay the broad foundations for a type of comprehensive color works, comparable to those located on and near the Rhine, an American replica of the "Badische" or "Bayer."

These giant German establishments, gradually evolved during the pasty sixty years, possess highly specialized staffs in the engineering, chemical and sales departments. They manufacture on a vast scale the acids and inorganic or organic chemicals required in their operations, as well as the coal-tar intermediates. They are ready to add the production of therapeutic or similar compounds, closely allied to synthetic colors. A notable source of their commercial power is based upon a huge capital, not simply of money and credit, but more particularly of experience in each phase of activity connected with the preparation and application of every form of dye, and its sale in the markets of the entire world. Each, likewise, aims to meet adequately *all* the demands of any branch of the textile, paper, leather, straw, wood, ink, pigment and similar industries, as far as shade and fastness of colors are concerned, so that its customers do not need to seek supplies elsewhere.

Any attempt here in America to create a rival organization paralleling the powerful companies along the German western frontier may well be termed bold, and possibly be deemed foolhardy at Frankfurt or Ludwigshafen.

That it is not impossible we see by the evolution of the Swiss color industry. In a country destitute of fuel and all requisites for chemical manufacture, except ice and salt, the four color works at Basel have developed steadily and harmoniously. In 1914 Switzerland's output of artificial dyes, per capita for the Swiss population, was double the per capita production of the German Empire.

Problems of an American Color Co.

In the United States we have all the raw materials and the largest market in the world, supplemented by American enterprise, technical ingenuity and the habit of doing things on a big scale. And yet it is a vast undertaking to create an individual organism capable of manifesting within a few years the same complex, many-sided efficiency as the rivals across the ocean.

In any one of the world's great color-works, each feature is exhaustively studied in its possible relations to all other processes for future development. Purity and a good yield are constantly kept in view, but in addition there is a high degree of co-ordination with a variety of other factors of production.

Every pound of by-product must be utilized; the normal market for certain staple specialties must not be seriously affected; the results of experience and observation in some one subdivision must be considered in their bearings on many closely or remotely related operations; especially must every advance made in the field of pure chemistry or in the manufacture of intermediates and of dyestuffs be submitted promptly to a searching examination as possibly affecting some one or more subordinate features in a vast organism.

It is by unceasing and watchful attention to all this mass of minor detail that the great German works have won their dominating position in the domain of tinctorial chemistry and maintained it until recently. It is only by duplicating this never-resting, many-sided mental activity that rivals on this side of the Atlantic can hope to attain an equally successful and possibly a more permanent position in what promises to be one of the most bitterly contested struggles ever waged for technical and commercial supremacy.

It is most fascinating to anyone who has had the entree of a leading German color factory to note the space and care devoted to the preservation in an easily accessible and carefully classified form of the complete record of human activity in the field of artificial dyestuffs. The great staff of chemists carry in their notebooks and in their memories numberless details of operations, the results of experiment or gleaned from the study of the literature on the subject. But, in addition, there is the *permanent memory*, the systematically arranged and carefully co-ordinated collation of the complete data on every branch of dyestuff manufacture. Impressive are the voluminous files of the patents of all lands relating to the production and use of dyestuffs, outlining the historical development of

this field of technology and sharply defining the legal rights, for the time being, of rival companies.

These Archives of the German color-works, these *artificial memories*, have slowly grown. The problem of their duplication by American rivals is far from easy.

How the Du Pont Company has solved—swiftly and successfully solved—this problem of erecting an American counterpart of the elaborate artificial memories of the giant works on the Rhine will be described in a succeeding article.



THOMAS H. NORTON, Ph.D., Sc.D.

Specialist in the Intelligence Division of the Chemical Department of E. I. du Pont de Nemours & Co., and author of the "Census of Dyestuffs Used in the United States," and many other monographs and studies on Potash, Dyestuffs and Industrial Chemicals

Dr. Norton was born in Rushford, N.Y., June 30, 1851, and was graduated at Hamilton College in 1873 as valedictorian, a first prize man in classics, mathematics, chemistry and physics. He studied at the University of Heidelberg under Bunsen and Kirchhoff in 1873-1875, and won his Ph.D. there. He was a student at the University of Berlin in 1876-1877 with August von Hofmann, in whose laboratory the first aniline color was discovered, and was a student at the University of Paris in 1877-1878. During these years he made journeys on foot of more than 12,000 miles in Europe and Western Asia, and was the first to traverse Greece, Palestine and Syria on foot alone.

From 1878 to 1883 he was manager of the chemical works of the Compagnie Generale des Cyanures of St. Denis, near Paris, manufacturing dyeing materials. Coming to this country, he was for 17 years professor of chemistry at the University of Cincinnati, 1883-1900. In the latter year he was appointed by President McKinley to establish an American consulate at Harput, Eastern Turkey. During 1904 Dr. Norton engaged in a special investigation of the Armenian situation, and in the winter of 1904-1905 he was sent on a special mission to Persia by President Roosevelt. In 1905-1906 he was American consul at Smyrna, from 1906-1914 American consul at Chemnitz, Saxony, and was largely occupied with textile problems in connection with the application of colors to fabrics. In 1911-1912 he was detailed on special service for the Department of Commerce to study the

chemical industries of Europe. The results of his investigations were published in a number of special monographs.

From 1915 to 1918 under the direct auspices of the Bureau of Foreign and Domestic Commerce, Dr. Norton was occupied with the problems connected with the effective utilization of the opportunities afforded by the European war to build up a complete cycle of chemical industries in the United States. Since 1918 he has been acting as consulting chemist for the Du Pont Co., now being one of the specialists in the intelligence division of the chemical department.

Dr. Norton is a fellow of the Chemical Society, London, and of the American Association for the Advancement of Science. He is a member of the Society of Chemical Industry, London; Deutsche Chemische Gesellschaft, Berlin; Societe Chimique de France, Russian Chemical Society, Petrograd—for many years its only foreign member—and the American Chemical Society. He was made a member of the American Academy of Social and Political Science in 1915, of the Washington Academy of Sciences in 1916, of the National Institute of Social Science in 1916 and of the Advisory Council of the International Institute of China in 1920. He was a delegate to the second Pan-American Scientific Congress in December, 1915. In addition he is a member of the Cosmos Club, of Washington, and the Chemists' Club and Delta Kappa Epsilon Club, of that city.

Selecting Gifts

How window displays led to the purchase of two sets of toilet articles is told in this article

MY friend Dolby had just received an invitation to be present at a wedding and was expressing his delight, but almost in the same breath was lamenting that he hadn't the ghost of an idea what would be a suitable gift.

A wife always tactfully reminds her husband of things she wants, or when a gift is to be purchased for someone else, she makes the selection herself, and spares him much shopping embarrassment. But Dolby is a bachelor and, therefore, not as fortunate as I am in having a helpmate to whom such matters can be delegated for attention.

I knew he wanted to present a gift of merit and not merely satisfy the conventions of the occasion, because both the bride and groom had been his lifelong friends, and when he asked me to help him select a gift I agreed to do so.

We looked through the newspaper advertisements and then scanned the magazine pages. But poor Dolby didn't know a lavalliere from a casserole, and although a few of the scores of articles named were accompanied by illustrations, they availed little. He had to have the objects visualized for his purpose.

I suggested that we try our luck along 5th Avenue, just as women sometimes do when they haven't a definite idea what they want.

We walked along looking into one shop window after the other. Never before had I observed such a great variety of displays. The fact was brought out that window decorations are as varied as opinions on the Peace Treaty. It would be uninteresting to recount the impressions made by each one at which we looked. In most of them, however, there was a noticeable lack of design. One large window had in it almost everything from a dish cloth to a grand piano and was confusing by

By JAMES RIEGEL

its mass arrangement. Another had a background of garish colors that clashed and prevented a pleasurable survey of its contents. We passed by scores of shops and stores, unimpressed and uninterested.

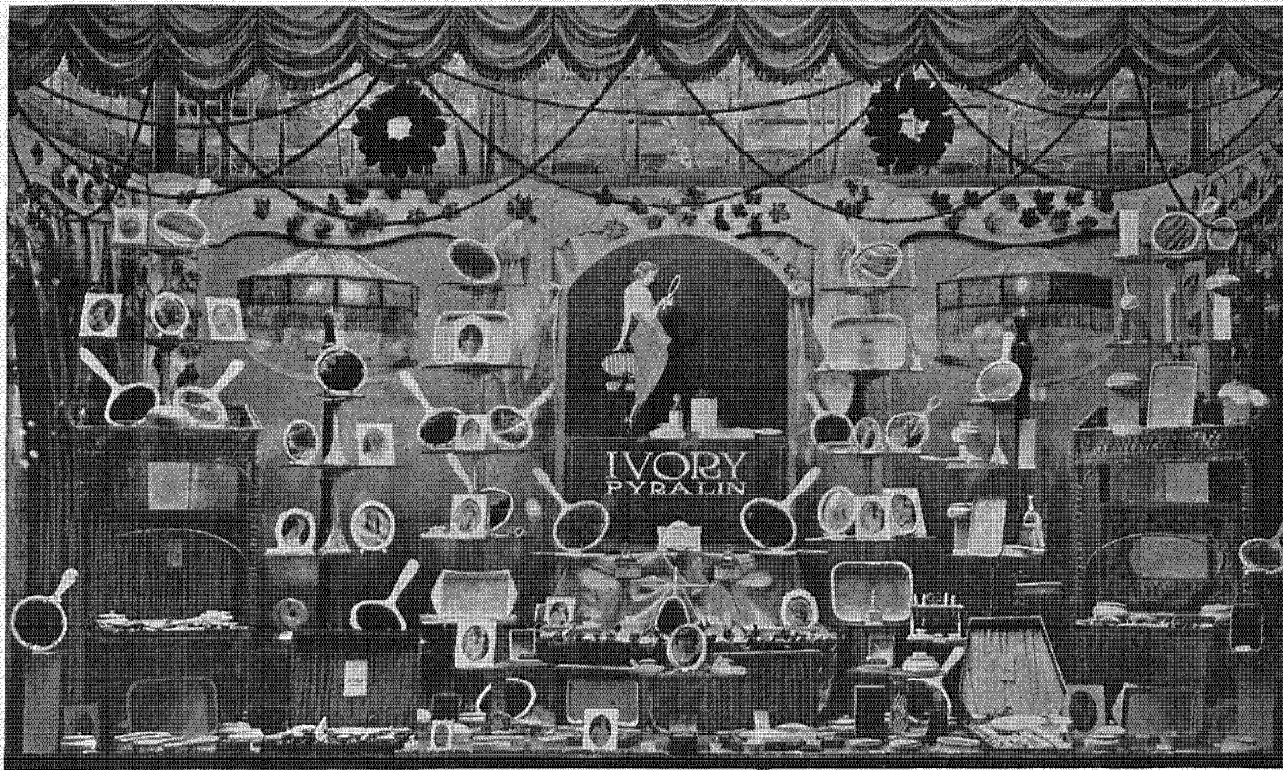
Undaunted, we continued for several blocks without getting any inspiration at all until finally we arrived at Lord & Taylor's. Before one of the windows a number of women were leisurely moving along, and interestedly looking at the display. We approached and noticed a very artistic arrangement of toilet articles. We stopped for a minute or two and looked at the articles. They were made from a material which very closely resembled ivory. The graining and coloring together with the choice patterns gave them quality and distinction. A carved sign, presumably of the same material as the toilet articles, informed us that these were Ivory Pyralin toilet articles.

We entered the store and were shown many beautiful patterns and carved designs. It required only a short time for Dolby to select a set of the Ivory Pyralin, Du Barry pattern, fitted into a beautiful box.

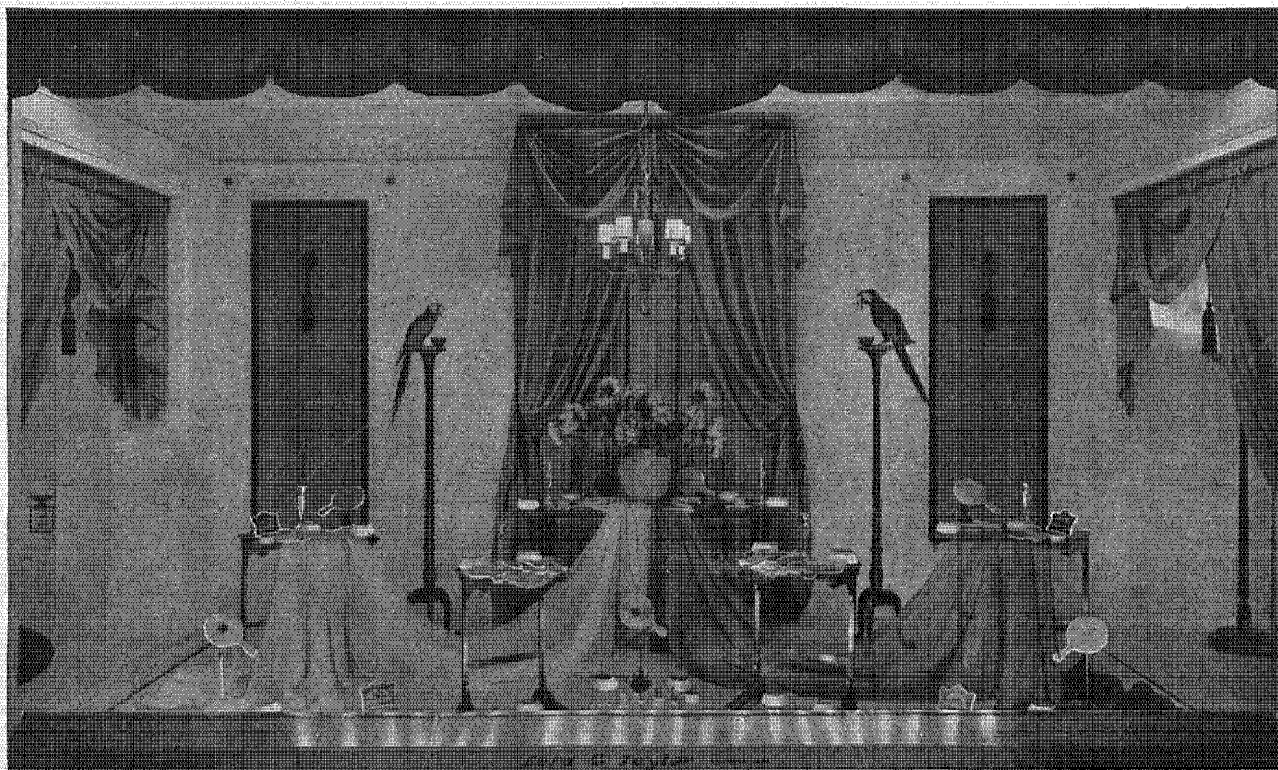
This little shopping tour gave me a new insight into sales possibilities through window displays. When we left the store I did a little personal investigating.

It was noticeable that this attractive window was exceptionally well decorated. The material and coloring of Pyralin are beautiful, but that alone did not account for the attractiveness of the window which led to the purchase of this set. The window had nothing in it that did not help in attracting attention and creating a desire to possess the articles displayed.

I retraced my steps and closely surveyed those windows we had passed by with only a glance. I found two windows displaying, among other objects, Pyralin toilet articles, but the



Effective display of Ivory Pyralin toilet articles by the Owl Drug Company, Los Angeles, California



Artistic display of Colortone Ivory Pyralin toilet articles by Lord & Taylor, New York City

setting was such as to eclipse these toilet articles. In fact, none of the objects exhibited compelled attention.

The manager of a notably large department store informed me that he attributed the success of his window displays to the fact that he never allowed more than a few pieces of material or a small number of articles to be exhibited in one window space. He said: "You will notice that our windows are not crowded, and a passer-by who glances at any window will see at least some object that strikes the eye. Of course, we make our window decoration run to our stock, and never display articles that are not for sale, except the necessary trimming accessories, those necessary for trimming."

The window decorator of another store told me: "We keep our displays ahead of the season, and use the basic idea of current modes in featuring our goods. This is particularly true of wearing apparel. The policy of our store is never to put a price card on women's wearing apparel shown in our windows. But," he continued, "all our men's clothing is price-marked because a man cares little whether or not someone else knows what he paid for a garment."

"A drug company's problem is different from that of the department store," said the display artist of a corporation operating a chain of drug stores. "It is necessary for us to feature price because we aim at a quick turnover and base our appeal on the bargains we offer. We must also fill our windows because we handle articles not commonly found in drug stores and we must plant these articles right up front, and show a great variety."

A professional designer of displays related an instance of the difficulty he sometimes experienced in trying to make a good display without cluttering it. He said: "Last week I worked out and my men completed what I considered an exceptionally good display by using a few patterns of the line. Imagine my chagrin when the proprietor himself appeared and said he thought we should put some pieces of every pattern in the window or people would think our selection was limited to the few displayed. This man forgot that he should not show every-

thing, but should have something new to aid the saleslady in making the sale."

He continued: "The big idea in window display is to prepare something unusually attractive in order to get the attention and then create a desire for possession of the article. If a window display does this it has served its purpose."

Less than two weeks after my little investigation in New York I was in San Francisco. I stopped before a number of window displays of Pyralin toilet articles by the Owl Drug Company. Their appeal was so strong that the day I returned home I purchased a boxed set of these toilet articles for my wife.

Window displays were responsible for the sale of these sets. The toilet articles were good looking, but without the right kind of setting they would have been lost to the average passer-by.

The Mississippi State Trapshooting Tournament

THE Mississippi State Trapshooting Tournament, which will be held at Clarksdale, Mississippi, on May 11, 12 and 13, should be one of the largest and best trapshooting tournaments of the year.

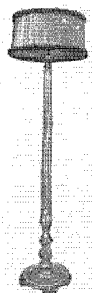
The program is one of the most attractive we have ever seen for a trapshooting tournament. Six thousand dollars in actual cash will be added, and the distribution of the money will be handled in such a way that even the mediocre shot should have no difficulty in getting a proportion of it.

Clarksdale will be turned over to the trapshooters and true Southern hospitality will be dispensed. Special cars are being made up in several sections of the country to carry the shooters to Clarksdale.

Sidney L. Dodds, a prominent trapshooter, is the manager of the shoot. He promises that everything possible will be done to make the shoot just as good as the program; and if he makes good, as no doubt he will, the Clarksdale Tournament for 1920 will go down in history as one of the best trapshooting events ever staged.

Colored Enamels

What they are, and how easily the man or woman of the house can apply them to articles that need refinishing



WHILE the word "enamel" as a paint term is familiar to almost everyone, comparatively few people can tell you just what it is beyond the statement that it generally has more "shine" than paint.

We are not concerned with a technical definition, but before discussing some specific uses of enamel let us arrive at a little clearer understanding of what it really is.

The word enamel is a general term loosely used to designate any coating from an air-drying japan to the highest grade of decorative white enamel. More accurately, it is a varnish containing pigments, or pigments and color, to give opacity and tint. As the word is applied to finishes, decorative enamels may be either high gloss, eggshell gloss, or flat. (This latitude in lustre is necessary to meet the demand for different types of decoration.)

Enamels used on interior surfaces in homes and public buildings, or in the finishing of furniture and cabinet work, are termed decorative; but certain types are designed and used for purposes that do not warrant their classification as decorative. For example, air-drying japans, machinery enamels, and other types used in industrial work cannot properly be considered as wholly decorative, nor can they be placed in the same category with enamels used in modern decoration.

Modern interior decoration deals extensively with enamel because it combines the advantages found in both paint and varnish. The most common, unattractive, figureless wood—if it has a close grain—makes an ideal surface for enamel. The same wood could not be made attractive with varnish or other transparent coatings, and oil paint alone would not give the most artistic or distinctive effect. So woodwork that cannot be made beautiful and attractive through the usual finishing methods involving the use of stain, varnish, shellac or wax offers splendid decorative possibilities with enamels, for they possess the color and opacity of oil paint as well as the smooth, lustrous finish of varnish.

The recent development of Du Pont Colored Enamels gives to the trade products of quality adapted for such uses as refinishing furniture, woodwork, radiators, household articles, porch furniture—in short, anything that requires a high-gloss finish and a permanent, sanitary, washable surface.

The type of work for which Du Pont Colored Enamels are specifically intended takes in the little painting operations ordinarily executed by the man or woman of the house. At the start it is well to know some elementary facts about enamels, and the conditions and requirements for applying them to the best advantage. It must not be understood from this that Du Pont Colored Enamels are difficult to apply, or that they

By G. A. TOUSSAINT

require peculiar methods of application. On the contrary, there are no mechanical difficulties whatever. These enamels flow out smooth and even, and dry with a high gloss.

In refinishing various types of surfaces one encounters varying conditions. These should be considered. Better results are always obtained when surface conditions are first given some thought, rather than when the coatings are applied in a haphazard manner.

Du Pont Colored Enamels are furnished only in quarter-pint, half-pint, pint and quart cans. They are not intended for use on large areas of surface, such as side-walls and ceilings, for it is seldom that the walls of a room are finished in a high-gloss colored enamel. Flat wall paint, such as Harrison's Sanitary Flat, is more popular for such work. But as far as practicability is concerned, Du Pont Colored Enamels can be used successfully on walls, if they are coated first with Du Pont Elastic Wall Primer. This detail is added merely to explain why these enamels are furnished only in the small-sized packages, and to bring out more clearly that their particular field covers only the small miscellaneous home uses.

Inasmuch as these enamels will be used almost wholly by amateurs, on the small painting jobs that do not require the skilled service of a master painter, the following suggestions will be of timely interest to users:

Where these enamels are to be used on wood surfaces not previously painted or finished—such as the trim of a room, a piece of furniture, or some household article—do not apply the enamel directly to the bare wood. Always remember this—it is important: Enamels—even the best grades—do not have the "hiding" power of paint; therefore, you must build up first a

solid, dense surface, for otherwise you will be compelled to apply an endless number of coats before you can permanently conceal the underneath surface.

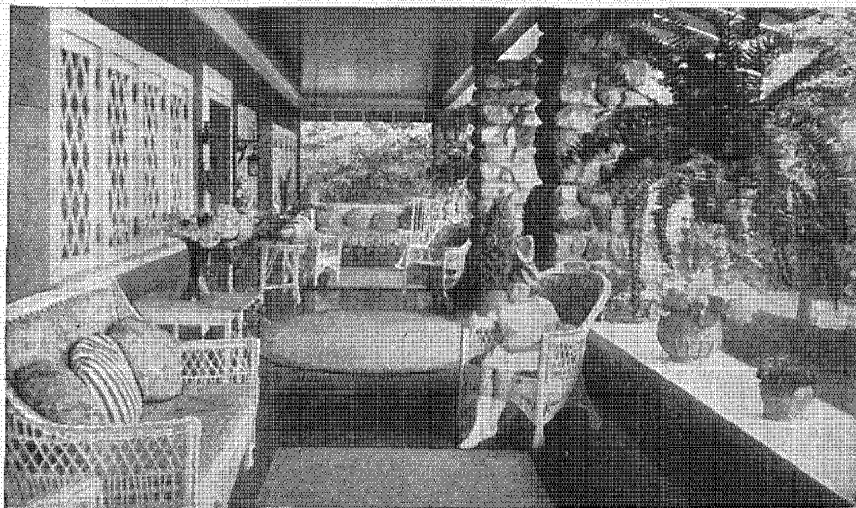
On bare wood, apply at least two coats of Du Pont Enamel Undercoat, and then follow with two coats of Colored Enamel. If you are using a very light tint, and are sufficiently expert with the brush, one good flowing coat may be sufficient. Otherwise, use two.

After the first coat of Enamel has

dried hard, go over it lightly with very fine or worn-out sandpaper, excelsior, or curled hair; then apply the second coat.

Coatings of any high-gloss paint or varnish should not be applied one directly over the other without cutting the gloss of the first coat as indicated above. You have often watched the futile efforts of an insect trying to crawl up the smooth surface of a window pane. The difficulty is in getting a footing. This illustrates what happens when a second coat of Enamel is applied over one that has not been sandpapered. The extreme

Continued on page 16



The attractive appearance of this porch is accentuated by the use of Du Pont Colored Enamel on the wicker furniture, the jardenières, the hanging baskets and bracket lamps

Observations of a Haberdasher

He notices some singular changes in the buying habits of his customers particularly as they relate to collar sales

ONE fact stands out in business today—the speed with which ideas are being scrapped. At any rate, I observe some curious evidences of it in my business.” The speaker, a well-dressed man of middle age, paused to light a cigar, and the other three men in the smoking compartment looked at him expectantly. Then, one of them spoke:

“What curious evidences have you discovered?”

“I own a haberdashery store in F—,” replied the speaker. “It is an industrial town and the center of trade for about 75,000 people. The town has been booming since 1914, and as a result, business has been unusually good. Money has become so plentiful and purchasers have developed such unusual traits in buying that in our case, at least, stock requirements have materially changed, while our turnover has greatly increased. Now we are carrying a line of goods that both in volume and character would cause the deceased founder of the business to gasp with astonishment, if he could be restored to life and be conducted to the store for even a brief inspection. He would swear that we were crazy.

“Still, if he could linger long enough to see workmen dressed in overalls buying \$10.00 silk shirts, \$4.00 socks and \$5.00 ties, and laying down \$50.00 bills with as little concern as our wealthy customers a few years back would lay down a \$5.00 note, he would say that the public was crazy, too. These two classes seem to have swapped buying habits.”

“How long do you think this era of extravagant spending will continue?” asked the gray-haired man.

“I haven’t the slightest idea. “Probably as long as money is plentiful; but already I observe a tendency toward sane buying. Brady, our collar salesman, brought it to my attention some months ago, and I have been watching it with unusual interest.

“We have always had a big collar trade. Collars soon get soiled in our town on account of the soft coal smoke from the factory chimneys. The mill-workers very generally wear collars of the cleanable type because it’s impossible to keep a starched collar presentable for even half a day. Years ago we sold gross after gross of the old shiny ‘rubber’ collars to these men, but, of course, our other customers wouldn’t look at them.

“Within the past three or four years, however, an improved type has come on the market and it’s a ‘dead ringer’ for the modern styles of the common starched collar. I doubt if any of you could tell the difference if you should see two men on the street, one wearing a Du Pont Cleanable Collar and the other a starched collar freshly laundered. The fabric and even the stitched seams of the cotton collar are reproduced exactly on the stiffening material, which is permanent and not affected by moisture. It can be kept clean with a damp cloth.

“I stocked fifty dozen of these collars, and found that they sold readily to motormen, mill-men, railway employees, chauffeurs, army officers and mechanics, but my other customers could not be persuaded to buy them. They freely admitted that this improved cleanable collar was just as presentable as the ‘linen’ collar of laundry fame; they agreed with Brady that ninety-nine men out of a hundred would not be able to tell one from

the other. Still they continued to buy the conventional cotton collar for no other reason except that it was the conventional collar. That was before the war.

“But buying habits change. Of course, we sell cleanable collars to the mill and factory hands now, just as we have done for years. But I confess that I was surprised when Brady told me one day that he was selling a large number of Du Pont collars to business and professional men—the same men, by the way, who had turned them down before.

“I was curious to find out the reason for this apparent reversal of opinion; so I made it a point to stand near the door—that’s where we keep our collar stocks—and talk with some of our old customers when they called for them.

“Walker, the dapper little jeweler, came in one day and said: ‘Brady, wrap up a couple of those collars such as I bought last time.’ I strolled over where he stood. ‘Tell me,’ I said, ‘how do you like the new collars?’

“‘First rate,’ he replied.

“‘But what led you to buy the cleanable kind?’ I asked.

“‘Well,’ said he, ‘I bought my first one to wear on a motoring trip through the Dakotas last summer. I didn’t want to carry a lot of laundry collars along, because I couldn’t be sure to buy what I wanted en route. So I whispered my wants to Brady here, and walked out of the store with a cleanable collar on. At first I was a little bit ‘collar conscious,’ but that feeling wore away after I met a bunch of fellows from the club and none of them discovered that I was wearing other than the ordinary collar. I wear cleanable collars all the time now,’ he added, ‘except on two occasions.’

“‘What are they?’ I asked.

“‘In bed, and at a dance,’ he

replied. ‘Why not at a dance?’ I queried.

“‘Because on that occasion I want my collar to wilt, just as those on the necks of the other fellows do; this one won’t wilt,’ he added, pointing to the one he was wearing.

“During the noon hour, a bank-teller came in and bought a cleanable collar. I was just going out to lunch, but I stopped long enough to speak to him, and incidentally to remark: ‘So you’re cheating the laundrymen, too.’

“‘Yes,’ he replied, ‘but that isn’t the real reason.’

“Then I told him why I inquired, and asked why he bought collars of the cleanable type.

“‘For profanity insurance,’ he said, smiling.

“‘What do you mean?’ I asked.

“And this was his reply: ‘Every time I’ve opened up the collar box lately to get a clean collar it has been my luck either to find that the laundryman had missed delivery or my stock was either exhausted or soiled. So I’ve decided to wear cleanable collars to save myself annoyance and my wife the pain of hearing me swear. Seriously,’ he added, ‘it’s worth while to have

Continued on page 14



The laugh's on you: this isn't a starched collar—it's a Du Pont Cleanable Collar

collars of the sort at hand; they are convenient, always clean or quickly cleanable in any emergency."

By this time the train was approaching the city. "Just time to clean up!" exclaimed the speaker, rising. He pulled off his coat and vest, unfastened his tie and took off his collar, preparatory to washing his face and hands.

"Say, friend," remarked one of the trio, "how does it happen that your customers find such merit in these cleanable collars, and yet you continue to wear a starched collar?"

"You're mistaken—this isn't a starched collar; it's a Du Pont Cleanable Collar," he replied, as he began to wipe off the dust and grime of travel from the collar with the damp end of a towel.

"Well I'll be ——," began the surprised questioner; but the man in the corner cut the exclamation short:

"The laugh's on you, Bill." Whereupon we all enjoyed one.

"On the level," said the haberdasher, "didn't you notice that I was wearing a cleanable collar?"

The man called Bill had already committed himself, and merely nodded his head negatively. "I didn't," replied the second, "until you began to wipe it with the towel." and the third man answered with the question: "Say, where can I buy some of those collars in the city?" The haberdasher gave him a dealer's address. "I'm going to buy two or three of your cleanables today," was his comment.

The train had stopped, and the passengers were filing out through the narrow passageway to the platform. I broke into the line, but before I got out of hearing I heard the haberdasher laugh and remark: "Didn't I tell you that old ideas are being scrapped?"

And in truth, so they are.

A New Upholstery Material That Solves an Old Problem

Continued from page 3

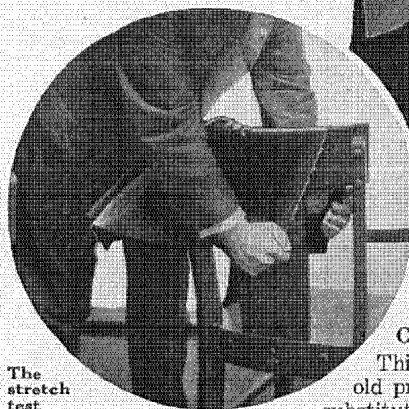
in the furniture trade as something that was unavoidable in leather substitutes, and because leather substitutes were so economical and superior in every other way they were used in ever-increasing quantities regardless of this limiting feature.

The Du Pont Fabrikoid Company, however, was never content with this condition, and kept its experimental staff constantly at work to develop a leather substitute that could be applied as an upholstery material without any change in the present methods of upholstering and yet without showing any trace of clothiness.

Success came in the early part of last year. A fabric was produced that was far superior to any of its predecessors and which satisfied in every respect the requirements for a superior upholstery material.



The scrub test



The stretch test

Points Worth Knowing About Craftsman Fabrikoid

This material solves an old problem with leather substitutes—it does not look

"clothly" when stretched. Its leather-like appearance is quite as convincing when tightly stretched over the arms or backs of furniture as when in the uncut roll. **GIVE IT THE STRETCH TEST.**

This material will stand more actual use without breaking down or wearing through the coating than any other leather substitute we know of. **GIVE IT THE SCRUB TEST.**

It will stand more *abuse*—more hard knocks in shipment—more jabs and punches by other pieces of furniture and blunt

instruments, and show less injury than any similar material. **GIVE IT THE SCUFF TEST.**

This material is increasing the use and the prestige of leather substitutes throughout the entire furniture field. It goes to manufacturers with this guarantee.

"We guarantee Craftsman Fabrikoid for one year from date of shipment against cracking, peeling and blistering. We aim to satisfy you and your customers absolutely, and will not only replace defective material but will refund the cost of labor connected with such replacement."

Already a very considerable number of important furniture manufacturers have tested out Craftsman Fabrikoid and adopted it for use on that portion of their output where they require the very best leather substitute obtainable. Most of these manufacturers have sent out literature and samples to all of their trade calling attention to the advantages of this material and suggesting that the following tests be made:



The scuff test

The Stretch Test

Bear right down. Pull as hard as you can. You will find that it takes a sharper edge and more force than the upholsterer uses to make the weave of the cloth show through the coating of Craftsman Fabrikoid. Other leather substitutes show clothly with moderate stretching—try them.

The Scrub Test

This test tells whether the surface film is of proper toughness and flexibility and if its anchorage is sufficient to prevent cracking, chipping or peeling off. Hold the sample as shown and scrub hard back and forth about thirty times. The coating of Craftsman Fabrikoid remains unbroken and practically unmarred. No test in actual service is as severe as this.

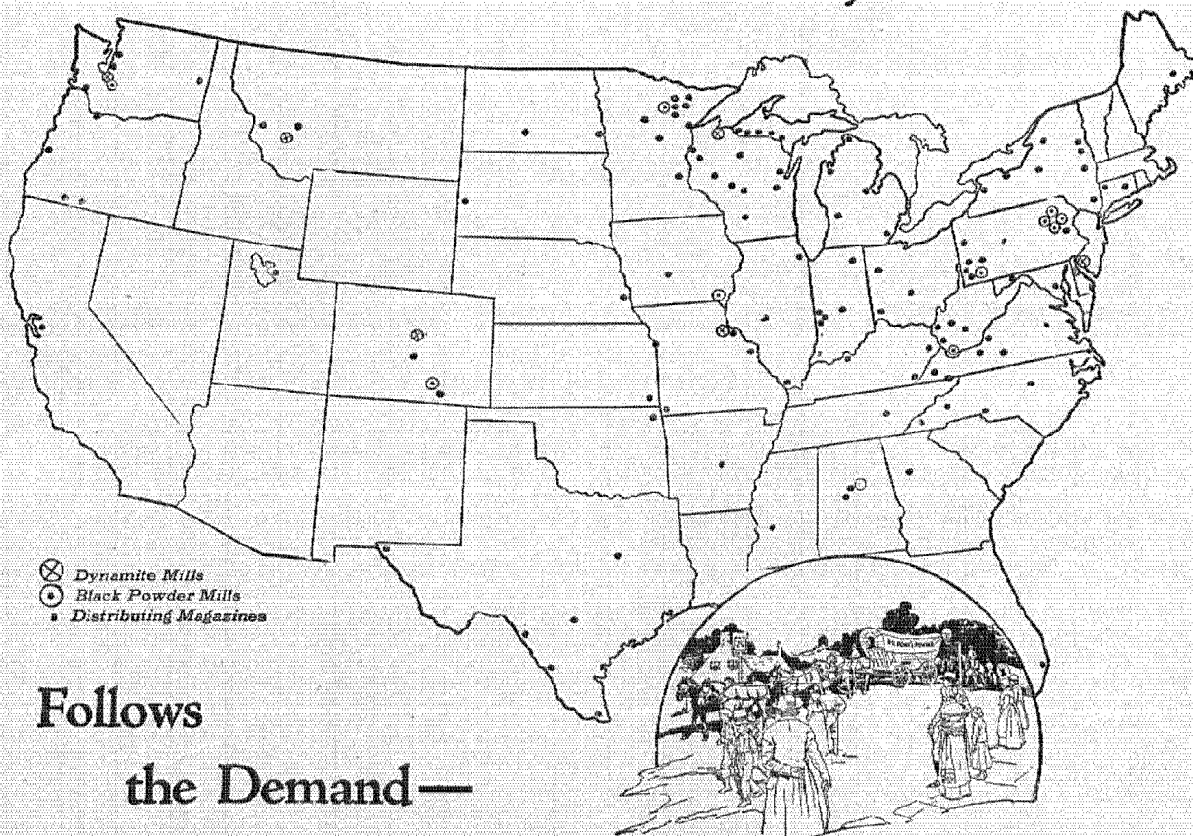
The Scuff Test

Kick the sample of Craftsman Fabrikoid as sharply as you can with toe or heel. Then grind it under your heel, using all your weight. Unless caused by protruding nails, there will be no cuts or breaks in the coating.

This measures the immunity of Craftsman Fabrikoid from the effects of misuse and minor accidents in shipment or in service.



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*Sales Dept.: Explosives Division
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Colored Enamels

Continued from page 12

smoothness prevents the second coat from getting a proper grip or anchorage. For redecorating furniture and other wood surface previously enameled or painted, one coat of Colored Enamel of a similar shade carefully flowed on will usually give a satisfactory refinish, unless the surface is in bad condition. If you plan to change the color materially, use two coats of Enamel Undercoat first, and then the Colored Enamel.

This treatment will also be required for any surface previously finished with varnish, shellac or other transparent coatings. Be sure the surface is clean and dry, and any remaining gloss is cut with sandpaper before you start enameling. Perhaps the old surface was finished with wax; if so, wash off the wax coating with turpentine before you apply the enamel.

Du Pont Colored Enamels can be used on metal beds, cribs, go-carts, and other metal articles in the home. If the old enamel is badly chipped, sandpaper around such places—particularly the edges—with a medium coarse sandpaper, and smooth down with a finer grade. Then go over the entire surface with the fine sandpaper and dust carefully. It will then be ready for the enamel.

Where radiators are to be enameled, it must be realized that this is a severe test for any paint other than a baking enamel. The darker shades of Du Pont Colored Enamel will give satisfactory service on radiators, but the lighter tints are not recommended for this purpose.

Now a few suggestions about porch furniture: Neatly painted chairs, settees and tables always add to the exterior appearance of the home. Here also is the need for added protection against outside exposure.

The usual type of porch furniture is secured or held together with glue. Furniture of this sort, when exposed to dampness and changes of temperature, soon falls apart. The period-

ical use of paint protects the glue and prevents deterioration. As porch furniture is usually repainted in the same color, one coat of Du Pont Colored Enamel will be sufficient to restore its original lustre. Where colors are changed, two coats, at least, will be necessary. Such tints as Willow Green, Lawn Green, Sky Blue, Tuscan Red or Silver Gray afford a variety of delightful color effects for porch furniture. These are real enamels, and they are sufficiently enduring for such exterior use as has been indicated.

We have discussed only a few of the more important uses for Du Pont Colored Enamels; other uses will suggest themselves to the reader who will take time to examine the many little articles in the home that need to be refinished. Whatever you decide to enamel, if your ultimate object is to obtain a glossy, sanitary, washable surface in bright and dainty colors, these enamels will answer your purpose admirably.

Enamel should always be applied in a warm atmosphere. Any attempt to use it in a cold damp room causes the enamel to pull and drag under the brush. A temperature of 70 degrees is ideal for enameling.

Finally, a word of caution: The next time you have occasion to buy paint for any of the purposes mentioned in this article, or for any other similar use, don't ask your dealer for "just a can" of household, chair or



Colored enamels are practicable

for scores of uses in the home

radiator paint. There are so many general-purpose paints that the only safe way is to specify the advertised brands of reputable makers. Therefore, be specific; say "Du Pont Colored Enamel." You can secure it in a variety of ten bright and cheerful colors in addition to black. If you follow the suggestions outlined here and the simple directions on the package, your enameling efforts will be rewarded with satisfactory results.

The Fabrikoid Process adds beauty and long life to fabrics; some heavy and rugged, others dainty as linen—all pliable, scuff-proof, stain-proof and water-proof

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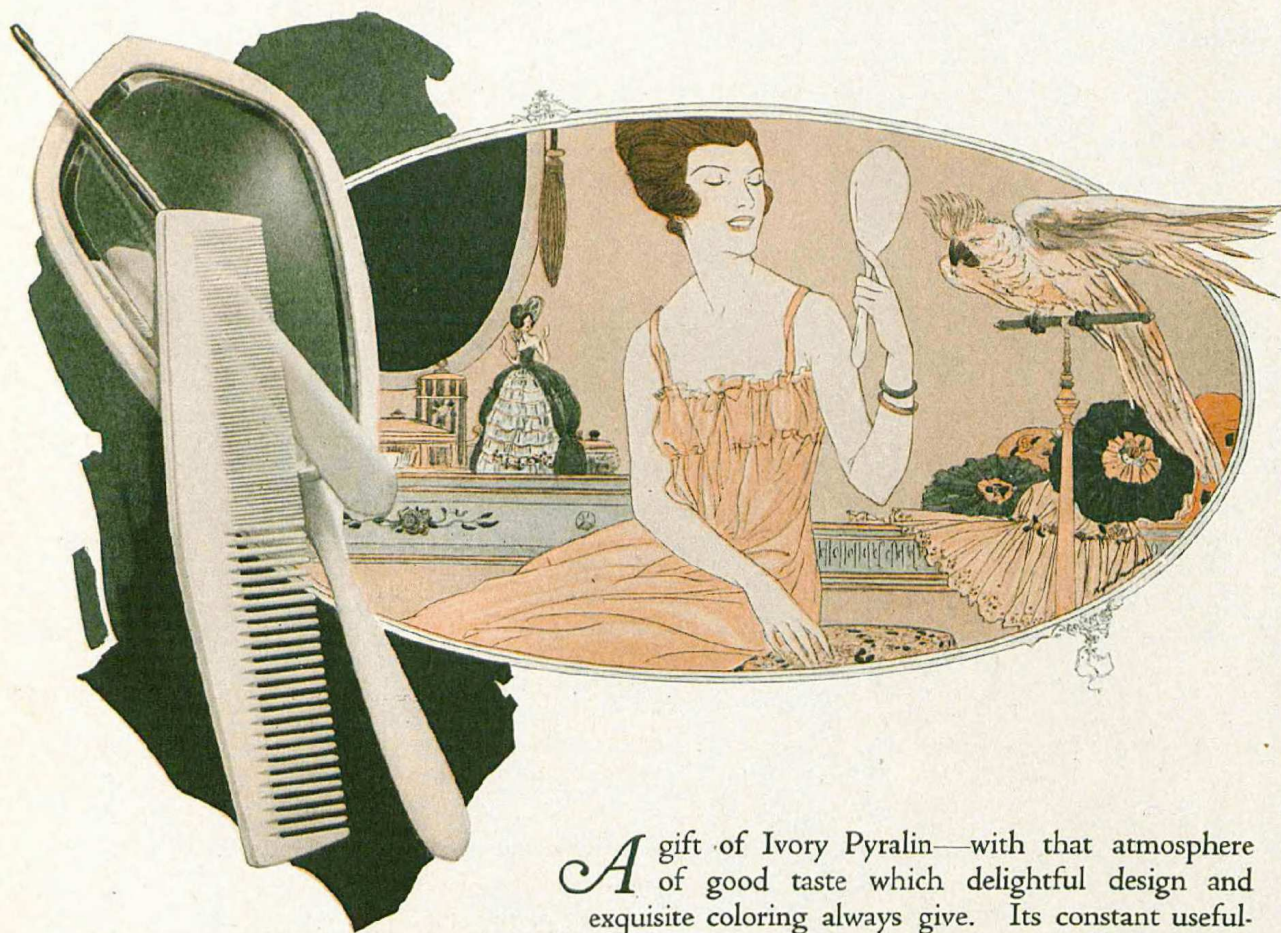
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