

1945 NORD BOOKLET

This is the NORD advertisement for the NORD booklet that starts on the next page.

This half page ad was in the March 1945 edition of Model Railroader Magazine on page 147.

The booklet is about 4 x 9 inches with one fold out diagram that is about 9 x 11 inches.

What are the real FACTS?

Note: Our reasons for conducting this investigation are fully explained in the report. Act at once, as the supply is definitely limited. This ad will not appear again.



There is a movement under way to introduce and support the new S gauge. This is going to have certain important effects upon the entire field of model railroading and for this reason is of consequence to every reader of this magazine—those who do not intend to adopt it, as well as those who may take it up. How will this development affect you? To reach an intelligent conclusion, based upon a thorough understanding of the many factors involved, you need ALL the facts, not just those presented by one side or the other.

What is the real attitude of the manufacturers? What is the stand of the dealers? Will it draw in new enthusiasts, new capital? What plans are afoot, what are the chances for success? What are the real merits and disadvantages of the new gauge?

Everyone interested in model railroading needs the complete and impartial facts on these and many other points that affect the future of the hobby.

We have made just this sort of careful and unbiased investigation, and have prepared a report giving all sides of the picture. You can have a copy. The report is free, but a dime to cover postage and handling costs will be appreciated.

NORD COMPANY

P.O. Box 937-A

Minneapolis, Minnesota

S GAUGE

..... a solution of some
basic problems in
scale model railroading

THE
NORD
COMPANY

Post Office Box 937
Minneapolis, Minn.

- **POSTWAR IMPROVEMENTS IN SCALE MODEL RAILROADING**

The war has brought about vast scientific improvements. This is going to mean many fundamental changes and improvements in the field of civilian production.

The hobby of scale model railroading, like many other fields, can look forward to its share of progress. Better and more accurate manufacturing methods will yield more reliable operation and more finely detailed equipment. Practically every manufacturer of scale model railroad equipment is going to apply the knowledge he has gained in war production to his peacetime product.

But progress is not limited to merely minor improvements. The opportunity is now presented to make some basic and major ones that get down to fundamentals. The older popular gauges were based originally on toy track size. This was a definite handicap. Unfortunately, toy track was not established for the idea of scale models and, consequently, dimensions were selected which were neither convenient nor sound.

O gauge is 5/226 actual size. HO is 10/871 actual size. It is obvious that both these fractions are not handy, to say the least. The result was 17/64, 1/4, Q gauges, etc. These were only half measures and did not cure the real troubles. In the case of HO, some improvements resulted from a combination of mm and feet, but this is certainly a makeshift solution.

Another disadvantage of the older gauges is the size of equipment. For the average home, O gauge was too large, and for many individuals HO was too small.

- **S GAUGE FILLS A NEED**

The purpose behind the introduction of S gauge is to provide once and for all a satisfactory solution to both of these problems. It is based on the selection of a common and logical fraction. S gauge is built exactly 1/64 actual size. It results in scale models which are of convenient size, almost exactly midway between O and HO gauge. Large enough for practical, easy construction and reliable operation, it is, at the same time, small enough to fit within the space available to the average fan.

S gauge equipment has a bulk and weight approximately two and one-half times that of HO, while it occupies only half as many square feet of floor space as an O gauge layout.

- **DESIGNED BY USER**

Unlike the older gauges which were introduced by the manufacturer, S gauge can claim the unique distinction of not only being designed

especially for scale model railroading, but also by scale model railroaders. It represents the opinions and ideas of many hundreds of practical and experienced model rail fans all over the country. S gauge embodies the customer's ideas rather than those of the manufacturer.

Before we undertook the manufacture of equipment in any gauge, and while we were still free to select the size to go into, we undertook a poll of rail fans on the subject. Their advice and suggestions were closely followed every step of the way. They told us just what they wanted, what troubles they encountered, and what solutions they considered practical.

You can see that S gauge is not simply another gauge to further complicate the picture, but on the contrary, is a new and improved gauge that offers a practical and carefully engineered solution to the many problems of the past.

S gauge provides an opportunity for avoiding the difficulties inherent in the older gauges, and a means to provide greater pleasure to the hobbyist who is seriously interested in scale model railroading. One of the principal advantages of S gauge is the fact that by starting off fresh it can profit by the experience of a dozen years or so gained in the older gauges, without being hampered in instituting improvements by having to consider a vast quantity of equipment already manufactured in the past.

• BETTER STANDARDIZATION

S gauge starts off with complete standardization right from the beginning. Coupler heights and design, bolster heights and such matters are being completely standardized on the basis of absolute scale accuracy, so instead of each manufacturer having developed his own designs and standards, all of the S gauge manufacturers are working together to produce equipment which will operate interchangeably.

Being a new gauge, many things can be standardized that would be impossible in the older gauges. Even individual parts produced by the different manufacturers can be used interchangeably with parts of other manufacturers.

This feature is of great importance to both the individual hobbyist and the dealer, since it means the maximum variety with the minimum of stock. Repair parts of one make will fit equipment of another. Free lance designers will benefit, too.

• THE PROBLEM OF VARIETY

Being a new gauge, it will temporarily be handicapped by the time required for tooling. Whereas manufacturers in the older gauges can produce parts from their pre-war tools; in S

gauge everything must be started off new. While, on one hand, this provides the many advantages we have outlined, on the other hand, it is going to require time and money to make new tools.

It is natural that those manufacturers who have produced equipment in the older gauges are not very enthused about investing more money in a new gauge, whatever advantages there might be. However, this is not a serious disadvantage. Companies like ourselves which are entering the scale model railroading field are not so handicapped and are free to make their selection based on the long range point of view.

Several other manufacturers have decided to produce equipment in S gauge and a wide variety is now assured.

Even so, S gauge is starting out new and this will temporarily be a disadvantage of the new gauge. Let us face it frankly.

• THE SOLUTION

The manufacturers who are sponsoring the new S gauge have recognized this and have jointly planned to do a great deal to shorten the length of time that will be required to provide the hobbyist with variety equal and even exceed that in the older gauges.

The biggest saving in this direction is the self-imposed policy whereby different manufacturers do not duplicate the work being done by each other. In the older gauges most of the manufacturers operated competitively. This naturally means that the majority of the efforts were duplicated. By eliminating this in the manufacture of S gauge, a few firms can equal the variety of production put out by several times their number in the older gauges.

For example, we have elected to start our own line by building locomotives. By concentrating on this one field alone, we are going to be able to produce a number of different types. This means that we will have between ten and a dozen chassis kits covering all of the popular types of locomotives. Superstructure kits for these will be developed later, starting with the ones that our sales records show to be the most popular.

• IMPROVED DESIGN AND CONSTRUCTION

These locomotives are being planned and constructed with many new improvements. They will provide greater realism and greater reliability than the older designs.

We are approaching this matter with great care and thoroughness. Although we are anxious to get our products on the market, and naturally want to have an income through sales as soon as we can, we are not allowing this to rush us into

marketing a product that has not had reasonable experimental work and testing. As fast as parts are completed, they are tested in assembly and wherever any needed change is indicated, these are being made as we go along.

The results will be a smooth and simple assembly and a long trouble-free operating life that will represent a sound permanent investment. To give you an idea of the type of construction we are employing, examine carefully the drawings which are shown here. Figure 1 illustrates the frame construction that will be employed on the Nord locomotives. It illustrates a Mikado frame, exact size. You will notice that this construction closely follows that of real locomotives. The structural members are not die castings.

They are carefully machined from solid brass bars by means of a new process which we have developed that makes it practical for us to do this in relatively small quantities involved. . . . and to the high degree of accuracy that must be maintained, to provide complete interchangeable assembly.

• CONSTRUCTION DETAILS

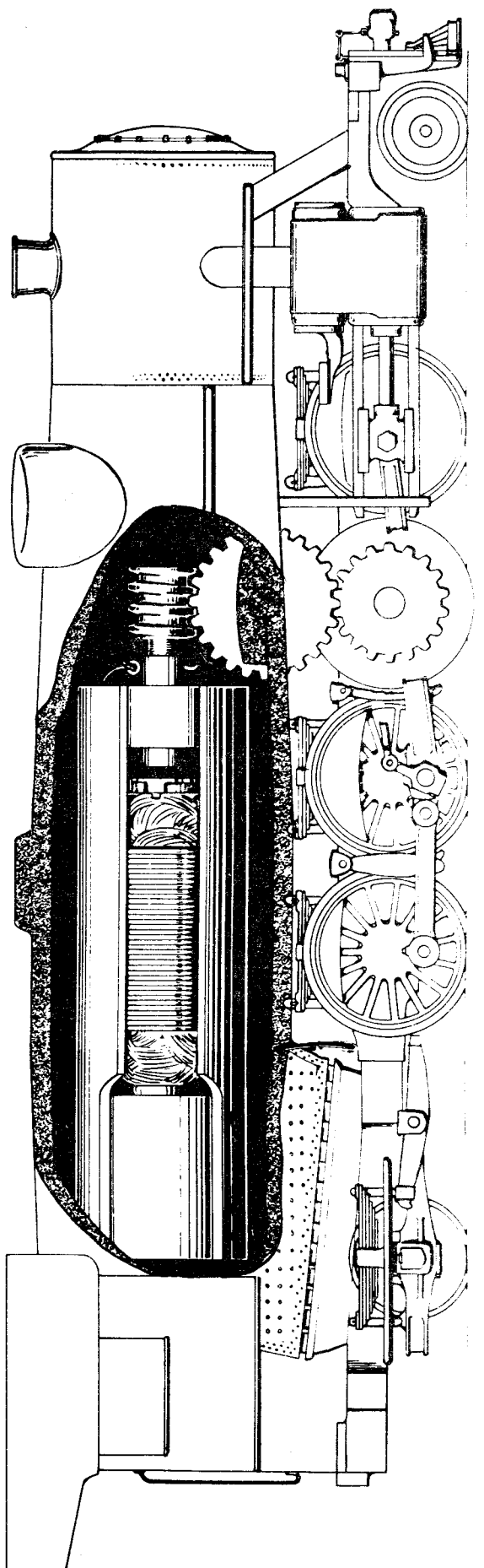
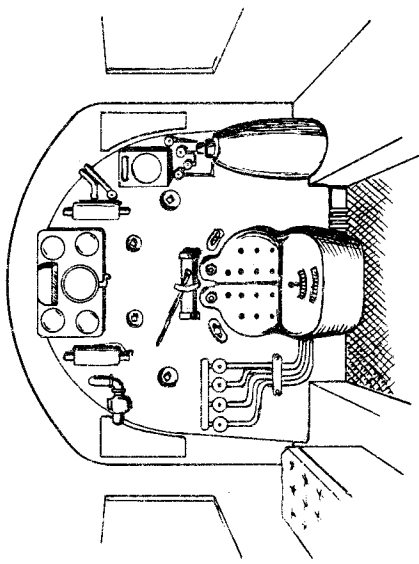
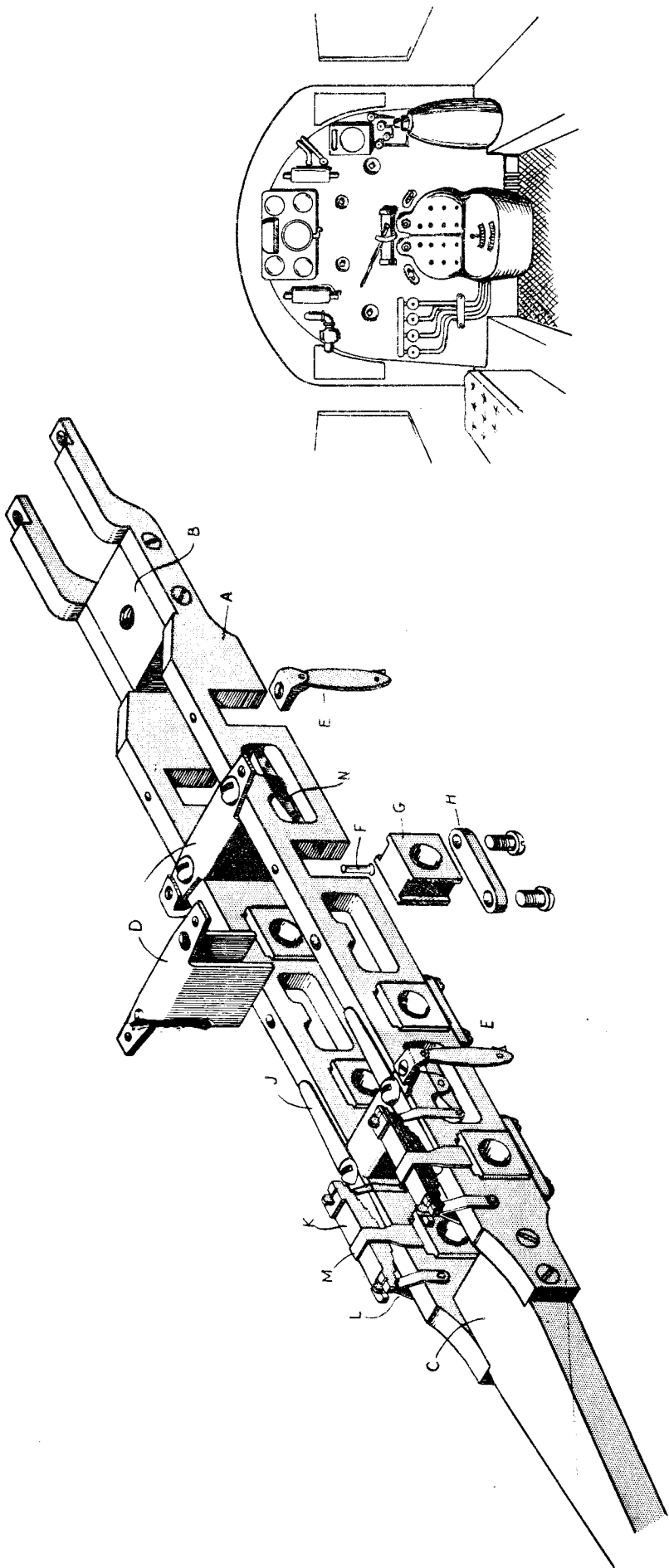
The side frames "A" are fastened together by means of screws. At the rear of the frame they are held apart the correct distance by means of the rear frame section "C", which is also of solid brass and the front end by means of spacer blocks "B".

This also provides for anchoring the cylinder block and superstructure to the front of the frame. Cross ties "D" are provided at intermediate points. The outer end of these cross ties provide support for the dummy brake hangers "F".

These are also assembled by means of screws. The drive wheels are individually sprung in exactly the same way that real locomotives are built. The axles fit the brass bearing of the driver boxes "G" which have carefully machined grooves on the side which fit into the slots in the frame so that they can slide smoothly up and down. Before these bearings are assembled to the frame, a load pin "F" is slipped into a small hole in the frame and the end of this pin projects up a short distance above the top of the frame.

The bearing is held in place so that it cannot fall out by means of the bearing retainers "H" which have a small screw in each end. Springing is provided by means of a flat operating spring "J", which bears on the top of the load pin "F", and this transmits the thrust of the spring to the journal bearing.

These springs fit inconspicuously against the frame and are further hidden by the dummy spring rigging which consists of the dummy



spring "K", the spring hangers "L" and the drive box saddle "M".

These parts are all made of brass finely detailed and can be supplied individually for you to assemble by soldering or cementing or we will supply the complete assembly ready to slip in place. To attach these assemblies, small pins are inserted through the hangers and frame and riveted on the inside of the frame.

The end spring hangers are attached directly to the frame and all of the intermediate hangers are attached to the equalizers "N". By buying the assembled spring rigging, the entire assembly of the chassis is a matter of a few minutes work with the screw driver as all holes are drilled in the frame with precision drills, so that there is no fitting, filing or drilling to do.

A few of the holes require tapping, which is a very simple matter for even an unskilled beginner. A special feature of all of our kits is complete and simple instructions that actually cover the exact construction that you receive in the kit. We are trying to make all improvements that we can find before we sell the first of these kits, but if it happens that future improvements occur, our instructions will be altered to cover these.

Oldtimers in the game will know the importance of this. Other kits in the past have been sold with instructions which are out of date and, consequently, which are difficult to follow. The construction is so simple that you probably completely understand it, even from the brief outline that we have just presented. However, the kit instructions break this down into much greater detail and illustrates each step in complete and thorough fashion.

• HEAVIER MOTORS

Another feature of the Nord locomotives is the husky motor which is designed especially to make efficient use of the large space which is available in S gauge locomotive boilers. In the past it has been common practice to tip the motor down so that only a fraction of the space could be utilized and a small motor had to be employed. In other cases, the motor was placed in the cab. This spoiled the appearance of locomotives because the motor was not properly hidden and further prevented the incorporation of proper detailing within the cab.

• CAB DETAIL

The detail in the cab of a locomotive is one of the most interesting parts of a locomotive, and we plan to include this, with reasonable simplification, as one of the features of Nord locomotives. Figure 2 will show what we mean.

Figure 3 shows how the motor fits into the boiler and makes full use of the space available. This enables us to use a motor which is far more powerful in proportion to the total weight of the equipment than has ever been used in any gauge before. The addition of a simple gear system makes this possible.

Several types of drive systems are being tested as this is being written so that the drawing shown is schematic and may not be the final design. The purpose of this drawing is only to show the principle involved in motor placement.

At the same time, there are other features which are being tested so that detailed drawings of these could not be included here. But we have developed some interesting details and, if they prove out by test, they will be included in the finished kits which you will receive.

• PRICES

Everyone who has examined the construction features of our locomotives have become enthusiastic about them, but invariably have raised the question of how much are they going to cost, and isn't this going to prove too expensive? The question is a natural one, and especially upon seeing the parts themselves, because it is obvious that they represent the finest possible workmanship and that die casting and stamping have been used only where they are perfectly suited for the purpose.

The cost of these kits are not going to be high. An average kit for a complete locomotive will be priced at approximately \$40.00. And in view of the many additional parts that are contained in these kits, they actually are cheaper than many kits in the older gauges. All of these kits will be basically screw driver kits, although some hobbyists will want to use solder in the assembly of some of the parts, but we are using great care in designing them so that the fellow who does not like soldering will not be handicapped in any way.

• NEW MANUFACTURING METHODS

Several new manufacturing processes are being used in producing these locomotives. We are examining every part carefully before we are tooling, to decide what process will produce the best part. For example, the side and main rods of our locomotives will be coined from bar stock. This gives us the same detail that would result from a die casting but with greater strength of brass and steel and without any danger of breaking, since these metals are not brittle like zinc die casting.

The machining process and methods we have developed and which are used on such parts as

the frame sides, must remain as a trade secret for the present. As a matter of fact, this process has many other uses and offers have been received for the rights to this process from manufacturers in other fields, so you can understand why we cannot give further details here.

Another process which we have adopted for use in this field is the porous mold method of casting brass and certain other metals. This yields the finest possible casting, containing the details heretofore possible only with die casting and must not be confused in any way with the rough sand casting produced in the past. By using this method we can cast such parts as the boiler and even very small parts like the dummy springs with all the detail that is required, and yet so that they can be soldered readily, and are not brittle. The parts will bend without breaking.

The idea of the porous mold is interesting and is an improved version of a very ancient process. Plaster of Paris molds have been used in the past, and contain some, but not all, the advantages of the method we employ.

Another use of the older method was for making dental castings and fine jewelry. The principal difference with our method is the porous nature of the mold, which permits gases and air to escape as the molten metal flows into the mold.

The result is the finest detail is reproduced accurately. In a die casting the metal is forced under very high pressure into a mold, but even this does not completely eliminate defects due to trapped air. However, these defects are generally on the inside of the casting where they are not noticed, but in the porous mold process the air escapes through the walls of the mold through microscopic passageways.

These pores are invisible to the naked eye. The material of which the mold is formed is as fine as flour so that very detail is reproduced in the mold and transferred to the metal. Of course, on many parts we will continue to use die casting because they are quite satisfactory and the process is more economical. But by combining all of these methods and employing the proper one for each of the different parts, we can produce locomotives which are better than anything available in the past, and at a cost that compares favorably with that of other gauges. Nord locomotives are not designed to be cheap and temporary, but to represent a good, sound, permanent investment and real satisfaction.

• OUR PLANS

In long range planning, we will eventually produce both passenger and freight car kits in S gauge, but since other companies are tooling for

that, at the present time we are not going to do anything in this field until after our present program is completed.

We have said before that we are specializing for the present, in developing a line of locomotives. These will eventually cover all of the popular types of locomotive power. As this is being written, we have several started which use a 63" diameter drive wheel.

This was selected because it covered the greatest variety and included such types as the Mogul (2-6-0), the Prairie (2-6-2), the Consolidated (2-8-0), the Mikado (2-8-2), the Berkshire (2-8-4) and the Sante Fe (2-10-2).

The frames and complete chassis kits of all of these types will be made and will be the first types to be placed on the market. The next series will be based on a 80" diameter drive and will include a heavy Pacific (4-6-2), the Atlantic (4-4-2) and the American (4-4-0).

In a similar fashion, we will cover the other size wheels and, as you can see, this will eventually result in what will probably be the most complete line of motive power in any gauge.

Box-pok and Scullen disk wheels will be available in S gauge and will be used on Nord locomotives wherever required. These parts will be available about September, and will be cast by our porous mold process.

Individual parts such as drive wheels, smoke box fronts, etc., will be available in a planned series of diameter and sizes covering the entire range of locomotives. Incidentally, some of these will probably be useful in the other gauges, although they are being designed for S gauge and with this alone in mind.

In addition to the steam type of locomotive, we are going to put out a diesel switcher patterned after the EMC 600 H.P. job. The frame for this switcher is also the same for the 1,000 H.P. EMC switcher and is practically identical with the frames used on several other makes of switchers. These will be powered by the Miller motor truck and while this is not our own product, we feel that it is one of the great improvements in the model railroading field that will appear on the market after the war.

It is quite revolutionary in its principles and design and will solve many of the difficulties encountered in the older types. It is also going to fit in the trolley modeling field.

• FOR TROLLEY FANS

Incidentally, the trolley modeler is going to have a great deal to look forward to in S gauge, and it is a safe statement that while it is going to take a little longer, there will be more parts available in S gauge than in any other size.