

# Startling "Glass Age" Building Era Is Here!

People Who Live In Glass Houses Can  
Now Throw Stones If They Want

Secret Process Has Developed A  
New Product--Fibrous Glass



This girl holds a pack of fibrous glass as it is used for insulation for homes and buildings—keeps the rooms warm in winter, cool in summer.

By John Richard Finch

A LONG time ago somebody (I don't know who and it doesn't make any difference anyway) said, "People who live in glass houses shouldn't throw stones", or words to that effect. Obviously, the waggish creator of this familiar proverb meant anything but a literal interpretation of his cryptic advice, little realizing, no doubt, that in the year 1936, glass houses would be an actuality. With amazing rapidity homes, apartments, office buildings, and even factories made of glass blocks are raising glistening walls to the sun, and the layman begins to wonder if soon to the "keep off the grass", "no peddlers allowed", and "use the rear entrance" signs, will not be added some caution about fragility or stone throwing.

But the men who manufacture the glass and build the houses say no. Building glass is now even more durable than wood or stone, and in addition allows the maximum of light, air, sunshine, and architectural beauty.

Glass always has been associated with style and the new improved glass blocks, translucent but not transparent, that fuse the outdoors with the indoors without sacrifice of privacy, are important in the relentless trend for things more modern. Architects and builders, eager for new style and utility appeals, have grasped quickly the advantages of glass blocks to assist them in attaining their objectives. Not only are these blocks being used for new construction, but they are unusually adaptable for inexpensive and, at the same time, unique modernization of existing structures of all types.

ASIDE from their decorative characteristics, glass blocks offer many utility advantages such as light transmission, insulation against heat and cold, light diffusion, and sanitation. Being resistant to fire, glass blocks reduce fire hazards, providing greater protection of life against ravaging flames. They prevent passage of air and gases, are impervious to attacks of moisture, vermin, acids, and will not absorb odor or grease.

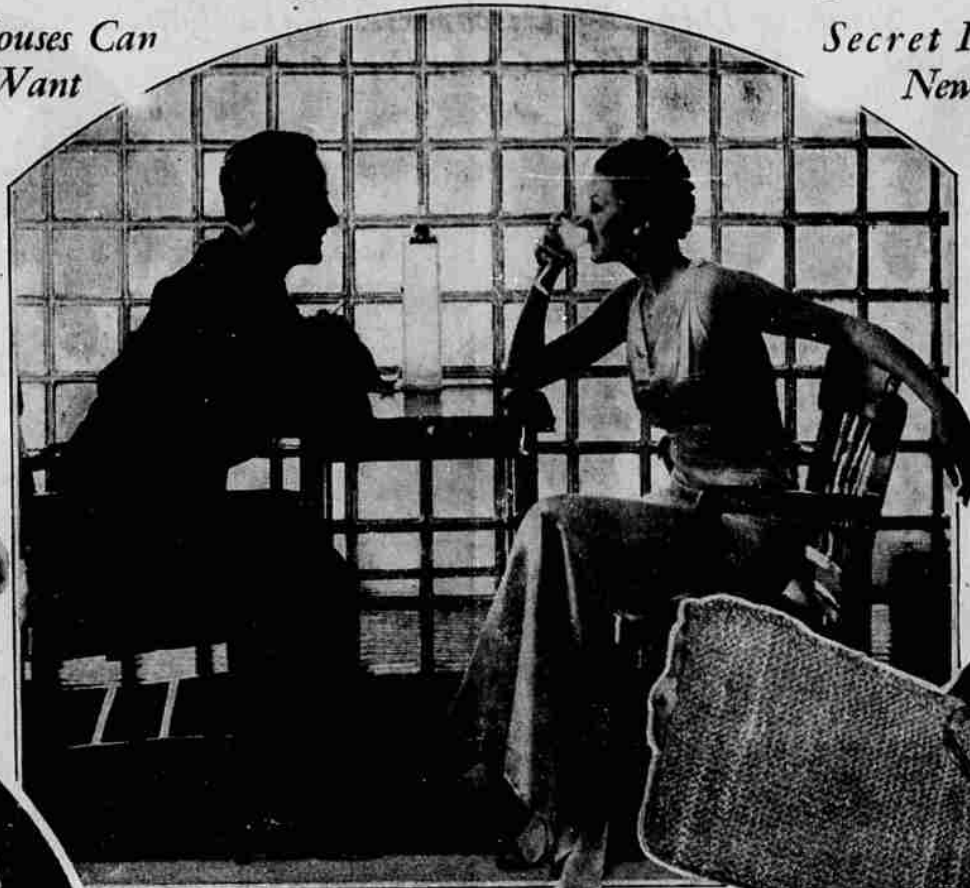
Most interesting among the recent buildings planned are large schools in several of the big mid-Western cities.

Making the "stone throwing" caution even more ridiculous is the boast of glass block manufacturers that the improved glass building blocks have a maximum sufficient to uphold the Washington monument if built as a single course in the walls of that 555-foot structure.

One begins to wonder if we are not approaching a "glass age" when the many other usages to which glass is now being put with such apparent success is learned. Among the newest discoveries in the world of glass is fibrous glass, which is produced in three different forms for infinite new uses.

Fibrous glass, one of the newest products of a reawakened world, and capable of vast potential application in 1936, is the result of a secret process developed by one of America's great glass companies.

First, there is glass now being produced in a fluffy, almost snow-white mass which is used as an insulator. It emerges from a furnace onto a conveyor, a deep continuous line of downy



The girl and her escort were photographed in a darkened room, the only light coming from an adjoining room, separated by a wall of the new type of glass block. Light rays are perfectly diffused.



This dinette is an example of the modern trend made possible by the use of glass blocks as an exterior panel or wall. The panel transmits daylight and provides seclusion from street noise.

material about one yard wide and four inches deep. It is cut to size by an automatic slicer into packs which later are placed between walls and on floors in attics of new homes, forming an enveloping blanket of protective material that is fire, termite, and moisture proof.

SUCH insulation keeps rooms warmer in winter and cooler in summer. Tests have shown that glass insulated buildings not equipped with air conditioning units, rooms kept from eight to ten degrees cooler than outside day-time temperatures merely by opening windows at night and closing them early in the morning. In winter, heating costs are cut from 30 to 40 per cent. Warm air cannot escape, smaller furnaces can be used, thus lessening the initial heating unit cost. Too, less fuel is needed. For homes already built, the insulation in the form of tiny glass pellets are forced between walls merely by cutting a small hole to insert a hose connected with a blower machine.

The second use to which fibrous glass is being put is in glass air filters, the new process of which produces a fibre about the size of a broom straw. The fibres are assembled into mats about two inches thick and sprayed with an odorless, non-evaporating chemical adhesive. Properly encased, they are installed in warm air furnaces and ventilating systems generally.

Warm air furnaces equipped with such filters

are now considered the cleanest form of heat because air is cleaned of all dust, pollen and other foreign matter, eliminating soiled walls above registers, keeping home furnishings brighter, and in department stores, lingerie shops, dairies, and all establishments where dust is such an unwelcome factor, the glass filters have met with unusual success and acclaim.

TESTS have shown, too, that hay fever sufferers are given definite relief in rooms supplied with air through glass filters. They have proven of special benefit in bedrooms, enabling those with hay fever to obtain a good night's rest to build up reserve energy for the day to be spent in an unprotected atmosphere.

The third use of fibrous glass, and perhaps the most interesting and unusual, is the new process that makes it possible to draw ordinary glass into a fibre twenty times less in diameter than a human hair, and so glass enters into the textile field as a fascinating new possibility. Modern textile machines, without changing equipment, can now make 100 percent glass thread and yarns.

Commercially, such thread and yarn is attracting the manufacturers of knit goods. As a novelty, and a very attractive one, glass is being used to crochet, knit, embroider and weave various articles previously possible only with thread made of wool, cotton or silk. Hats, purses, dresses, curtains, carpets and a variety of daz-

A modernist displays her glass hat and glass bag. Glass threads and yarn is used to crochet, knit, embroider and weave thousands of similar novelties.



ling and chic things for "mildady" are now being made of this glass thread.

One pound of ordinary glass can be drawn into a single fibre so small that more than one hundred are used to form a strand the size of ordinary No. 50 thread. Such a fibre drawn from a pound of glass would reach round the world at the equator.

The usual ingredients for glass—sand, soda ash, lime, and certain costly chemicals—are used to produce such glass and the ordinary type of glass furnaces are used. In other words, glass yarn or thread, perfectly flexible, or glass for home insulation, soft and fluffy, is manufactured of exactly the same material from which milk bottles are made. However, the patented process brings into use the application of steam in some mysterious manner, a process most carefully guarded by the glass company holding the patent.

IT IS interesting to note that the application of steam as a motive power and glass were both discovered before the Birth of Christ, but it wasn't until thousands of years later that men discovered a way to bring the two together to create miracles more fascinating, and far more practical, than Aladdin's fabled lamp.

While the fibrous glass now used for novelties is of a colorless silvery sheen, or its natural state, one of the laboratories of the company which produces this new product is experimenting with glass thread and yarn in colors. Thus far, white, blue, black, and red fibres have been produced. The colors are fade proof, as they are neither dyed nor stained into the material. About fifty textile companies are conducting various types of experiments in the fabrication of glass fibre materials, and startling results are being predicted for coming months.

For many years in Europe a fibrous glass has been produced by heating rods to a semi-liquid state and then directing them upon revolving steel drums to draw the material into filaments. Centrifugal force limits the speed of production materially and has kept manufacturing cost too high for widespread use of fibrous glass.

Recently in America the technicians of a large glass company discovered a secret process which has been carefully guarded. They are now able to draw molten glass into long filaments. Each fibre is only one twentieth the diameter of a human hair and is produced at the rate of more than 200,000 feet per minute, which is fifty miles per minute or 3000 miles per hour. By comparison, the muzzle velocity of an army rifle bullet is approximately 52,000 feet per minute.

THE newly discovered process not only has the advantage of greatly reducing production costs as compared to the European process, but a fibrous glass of vastly improved quality is now possible. Fibrous glass produced in Europe for insulation weighs six pounds per cubic foot, while the American-made glass weighs only one and one half pounds per cubic foot.

Another interesting property of the new glass is its acoustical qualities which have attracted motion picture sound crews of the West coast studios. Mats of insulation glass are used on

the stages and moved from one place to another to soften sound. Being fire-proof, the material is especially desirable at the studios.

Many of the movie stars in Hollywood have gleaming creations for evening wear, made from fibrous glass thread. The effect is comparable to sequines, but the beauty of the woven thread far surpasses that of sequines. A woven, sandal-type evening slipper has also been fashioned from the glass thread to go with the gowns. When the technicians now working on the perfection of colored fibre thread complete their experiments, which they promise will be soon, and the new shades made available to textile manufacturers, some unusual and spectacular creations in gowns for "mildady" are predicted.

Millinery has also gone "glass". Turbans, picture hats, and various unique creations for afternoon, evening and even sports wear are appearing in the better stores. Purses and bags to match and in some instances scarfs of glass thread are being shown.

In the home, articles of fibrous glass have also made their appearance. Many modernistic homes, apartments and offices now have rugs made of glass yarn or thread. Being fire-proof these rugs afford an added measure of safety as well as adding a touch of unique new beauty to the room. Curtains, drapes, chair covers, pillows, and scores of other interesting and unusual home furnishings are being made of the new fibrous glass thread. Remarkable new effects are being gained in building, furnishings, clothing, and novelties from glass.

GETTING back to the glass blocks for building which brought to mind the proverb about stone throwing, there is a building now completed in Toledo, Ohio, which is the first all-glass, windowless building ever constructed. Health authorities stated that workers in this new building, which is being used as a factory, have the maximum of natural light and sunshine, which penetrates through the translucent, but not transparent glass blocks; the temperature and air conditioning are at their best, due to non-moisture penetration and ease with which heat or cold may be kept in or out as desired, due to the peculiar properties of the glass; and that the sound-deadening qualities of the blocks, make for serenity of the workers. In a large factory of this type, the fire-resistance of glass is another important factor.

It would be unfitting to close the story of the new era of "glass" without mentioning the unusual possibilities of night display of lights in and on these glass buildings. The night advertising and new merchandising ideas are endless. Due to the translucent but non-transparency of the blocks an entire solid wall may be illuminated without sacrificing privacy. As much as 85 percent of exterior light can be transmitted by the glass blocks—the rays perfectly diffused.

Picture a city of glass houses and buildings, all illuminated at night, a veritable fairland of dazzling gold buried in a backdrop of black, like a million diamonds sparkling on a swarthy velvet carpet. The cities of the future may easily be like this as a new age moves up and wood, brick, and mortar give way to glass—the new "Kieg".