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### By BRUCE BLIVEN, JR.

NSTALLED on millions of desks in the United States is an instrument which has become so much a part of our lives that its value and true worth are all but ignored—the typewriter. It has no one but itself to blame. A repairman offers this explanation:

"Typewriters are too good for people. They last too long. They work too well. If they were a lot more trouble, people would be more interested in them."

It would be reasonable to expect typewriters to give more trouble than they do. Each typewriter has more than 2,000 parts, some of them machined to tolerances of less than seven tenths of a thousandth of an inch, and assembly involves around 5,000 distinct operations.

Almost all the working parts of a typewriter require precision setting, an operation that takes hours of skilled labor. Few of its users realize the great complexity of the machine.

Yet, although they take the typewriter for

Yet, although they take the typewriter for granted, people must appreciate it. They buy it. Almost every place of business has a typewriter, and some have thousands. In millions of homes the typewriter is as much a fixture as the washing machine.

Many a youngster wouldn't consider going off to college without a portable. A battleship is supposed to have 55 typewriters aboard before it's considered fully equipped to meet the enemy. On the ground, the Army has more writing machines within 4,000 yards of the front lines than it has medium and light artillery pieces combined.

The influence of the typewriter has made itself felt everywhere. Teachers have noticed that the machine has forced people to improve their spelling and punctuation. The penman of other years, doubtful whether the i should precede the e, wrote an ambiguous ie that could be taken for ei. Or he made a snakelike ripple that could be understood only from context.

Typing brought everything out into the open—although there are still those wretches who, confronted by the ie dilemma, resort to the low dodge of typing e, backspacing and then hitting i on top of it.

Shortly after the typewriter appeared on the American scene, one gloomy prophet predicted that it would mean the end of man's ability to write in his own hand. His fear has proved groundless. The typewritten word seems to have set a standard for neatness. The o is round, the t is crossed and the i dotted. And the straightness of the lines as well as typing's legibility are a good influence, too.

Some regard the machine as a medium for artistic expression. If, for example, you've writter something of a tropical nature, you can illustrate it

In Grandma's day, typists used a two-finger system to operate such odd-looking machines as the Williams (1885) above, which had two sets of type bars that struck from both sides

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# Writing

by typing little rows of palm trees, using the capital I and the asterisk:

Or you can make neat little shields with 7 and capital O:

These two examples are simple. Slightly more complicated is a device worked out by Julius Nelson, who has written a manual called Artyping. By combining X, O, &, /, W and - you can make a column of soldiers on parade:

Basically, today's typewriter is a direct descendant of the machine on which Christopher Latham Sholes tapped W W W W W W W W on a thin paper in 1867. Although Sholes was the 52d man to invent the typewriter, most encyclopedias refer to him as the typewriter's father. Sholes's typewriter was the first practical, commercial machine. At the start, all he had was the letter W and its activating mechanism. It was quite a journey from there to a machine, completed the same year, that could write the entire alphabet, punctuation marks and the numerals from 2 to 9. At a party in Milwaukee, to celebrate the larger model's completion, Sholes cocked his eye toward posterity and typed C. LATHAM SHOLES, SEPT. 1867. It was all in capital letters for the good reason that the machine had no others. A reporter present was sufficiently impressed to write (in longhand):
"They let the funny thing go,

And by jingo!

It prints the lingo . . ."

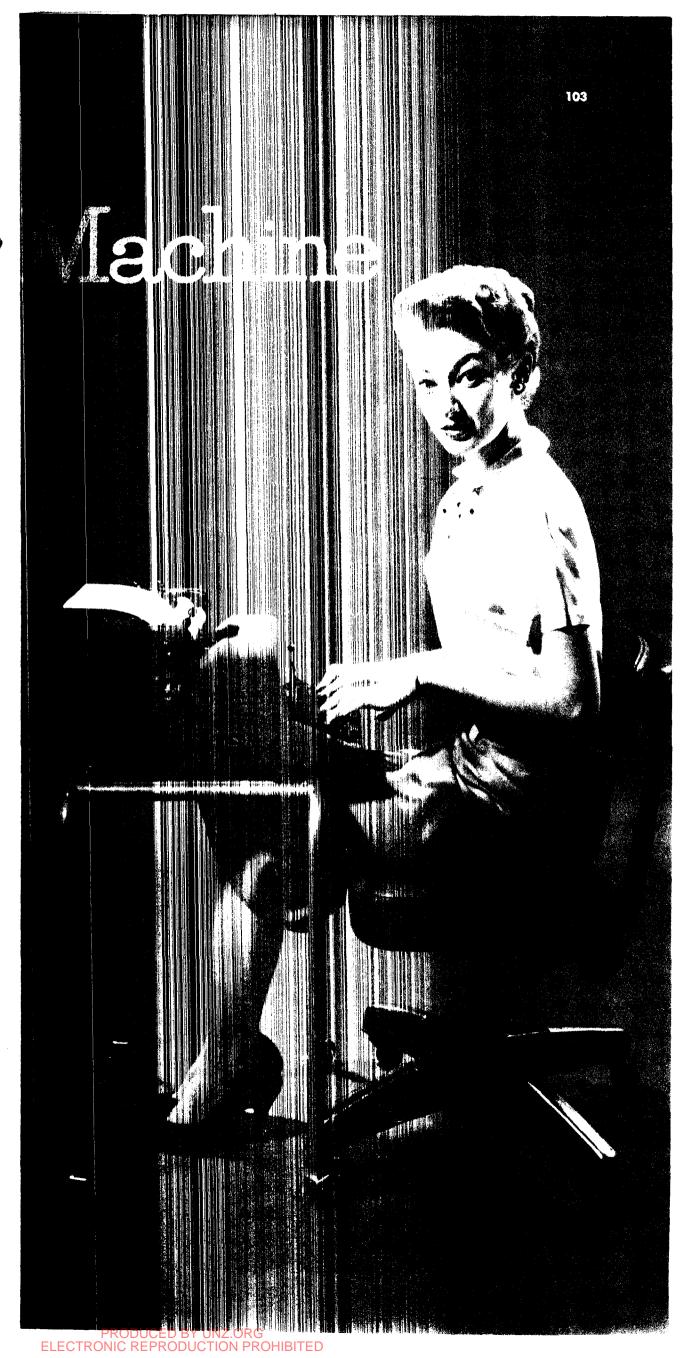
But for all he contributed to the typewriter, millions of present-day touch typists might wish Sholes had never seen a bar of type. He also is responsible for the senseless arrangement of the modern stand-ard English-language keyboard. Sholes began by setting the keys in alphabetical order—a vestige of which remains in part of the "home" line (the line on which the typists' fingers rest): fghjkl with the missing i in the row above. But as he struggled through one model after another, Sholes kept switching the keys around, trying to avoid certain collisions and jammings.

Judged scientifically, the resultant keyboard (sometimes called the "qwertyuiop") is considerably less efficient than if the arrangement had been left to simple chance. It is left-handed. It gives too much work to the weak fingers, particularly the little finger of the left hand, which operates the shift key and the back spacer. It demands an unnecessary amount of reaching because it ignores the frequency with which letters are used.

A word like "federated" gives the left hand a

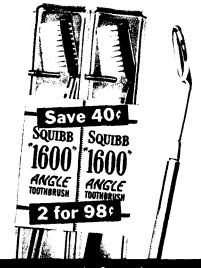
Today's sleek, efficient electric typewriter rests on its special table alongside custom-built contour chair. A trained touch typist can turn out more than 90 wpm on the machine

PHOTOGRAPH FOR COLLIER'S BY PHILIPPE HALSMAN



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furious workout while the right does nothing. Forty-eight per cent of all finger motions are one-handed; just as bad, 11 per cent of all actions are hurdles, requiring the hand to jump at least one row of keys to get from letter to letter ("minimum" is an example; its letters alternate from top to bottom row). In short, a pretty mess of keys. Dozens of sensible, reform keyboards have been invented, nearly all of which let each finger work according to its ability and make the most common combinations of letters the easiest to strike. Dr. Roy Hoke of The Johns Hopkins University made one of the most radical-and most scientifically planned—proposals. He would have the index fingers operate the back space, shift and shift lock, because they are the strongest fingers. He moves those three keys in from the outer fringes of the keyboard to the center, and also rearranges the letters more reasonably. His keyboard appears on this page

Hoke's home line contains nine of the most-used letters, rnthu sicoa. And five of the most-used six are under the right hand.

Unfortunately, sensible or not, it's unlikely that the Hoke keyboard will come into common use; millions of people know how to operate the quertyuiop by touch and they don't want to learn a different system.

#### When Nobody Used Ten Fingers

It was not always that way, of course. No one knew how to touch-type for 15 years after the typewriter came onto the market. The ten-finger technique wasn't thought of until 1882, and it didn't catch on until 1888. That year, a daring spirit, Mrs. L. V. Longley, a typing teacher in Cincinnati, proposed that typists should use all the fingers of both hands. The Cosmopolitan Shorthander blasted away editorially at her harebrained notions: ". . . Unless the third finger has been previously trained to touch the keys of a piano, it is not worth while to attempt to use it in operating the typewriter. The best operators use only the first two fingers of each hand, and it is questionable whether a higher speed can be attained by the use of three.'

Mrs. Longley might have lost the argument if Frank E. McGurrin, of Salt Lake City, had not appeared on the typewriting scene. Not only did he use ten fingers, but he also had memorized the keyboard; he could even type blindfolded. He was positive he was the fastest typist in the world and challenged all comers to beat him. Cincinnati had another typing teacher, a Louis Taub, who believed that four fingers were plenty, and who also was certain that he was the fastest typewriter operator alive. He accepted McGurrin's challenge.

Never before had a duel been fought with typewriters, and the event stirred up extraordinary public interest. Mc-Gurrin won easily, actually typing faster from copy than he did when taking dictation. Poor Taub, able to absorb only an eyeful of copy at a time, fell further and further behind, wagging his head frantically, like a spectator at a tennis match, as he turned from script to keyboard.

McGurrin vs. Taub was a decisive battle. It was immediately clear to ev-

eryone that a good four-finger man didn't stand a chance against a good ten-finger man. (Everyone, that is, except newspapermen. They were the outstanding holdouts against touch-typing, then as now. Most newspapers did not require copy to be typewritten in the early days; reporters who liked the gadget were encouraged to use it, but they were not forced to. Even today, on the distinguished British newspaper, The Manchester Guardian, the weight is slightly on the side of pen and ink. Reporters who insist on typing are allowed to do so, but in a separate enclosure, so they won't disturb the office.)

By the time of the McGurrin-Taub set-to, typewriters based on the Sholes principle were being manufactured by several firms. But before that happy state came to pass, it must have seemed to Sholes that inventing the Type-Writer (as he called it) had been a cinch, compared to the problem of financing its production.

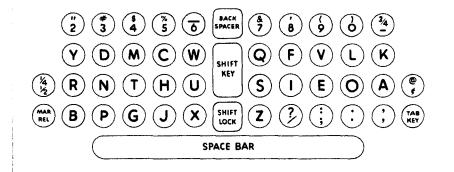
At one point Sholes called on the president of Western Union, in New York, to give a demonstration. Western Union seemed interested but finally re-

to repeat the performance again an again. As fast as the girl turned or speed samples on short pieces of paper rwain stuffed them in his pocket, think ing they would make fine souvenir: Before the end of the afternoor Twain's sales resistance had vanished He counted out \$125 and bought th Type-Writer.
On December 9, 1874, he wrote thi

letter to his brother, Orion Clemens: "DEAR BROTHER:

I AM TRYING TO GET THI HANG OF THIS NEW FANGLEI

WRITING MACHINE, BUT I AN NOT MAKING A SHINING SUC CESS OF IT. HOWEVER THIS I THE FIRST ATTEMPT I HAVI EVER MADE & YET I PERCEIVE SHALL SOON & EASILY ACQUIR! A FINE FACILITY IN ITS USE . MACHINE HAS SEVERAL VIRTUES. I BELIEVE IT WILL PRINT FASTER THAN I CAN WRITE. ONE MAY LEAN BACH IN HIS CHAIR & WORK IT. I' PILES AN AWFUL STACK OF WORDS ON ONE PAGE. IT DON' MUSS THINGS OR SCATTER INF



Dr. Roy Hoke designed reform keyboard for maximum ease, efficiency

ported that one of its own employees, a Thomas A. Edison, thought he could put together something a lot better and cheaper. (What Edison figured out was good, but it wasn't a typewriter. It was an electric printing wheel, a forerunner of the stock-market tape ticker.)

Sholes and his backers finally got a contract with Philo Remington, president of the family business which was making guns, sewing machines and farm machinery in Ilion, New York. The company agreed to make 1,000 of the writing machines. Remington put his top mechanics on the job. One of them was William K. Jenne, who had been a sewing-machine man for years. The result was that the first Remington typewriter looked a lot like a sewing machine, complete with a foot-treadle carriage-return of sewingmachine design and flowers stenciled on its black metal front and sides.

Once the machine was in production, the company had to face a stern reality: few people seemed interested in paying \$125 for a Type-Writer. Luckily there were exceptions: Samuel Clemens, whose pen name was Mark Twain, was among the most notable. Twain was on a lecture tour in Boston when he saw a Remington Model 1 on display in a store. He went right in to find out what in the world it could be. A salesman showed him the machine, explained its principles and claimed that it could write 57 words a minute.

Twain was delighted. He stayed for a long time, begging the demonstrator BLOTS AROUND. OF COURSE I' SAVES PAPER.

#### YOUR BROTHER, SAM

Three months later Twain wrote testimonial for Remington. It was per haps not exactly what the director of the advertising catalogue wanted "Gentlemen: Please do not use m name in any way," it read. "Please d not even divulge the fact that I own machine. I have entirely stopped usin the Type-Writer, for the reason that never could write a letter with it t anybody without receiving a request b return mail that I would not only de scribe the machine but state wha progress I had made in the use of it etc., etc. I don't like to write letter and so I don't want people to know that I own this curiosity-breeding lit tle joker."

Apparently he relented. Tom Saw yer appeared in 1876 and, according to Twain's autobiography, the manuscrip was typed before it was submitted to publisher. The Herkimer County (Nev York) Historical Society, however, be lieves that it was not Tom Sawyer bu Life on the Mississippi that was firs typed. In any case, Twain was the firs author in history to turn in a typewrit ten book manuscript, starting a double spaced, one-side-of-the-page trend tha has pleased editors ever since.

All sorts of gimmicks besides testi monials were thought of by the earl typewriter salesmen to sell the machine

It was touted as an aid to publi health. The editor of The Typewrite

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agazine, the industry's first trade urnal, claimed the machine offered a omplete safeguard" against "pen iralysis, loss of sight and curvature of e spine."

One real difficulty that faced the st salesmen was the public's feeling at typewritten private correspondice was insulting or confusing or both. andbills could be printed, many ought, but letters should be written longhand with pen and ink. Jenne n into this prejudice on one occasion hen he typed a note to a hotel in New ork asking for a reservation. When nne reached the hotel he learned to s dismay that no room awaited him. fter he had protested, a light dawned the clerk's eye. He'd received the quest, but he hadn't been able to gure out why a guest would have an dinary letter printed; he had assumed was an advertising stunt and had rown the letter out.

#### Typed Letters Arouse Anger

Some folks felt that being sent a pewritten letter cast an aspersion on eir ability to read longhand. A Texas surance man, J. P. Johns, one of the irly typewriter users, sent a typed note one of his agents and got back an dignant reply: "I do not think it was ecessary to have your letter to me ken to the printers. I will be able to ad your writing, and I am deeply lagrined to think you thought such a urse necessary.

Others regarded the Type-Writer as 1 invader of privacy, on the theory at no man was clever enough to perate such a machine without a prossional operator's help, and that erefore a typewritten love letter must we been transcribed by a third pern. (These complaints apparently perst even today. Only last month an nglishwoman, appalled by what she onsidered the rudeness of typewritn personal correspondence, opened a rvice whereby typewritten letters sent her would be mailed on to their desnations after having been copied over longhand.)

In 1881, even before the advent of uch-typing, the Central Branch of the .W.C.A. in New York City began aching eight young ladies how to pe. Although one commentator prected that their minds and constituons would break under the strain of le six-month course, all eight were viftly hired by business offices where reviously the only female employees ad been scrubwomen. The Y got hun-eds of requests it couldn't fill.

Thus was the Type-Writer accepted. he revolution came quietly, on high itton shoes, accompanied by considable snickering. One of the main surces of mirth in those early days as the fact that the ladies who opered the Type-Writers were called not pists, but "typewriters," a term that uck for a quarter of a century. The puble meaning was manna for wits, and stage comedians. A fair same was the story about the young busiessman whose fortunes had suffered sudden reversal and who wrote to his ife: "Dear Blanche: I have sold off 1 my office furniture, and I am writig this letter under difficulties with my pewriter on my lap.'

The impressive, gadget-filled typeriters of today seem a far cry from Sholes's primitive machine, but the early Remington product incorporated only one really faulty idea: the understrike principle. Since the printing point was directly beneath the main roller, the operator couldn't see the line he was working on unless he stopped writing, rolled the paper up, looked, and then rolled it back into place. To solve that problem, a front-strike machine was invented which was sponsored by John T. Underwood. When another new company, L. C. Smith & Bros., hopped aboard the front-strike band wagon, it brought the visibility controversy home to the public with billboards which read: "You Are Right Side Up; Why Write Upside Down?" Soon after, the Royal typewriter appeared on the market and competition in the industry became intense.

By 1909 there were 89 typewriter companies in the United States alone. A Blickensderfer salesman who took a long stop for coffee might, during his second cup, lose a sale to a rival representing Acme, Alexander, Allen, American, Atlas, Barlock, Bennett, Bennington, Blake, Brooks, Century, Chicago, Commercial Visible, Corona, Cram, Crandall, Crown, Darling, Daugherty, Demountable, Densmore, Dollar, Duplex, Edland, Elliott-Fisher, Ellis, Emerson, Essex, Fay-Sholes, Federal, Ford, Fountain, Fox, Franklin, Garbell, Hammond, Harris, Hartford, Hooven, International, Jackson, Jewett, Junior, Keystone, Manograph, McCall, Merritt, Molle, Monarch, Moon-Hopkins, Morris, Munson, Na-tional, Nickerson, Noiseless, Odell, Official, Oliver, People's, Pittsburgh, Postal, Rapid, Reliance, Remington, Rex, Royal, Schiesari, Secor, Sholes Visible, L. C. Smith, Smith Premier, Stearns, Sterling, Sun, Taylor, Tri-umph, Type-Adder, Underwood, Vic-tor, Visigraph, Walker, Williams, Woodstock, World, Yost or Yu Ess, among others.

The combinations and regroupings of the middle twenties helped bring this perplexing situation into line. The Rand Company bought both Remington and Noiseless. L. C. Smith and Corona combined. Elliott-Fisher bought Underwood. These three, with Royal, were virtually the whole show until 1933, when International Business Machines took over a firm called Electromatic Typewriters, Inc., which had been struggling for a decade to add electricity to the office standard machine. Today, all the major companies except Smith-Corona make electrics.

#### By-Products and Side Lines

Typewriters, electric and otherwise. are a big business nowadays (ribbons and carbon-paper sales alone gross an estimated \$50,000,000 a year), upon which a host of business machines and office gadgets are dependent. Some are by-products like erasers and ink eradicators. Others, like dictating machines, typewriter desks and duplicating machines, are produced on the firm assumption that typewriters are here to stay.

Among the jobs created by Mr. Sholes's invention is that of the typewriter detective. This specialist identifies samples of typewriting as the product of a given machine on the demonstrated theory that every typewriter, like every human thumb, makes

a unique mark. Among the first to capitalize on this notion was A. Conan Doyle in his Sherlock Holmes story, A Case of Identity, which turned on the identification by typewriter of a certain impostor. Recently, of course, there was the Woodstock introduced in the Alger Hiss perjury trial as evidence that the famous pumpkin papers produced by Whittaker Chambers must have been typed on Hiss's typewriter. For \$20,000 or thereabouts, the Hiss defense hired a repairman who succeeded in duplicating the exhibit Woodstock, thus demonstrating that it could be done; but the effort came to nothing because Hiss couldn't prove that Whittaker Chambers had ever hired a man for a similar duplication job.

#### A Test Sentence for Alignment

One of the identifying features that give each typewriter a mark of its own is the alignment of the letters it types. There is always some slight discrepancy in alignment, even though skilled specialists at the typewriter factories may spend as long as three hours on one machine trying to make the letters stand up as straight as West Point ca-dets on parade. The aligners have a secret seven-word sentence for testing a machine's typing—not the well-known "The quick brown fox jumps over the lazy dog," nor "Now is the time for all good men to come to the aid of their party," but: "Amaranath sasesusos Oronoco initiation secedes Uruguay, Philadelphia." It may sound like gibberish, but it makes sense to the aligners; each word serves a special purpose, and together they show up a oorly aligned typewriter in a flash.

But no matter how hard the factory works to achieve precision in each machine, a great deal depends on the user, as is demonstrated by this story:

A typewriter company received a sizzling letter of complaint from a man in Kansas City. His letter began with an unprintable burst of profanity, continued in the same vein for several paragraphs and concluded with: "... yours is the worst typewriter I have ever seen in my life!" Since the man had just bought the machine and the firm was naturally concerned about what its customers thought, the company shot back a soothing reply. But it also mentioned that one of its experts had been studying the typing of the Kansas City man's note and had come to the conclusion that perhaps all the machine needed was some adjustment. The printing in the letter looked to the expert as if it might be the work of a very big man who was pounding on a keyboard that was set for a light-fingered touchsystem operator.

The Kansas City customer's answer. beautifully typed, reached the company about a week later: "Dear Sirs: Is my face red! I stand six foot one inch in my stocking feet and weigh 290 pounds. I use only one finger of each hand, but I guess I belt the keys pretty hard. I've just had the machine adjusted. It's working perfectly now. Apologies. . . ." 

This article is based on the book The Wonderful Writing Machine, by Bruce Bliven, Jr., which is soon to be published by Random House, Inc.



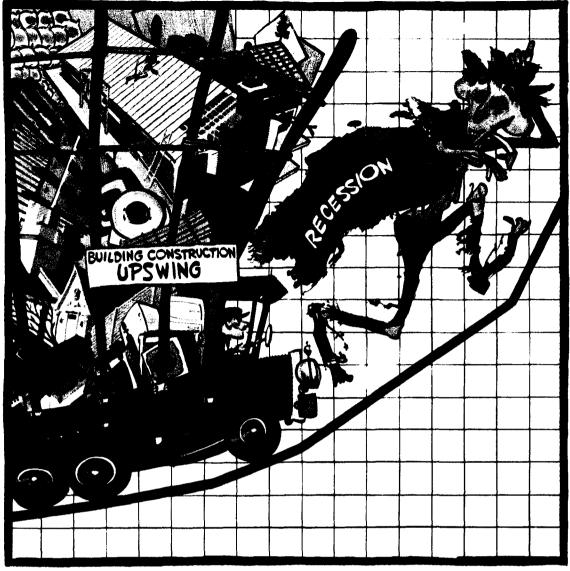
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Inspired by a British favorite, this

latest of the distinctive Sportsman aromas...a leaf, leather and smoky

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blend . . . robust, but well-bro brisk, but never overbearing.



HARRY DEVLIN

## A Constructive Idea

NO ONE, IN OR OUT of government, Republican or Democrat, will deny that there has been a downturn in business from the generally record highs of boom-year 1953. The only question is how far the downturn is going, and how long it will last. Some speak of the economy being on the "down side of a boom." Others talk of a recession, mild or severe. Still others seem convinced that a major depression is shaping up, and urge the government to take all dramatic measures available to check the slide.

But nobody, from the President on down, has any positive, definite and definitive answer to the question posed in the preceding paragraph. Certainly this department does not pretend to any oracular powers in the matter. Yet we find a feeling of comfort and hope in the construction figures for the first quarter of 1954 in 37 states, as released by the F. W. Dodge Corporation.

Back in November the men who make up the Dodge Reports issued a prediction that construction this year would be down 3 per cent from 1953. If the forecast should prove to be correct, this would put construction back to about the 1952 level—which, incidentally, isn't bad. But meanwhile, the first-quarter figures surprisingly show that the building "starts" and contracts in the first two months were up 13 per cent from the 1953 January-February figures. This year's March figures ran about 5 per cent

ahead of the corresponding period in 1953. And the gross figure for each of the first three months of 1954 was more than \$1,000,000,000.

So much for statistics. Now, what do they mean? We can only guess. But it must be obvious to anyone that building begets building, especially in the field of dwelling construction. When a number of new houses are put up, there is going to be an eventual need for new stores, schools, churches, hospitals and so on, to serve the residents of those new houses.

Dwelling construction also stimulates the home-furnishing and appliance industries. It means the extension and expansion of public utilities and highways. It means increased business for banks. And, to our way of thinking, it means something beyond all these tangibles.

When a person contracts to build or buy a house, he is expressing confidence in his own future, and in the future of his country and its economy.

We will not contend that the construction figures quoted here tell the whole of today's economic story. They don't. Some business and industries are feeling a pinch. Unemployment is higher than any of us would like to see it. But when a basic industry, second in importance only to food, shows the signs of progress and optimism that the building business has shown so far this year, a deep breath of relief seems justi-

fied. Recessions and depressions begin, after all, in the attitudes, fears and decisions of individual human beings. So, translating cold building statistics into human reactions, it seems safe to say that the American people are not frightened of what the future holds.

#### That's Amore

IF OUR RECENTLY concluded series on Russia Uncensored, by Marshall MacDuffie, didn't convince you that Russians are people after all in spite of their government, a recent newspaper dispatch should serve as a clincher. For the dispatch revealed that the magazine Young Communist has an Advice to the Lovelorn column

This intelligence conveys to the agile mind ar idea that Russians not only fall in love, but that sweethearts can be fickle, husbands can come down with a case of wandering eye, wives can be slovenly housekeepers in the corner of the apartment that they share with two or three other families, etc. And so it turns out to be.

But there is one notable difference in the handling of amorous complexities between the capitalists and the proletariat. Russia's leading heart-balm peddler is not a gray-haired motherly soul, but a young male student of philosophy, A. Kharchev by name. And therein lies another fundamental weakness of the Communist system. No mere man can ever hope to catch up with a woman's emotional savvy in affairs of the heart. As for a young man presuming to give advice to the gals—well, it's preposterous.

And yet there is something to be said for this callow youth. He is in favor of love—love which makes the world go round, keeps Tin Par Alley in business, and provides a living for countless thousands of torch singers, actors, actresses, fictioneers and dramatists. That practically makes him a private enterpriser. Beyond that, he has solemnly ruled, after a decent period of soul searching, that jealousy is not "a bourgeois survival." It is, he concludes, an acceptable emotion for the present-day "Soviet man.' (What, no girls?)

Anyway, it appears that love is flourishing behind the iron curtain. And if love prevails, i seems that the cold war will inevitably have to thaw. So more power to young Comrade Kharchev. Perhaps if we could only export a contemporary Beatrice Fairfax to give him aid and counsel, we'd have the whole thing licked.

### Halfway Job

IN CUTTING the excise taxes, Congress sliced the majority of levies in half. But in one instance that 50 per cent cut was only a halfway job. We're talking about women's handbags. And if this opinion has an old, familiar ring, we still want to go on record as saying that the tax should have been dropped entirely.

Handbags are not expendable "luxuries." And if they are to be taxed 10 per cent, then the law-makers ought also to tax the pockets in a man's suit by the same amount. We know of no males who are hankering to give more money to the government. Yet, in the interest of fairness logic, equality and peace in the family, the government ought either to put an equal bite or the indispensable receptacles for human beings bits and pieces, or else take the fiscal heat of the fair and exploited sex.

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