Boys!
Make your
Own
Parade

Actually cast and make your own lead soldiers, sailors, Indians and a menagerie of other lead toys, quickly and easily.

The Big Electric-Automatic No. 5 1/2 is a real die-casting machine, simplified for general use and every boy can have his own toy factory right in his own home, and make as many toys as he wants, right in order.

With the smaller sets, too, both electric and non-electric, you can cast from any of the moulds illustrated and have hours and hours of fun. Be sure to see these dandy outfits at your favorite toy store.

PRICES

<table>
<thead>
<tr>
<th>Item</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. 5 1/2 Kaster Kit (electric)</td>
<td>$4.95</td>
</tr>
<tr>
<td>Moulds, each</td>
<td>$.50</td>
</tr>
<tr>
<td>No. 1 Kaster Kit Paints</td>
<td>1.00</td>
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<tr>
<td>A--Sports Series Moulds</td>
<td>2.00</td>
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<tr>
<td>B--Tried Series Moulds</td>
<td>2.00</td>
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<tr>
<td>C--Military Series Moulds</td>
<td>2.00</td>
</tr>
<tr>
<td>No. 3 Kaster Jr. (electric)</td>
<td>3.95</td>
</tr>
<tr>
<td>No. 4 Metal Casting Set</td>
<td>1.00</td>
</tr>
<tr>
<td>No. 2 Mould Holder</td>
<td>.30</td>
</tr>
</tbody>
</table>

GILBERT KASTER KITS

Electrical—Automatic
High Fidelity
Safe

Upper right—No. 5 1/2 GILBERT KASTER KIT Electric. Automatic. Complete outfit for casting soldiers, animals, Indians and other toys quickly and easily. In one hour any boy can produce an entire army of soldiers just as perfect, and finished as well as professionally cast models. Boys can make money casting and selling lead toys and novelties. Simple to operate. Hotel is supplied as used in homes and factories, etc. Just plug into any electric outlet. Simplified for children. Complete with 1 mould, 24 pigs of metal, instruction manual, mounted on large safety base with stand, and cord. For all equipment. Same moulds and metal can be purchased separately. This set is particularly recommended for being safer than any casting outfit on the market.

At right—KASTER KIT MOULDS

Boys want this complete assortment of moulds. They will have hours of fun casting these different moulds and in no time of all a complete battle scene of Nazis, infantry, Army Officers, Indian and flames can be made. They can also have Air and Sea Polichis with British marks and planes, or as real three panels of Indians, Colours and pigeons. Die-casts on a line or Safety and Action as panels can also be shown.

ORDER OF LISTING

BY NUMBER AND NAME

1. Army Officer 16. Napoleonic
2. Infantry 17. Lioness
3. Indian 18. Tank
5. Infantry 20. Ermine
8. Aleutian 23. Railway Porter
14. Colours 28. Sea Lion Player
15. French Flag 29. Water Carrier

No. 00--PIGS OF METAL

Prepared for use with Gilbert Kaster Kit and recommended as best. Wrapped 49 pigs to packings, 5 lbs.

No. 2 Mould Holder

Spring grip receives handles and locking pins. Can be used with moulds of any kind.

No. 1 KASTER KIT PAINTS

An assortment of enamel paints for metal casting, with electric 12 1/2 volt electric motor. Prepared in standard colors with small paint brush.

A NEW WAY TO SELL MOULDS IN SETS

A SPORTS SERIES

A--Military Series

B--Army Series

C--Cocktail Series

Above—No. 3 KASTER KIT JR.

ELECTRIC, AUTOMATIC

Complete outfit for casting soldiers, sailors, etc. Heat is supplied by built-in heating unit. Runs on electric socket. Plug and cord not furnished. Avoid cleaning and tending bars. 12 pigs of metal, 1 mould, mounted on base. Instruction manual.

Below—No. 1 KASTER KIT CASTING SET (Non-Electric)

Equipment for casting lead toys in combination with the three sets of parts for casting of models. Avoid fits securely into casting dynamo and is airooled. Wooden handles for lifting. Complete with mould cleaning and handling tools, 6 pigs of metal, pouring tongs and two moulds. Additional moulds can be purchased separately. Simple to operate. Instruction sheet with base. Packed in cardboard box.

*Three Figures.
At right—No. 5 SKYSCRAPER SET

Accessory set to Erector, also a complete outfit in itself. Contains Erector building sections with angle girders, cross-bracing strips and snap rivets for building building sections to girders. Builds skyscrapers, department stores, office buildings, public libraries, etc. Building sections printed both sides in cement or brick structural design permitting reversing and assembling numerous types of housing structures. How-to-Make-Em Book.

GILBERT ELECTRICAL SETS

Left No. 3 ELECTRICITY and MAGNETISM

The toy that electrifies and illuminates. Contains parts and instructions for building electric motor, electric magnets, bell, buzzer, telephone and demonstrates fundamentals of frictional electricity.

At right—No. 1 MOTOR KIT

Provides hours of fun for the home experimenter. Build an electric motor—energizes the fundamental principles of motor construction and operation, side-winder and experimental for schools. Motor operates on 6 volts of battery current. Illustrated box.

At left—No. 3502 TELE SET

Learn telegraphy. Two complete sending and receiving instruments for testing code. 100' wire loop for telephone communication. Use high for electric heating, low for telegraphy. Underwood type key. Sensitizing cord. 20 feet of wire included for instruction. Complete with high pitch buzzer, switch, reel and cable. A standard flashlight cell purchased separately.

At right—No. 6 ELECTRIC EYE

Mysteries of electrical action through Selenium Cell and Sensitive Relay. Equipment mounted on panel and wired for operation. All experiments illustrated and explained in booklet. Basis of action through light rays penetrating a Selenium Cell which is extremely sensitive to change of light, either to greater or less conductivity. Lights electric light with match. Electric Light turns itself off. Rising sun operates alarm—smoke alarm—acts lights night garage alarm and other interesting electrical devices. Operated from 2.5 volt B battery and 2-1/2 volt dry cells purchased separately.

GILBERT MOTORS

Above—No. 2 MAGNETIC FUN AND FACTS

Contains horseshoe magnets, bar magnets, compass and all necessary parts to do many interesting experiments in static and simple electricity.
You like Thrills
Adventures—
Like being
ERECTOR
ENGINEER

Did you like to be an automobile engin¬
 eer—a big motor truck? Put it together—

do it—by your own hands. How would

you like to make a drawbridge that actually opens and closes?

I know you have seen it in use on Uncle Sam's Navy Yards—a mighty hoisting engine—an airplane—demonstrations of other skillful engineering marvels?

Does that sound like fun? I'll tell

you boys, being an engineer is the

most exciting thing in the world. And that's just what you are when you have one of these New Erectors.

And listen boys—new, outstanding features have been added to Erector, making it better than ever before.

Just think of a completely as-

sembled electric engine—not just a motor—but a real engine complete with built-in gears.

Then there are big solid steel base plates in colors, and giant girders, making possible larger and stronger models.

Tinker and experiment with the elec-

tric outfits at your favorite toy shop.

The Great New
ERECTOR

The only Construction Toy that builds the square girder.
GILBERT TOOL CHESTS—Steel Cabinets and Chests

At left—No. 05 TOOL CHEST
Dandy Boy's Kit. 8 tools in solid oak army chest, painted red, leather handle. Brass hardware.

At left—No. 2 CABINET
Packed in red metal carrying case with brass handle. Attractive 4-color label on inside and outside cover. Contains 18 useful tools.

At right—No. 5 CABINET
16 pieces of better-grade tools for the young carpenter. 10" crosscut saw, 3½" plane, 2-jaw screw chuck. Assembled in metal carrying case with brass handle.

At left—No. 3 CABINET
14 pieces in green metal carrying case with brass handle and suit case catches. Attractive label on cover.

BENCH TYPE MODELS

Above—No. 8 BENCH TYPE TOOL CHEST

Below—No. 10 CABINET

Above—No. 12 BENCH TYPE TOOL CHEST
New, modern, Improved bench with hardwood top, rack and steel legs. Drawer, 4 useful tools. 10" crosscut saw, chisel, hammer, plane, small saw, crosscut saw and 3½" plane, 2-jaw screw chuck. Assembled sticks 31½" high, 30½" long, 18½" wide. Disassembled for shipping.

Be a Real Carpenter
BUILD REAL THINGS!

How would you like to build—a treasure chest—a slide—the chute slide—doghouse—a new chair—on your own?—or a table for your room?—or a slide? You can build them all and hundreds of other things when you have a Gilbert Big Boy Tool Chest.

Gilbert Big Boy Tool Chests are packed full of tools—real building tools like those that expert craftsmen use.

Great steel saws that bite through wood like a knife through butter. Hammers that drive big nails home in a hurry. Carpenter's planes that scoop up mighty shavings and smooth off any wood surface. Screws and bits that bore holes right through boards. Screwdrivers, levels and dozens of other useful tools that build everything you want.

Then there's the big Gilbert Bench Type Tool Chests that any craftsman would be proud to own. All popular Gilbert sets are shown on this page. Examine them closely—pick out the one you want and tell Dad about it.

PRICES

No. 1 Cabinet 1.00
No. 2 Cabinet 2.50
No. 3 Cabinet 3.50
No. 5 Cabinet 5.00
No. 10 Cabinet 10.00
No. 8 Bench 8.25
No. 12 Bench 12.50
No. 15 Bench 17.50
Hours of Fascinating Fun with Hammer, Saw, Chisel and Plane

"Build-'Em-Yourself" Idea, as Practiced by Many Boys, Offers Unlimited Opportunities to the Young Craftsman

Bill Stocum lives down in Georgia, Sam Whittlesey belongs out in Michigan and Frank White lays claim to being a full-bred Yankee from the state of Maine, yet these boys in widely separated parts of the country are all expert wood craftsmen and each is converting the fun they get from making wooden novelties into bonafide American dollars. We mention these three simply as examples but there are many more boys throughout the country who have caught the swing of the "Build-'Em-Yourself" idea and are cashing in on this fascinating hobby. You too can enjoy this fun simply by owning the necessary tools and devoting a little time to becoming clever in using them.

Now it's perfectly natural for every boy to want to build things and, when he gets hold of a saw or hammer, he starts something.

These two pieces, however, while extremely important are only a small part of the craftsman's equipment for there are planes, chisels, bits, boxes, swv, mallets, saw drivers, splicing gauges, jigsaws, tri-squares, compasses, mike boxes, etc., and Gilbert Tools for the young carpenter, as illustrated elsewhere on the colored pages, present outfits both in steel cabinets and bench type models, that are the finest available.

Just think of the fun you'll have building with tools like these and imagine the hundreds of things you can make such as sunbonnet girls, windmills, and cats, Dutch girls, ducks, lighthouses, birdhouses, signs either by carving with gouges or burning in with heated etching tools and many of our creations can be beautified with special designs either by carving with gouges or burning in with heated etching tools. This latter method is called pyrography and it's very easy to make your own etching tools by obtaining a piece of copper rod about one-quarter inch in diameter and about four inches long. File down one end to a point and insert the other end into a handle. You simply heat the point of the etching tool until it is red hot and then without much pressure burn in the design that has been drawn with pencil on the wood.

**How to Build a Wren Bungalow**

Material that warps the least should be selected for bird houses, because they are exposed to the elements of the weather.

Cypress is very good, but packing boxes, no doubt, will be most convenient, as the lumber in them is usually about three-eighths thick, and is just the thing for bird houses.

One thing to keep in mind when making a bird house is to provide some means for removing the bottom or top so it can be cleaned each season. This can be accomplished by fastening the latch to be removed in place with screws, so they can be taken out without breaking the parts.

The front and back are the same size and shape. They can be most conveniently made by taking two pieces together and planing to shape at the same time. The hole should be bored before the front is cut from the long piece of board; this will keep the wood from splitting. Make the side pieces and assemble them with the front and back, using No. 8 heads. Now make the roof boards but do not plane the bevel until after they are beaded in place. Of course the piece is tacked in place and planned first and then the other tacked over it.

The floor may be fastened with screws to allow for cleaning. Also note the air space under the roof.

Paint the house white, tan, green or brown; this will preserve the wood and add to its attractiveness. It may be covered with bark or twigs held in place by tacks or brads, so as to add a rustic appearance.

Wren houses should be hung from six to twenty feet from the ground and protected from cats, squirrels, etc. A funnel-shaped piece of tin or row of spikes, placed about the post, will ward off the wren's enemies.

What Sport Building and Riding This Footmobile

Very simple to make and is propelled by one foot while other is standing on bottom board.

Use any material that is strong enough to hold your weight. Make the bottom board (A) as on the detailed drawing. Cutouts for wheel and part (B) made with saw for cutting with the grain, and a chisel or small bit for cutting across the grain. Bore for 3/4" bolts in front end and half inch for wheel in back. Bence (B) is 3/4" thick. Holes are required to fasten bolt to brace (C) and bottom board (A).

Next make handle and peg for a good hand hold.

Part (C) should be made of metal. It is merely an angle-iron with holes bored for screws. Any blacksmith will make it for little money.

Wheels can be cut with a saw from a piece of inch wood, making them as round as possible.

Paint parts with colors and then assemble. Part (C) is fastened to handle with flat-headed screws, other parts are assembled with bolts. Tack sheet metal on wheels for fires and use short iron pipe fitted to bolt to act as a bushing.
The World's Greatest Steel Highway

San Francisco-Oakland Bay Bridge, 81/4 Miles in Total Length, an Engineering Monument of the Ages
Expected to Hold Record forLength for One Thousand Years

Across the waters of San Francisco Bay stretches a mighty steel highway, the construction of which is the greatest of all bridge building feats yet attempted.

The immensity of the project is almost beyond comprehension and barriers and obstacles to be overcome were the most severe of tests in engineering science and skill, yet today this super-structure is a reality—a great dream come true in steel and cement. Yet, San Francisco Bay has a "man-made" contribution to add to the beauty of its 400 square miles of sheltered waters that nature endowed and a great steel highway 81/4 miles long—the longest in all the world—connects the cities of San Francisco and Oakland.

Until recently it was considered impossible to connect San Francisco with the other cities of the bay by a bridge, owing to the great depth of water, but engineering science has surmounted every difficulty.

The entire scheme is unique for the many records that have been established, chief among these being the great depth of the piers, one which penetrates 235 feet below the water line and the bold and original manner in which these foundations have been secured. Of the 57 piers in this great bridge, seven are on dry land and 44 in the water. The foundations of three of these 44 underwater piers rest on great beds of concrete that were formed by dumping dry concrete from specially-designed buckets into steel cofferdams resting on the floor of the Bay. The foundations of 34 of the other piers are built on 90 ft. long, driven into the soft bottom of the Bay and the number of these piles required for each pier varied from 300 to 625. Three other piers consist of cellular concrete bases formed within great caissons, and the remaining four are entirely original in design, and for that reason have attracted the attention of engineers all over the world.

As an account of the erection of the great central anchorage will give an idea of the novel and daring methods by which foundations for some of these colossal piers were obtained. This anchorage is regarded as the greatest engineering wonder of the bridge. It is halfway between San Francisco and Yerba Buena Island, and will be called upon to take the strain of the immense cables supporting the two spans of the double suspension bridge across this part of the Bay.

The first step was the construction of a great steel and timber caisson that measured 397 ft. by 52 ft., and was the largest ever built. Internally it resembled a gigantic egg crate, the compartments being 25 circular cylinders, or cells, each 25 ft. in diameter, built of steel piping. These cells were arranged in five rows. Their openings were covered with semi-circular steel caps, and compressed air was pumped into them in order to give buoyancy to the structure when it was afloat. The spaces around the cells and between the walls were filled with concrete, reinforced with a network of reinforcing rods; and to the bottom of the caisson was attached a steel cutting edge 17 ft. in depth.
When ready this unwieldy contrivance was towed out to the site, and elaborate arrangements were made for sliding it gradually. As it sank its timber walls were heightened, as were also the steel cells; and in the meantime more concrete was poured between the cells and the outer walls through large flexible pipes resembling elephants' trunks. Just before the cutting edge reached bottom the spacious site, and elaborate arrangements were made for sinking it gradually. The moment the dredge was in the right position the chief engineer gave a signal. Instantly the pressure of the air inside all the cells was reduced, and the cutting edge sank deeply into the mud, bringing the great caisson to rest. Dredging buckets were lowered into the cells and the mud was removed from them, this work being continued until the cutting edge had penetrated to bedrock.

When all the mud had been taken out, concrete was poured down through the cells until it formed a bed 10 ft. in depth on the rock on which the bottom of the caisson rests. The lower portions of the cells were then plugged with concrete to a depth of 34 ft. Above this height there were concrete walls extending to a height of 44 ft. Above this height there were concrete walls extending to a height of 44 ft. A total of 17,645 wires, each 0.195 inches in diameter, have been spun in each of the two cables supporting the bridge. These cables were joined by being threaded and drawn together by a turn buckle sleeve. Each cable will exert a pull of 40,000,000 pounds dead and live load on its anchorage.

A shuttle wheel took a loop of wires from one anchorage and carried it over the towers to the other anchorage and hooked it on to anchored eyebars, then picked up another loop of wire and shuttled it back to hook this loop on an eyebar at the other end. The shuttle wheel was drawn across by means of an endless cable which follows the direction of the permanent cables.

The cable spinning operations as carried out was another feature of greatest importance. The theory of the suspension bridge is that of the clothesline anchored at either end, sufficient to hold the weight hanging thereon, and supported at intervals by props or towers. Over the west bay, between San Francisco and Yerba Buena Island, are twin complete suspension bridges, each 4,630 feet long, joined end to end and having at their junction a common anchorage consisting of a great concrete monolith which rises 28 feet above water and rests on bedrock 230 feet below low tide.

A total of 17,645 wires, each 0.195 inches in diameter, have been spun in each of the two cables supporting the bridge. These cables were joined by being threaded and drawn together by a turn buckle sleeve. Each cable will exert a pull of 40,000,000 pounds dead and live load on its anchorage.

California's great bridge is a community project the supreme head of which is the California Toll Bridge Authority of which Governor Frank F. Merriam is Chairman. The bridge is built by private contract under the supervision of the San Francisco-Oakland Bay Bridge Division of the State Department of Public Works, and revenue will be from toll charges, with gradual reductions over a period of 20 years, after which it will become free. Its cost will be approximately $77,600,000. The bridge is financed entirely without taxation, its cost defrayed by sale of 4\% per cent bonds issued against the prospective revenues of the bridge. These bonds have been purchased at a discount increasing the yield to 5 per cent by the Federal Reconstruction Finance Corporation and may eventually be sold in the public.

In addition to the bonds purchased by the Reconstruction Finance Corporation, the State Gas Tax Fund loaned $6,600,000 for the building of the approaches which sum must be repaid by the Gas Tax Fund out of tolls before the bridge can be made free to the public. Like a State highway, the completed bridge will be maintained out of the State Highway Maintenance Fund.
Eleventh Olympiad
World’s Greatest Athletic Classic
Six Thousand Contestants From Fifty-three Nations Thrill Huge Crowds With Startling Performances
New Champions Shatter World Records in Most Brilliant Sports Spectacle of All Time

The results and achievements of the World’s greatest amateur athletes in the Eleventh Olympiad held at Berlin, are now a matter of record. I wish that I might be able to convey to you a picture of this wonderful event, but no words can properly portray the brilliancy of such a spectacle.

Visualize, if you can, a sports area covering some 400 acres, divided into many competitive sectors, with a huge main arena seating 100,000 spectators, and all the color, action and enthusiasm of cheering thousands as they witnessed record-breaking performances by the world’s greatest athletes, and you will have some sort of a picture of this wonderful setting.

Yes, Berlin, at a cost of $55,000,000, put on the show of shows, but back of this was the finest of sportsmanship, the full support of a government and an entire nation, plus the Americans will to win, and win she did, for in final tabulation Germany amassed a point total that gave her first place with plenty to spare, and her cherished dream for athletic supremacy became a reality.

Acknowledging Germany’s supremacy in collective winnings, however, does not tell the entire story, and with no attempt to minimize the honor and laurels her athletes brought her, the United States actually produced in Jesse Owens the greatest Olympic artist of all time, for it was this man of lightning speed, who was acclaimed by coaches from every part of the world as perfection in form and smoothness, who repeatedly brought madly cheering thousands to their feet in frenzied excitement, and in admiration of his individual brilliancy.

It was Owens, the triple winner, who completely dominated the entire Olympic cast, and while others have won three Olympic firsts, none have ever accomplished this result over such a record-shattering path. Blazing speed and effortless smoothness left competition far behind in the 200 and 400 meter dashes, he outshone the field in the broad jump, and climaxied his marvelous running as a member of the United States 400 meter relay team.

While Owens is a champion, there are other champions, too, and such brilliant athletes as Morris and Meadows of the United States, Lovelock of New Zealand, and Sun of Japan, each take places in the respective classes as outstanding performers, and to every champion, irrespective of sex, in the twenty-two branches of competitive sport, the world owes and willingly gives a salute of admiration, for these men and women have won through their individual ability their claim to acknowledged greatness.

Out of such an array of talent and with competition so keen, it is somewhat difficult to single out any one particular event as outstanding, yet the 5000 meter race, won by Jack Lovelock of New Zealand in the record time of three minutes forty-seven and eightrty-nine seconds, proved to be the greatest thriller of the games.

This, boys and much more could be written about the world’s greatest athletic classic, but in conclusion, I want to stress what I consider to be of equal importance with the actual competitive success, and that is, the exemplification of every tradition of sportsmanship from these athletes from every section of the world. Undisputed in defeat, modest in victory—these conduct always typified fair play, courtesy and courage.

Japan will be host to the world in the “great classic” of 1940 at Tokio, and perhaps in the near future some of you boys will be actual competitors with the opportunity of being crowned a World’s Champion.