

# 100 years of

# PROGRESS

From hand-set type, picked laboriously letter by letter out of cases by apprentices perched on inky stools, to clean, swift computers operated by women, we've come a long way.

Up until 1917 the Free Press was set all by hand. Then Arlof Dills (like his sons after him) excitedly tried out something new—a linotype. It was the first in Halton County, and it was a marvel.

On it, an operator could set a column of newspaper type in a single hour, compared with the hand-set quota of two or three columns for 10 hours.

Now the latest—two computers which zip out columns of type at two speeds—one of them at 25 lines a minute and the other 60.

In 1950 G. A. Dills recalled his early days in printing.

"The old steam engine that was used to power the printing press is only a story handed down to us from our predecessors. On press days (Saturday and Wednesdays) it is related the printer's devil spent some hours cutting slabs to fire the upright boiler which was located directly back of the press feeder. In cold weather the press feeder was quite comfortable but in early spring and summer none envied the one who was press feeder and perspired copiously.

"We remember well the single cylinder gas engine which followed the steam engine. Gas engines of 1904 weren't as dependable as they are today. Some days it did and some it didn't and on the days it didn't two of the lads seized the old hopper arms on the cylinder of the press and supplied the motive power to get off the edition. Usually the speed exceeded that of the gas engine until the boys became winded.

"For the platen or job press, foot power was usual. Those were the days when you stood on one foot and pedaled the press with the other foot and used both hands for feeding the sheets and a constant eye for supplying the ink which was put on by hand as required. It's quite different from the automatically operated machines of today with electricity replacing the foot power. Delicately regulated supply of ink uniformly fed and incorporated into the machine mechanism that replaces the hands of the feeder—and produces three to four times the quantity of better printed matter.

## Starting wage was \$1.50 a week

"In 1909 when the present editor started his apprenticeship the starting wage was \$1.50 per week. The work week was from seven to six, five days a week, with paper day often running until after midnight. Saturday was until four pages of the paper were printed and rarely was finished at noon. Today, the plant operates on a forty-five hour week with all day Saturday off every week. The capital invested is forty times that required 75 years ago. Electricity today supplies all the power and heat for melting the metal used in the plant and operates the stoker used for heating.

"In 1909 the staff included four boys in various stages of apprenticeship and the editor."

From the old Prouty press the transition came in 1930 to a large Babcock press that made it possible to print four pages at one time rather than two. With planning the Prouty press was removed after it had printed the week's edition and the new press was moved in to take its place, ready for the succeeding week. Typically the interrelationship of the paper and the family become predominant. That was the week that George, father of Arlof Dills died, as Bob MacArthur recalls.

That press was to continue in service until 1957 when two brothers were left to make the decision to purchase the high capacity Goss Cox-o-Type press while their father was attending a summer convention in the west.

The life span of that press was a mere ten years, before it was shouldered out of the road by the newer technology of offset in 1966.

## Offset method began in 1966

Which was another milestone in Free Press history.

Previously printing was done applying ink to raised metal type, cast from molten lead. The type was locked into a 100-pound page form and placed on a flat-bed press. Rollers applied the ink to the pages, and eight pages were printed at once.

Offset printing is completely different. The news columns, pictures and ads are pasted on a full page sheet of paper and then the assembled page is photographed. The full size negative is developed and after drying is placed against a chemically treated aluminum plate 23 inches by 25 inches and exposed to a special mercury light. The plate is developed with chemicals and the image to be printed is formed on the plate. The part of the plate that will print black or color is smooth and hard. The area that will remain unprinted is filled with millions of microscopic size holes.

The plate is placed around a cylinder and a series of rollers applies chemically treated water to the plate. The water will not stay on the hard, smooth area of the plate, but is absorbed into the tiny porous

holes. Working on the theory that water and oil do not mix, another series of rollers applies a special ink to the plate. The ink is repelled on the water area but sticks to the smooth, hard image area. The image then prints directly onto a rubber blanket on a cylinder exactly the same size as the plate cylinder.

The blanket then transfers the image from the blanket cylinder to a web of paper sheets. This transfer from the directly printed blanket to the paper is called "offset".

Offset printing was not an entirely new concept in our plant. For a number of years commercial printing had been done by offset but this change to production of the newspaper, with the necessarily larger equipment was a major step.

The capacity of the press permitted the production, for other organizations, of more weekly newspapers, advertising circulars and similar material.

## Four tons paper per hour

The huge Goss offset newspaper press is now 50 feet six and a half inches long and weighs 30 tons following extensions to the original four units by a further two units in 1974. It is powered by one 50 h.p. motor and one 20 h.p. motor.

The press capacity is 480,000 newspaper pages an hour—that's four tons of paper—or 42.14 miles of paper every 60 minutes.

The regular black ink comes in 2,000 pound tanks and is pumped to each press unit. There are over two miles of electrical wiring in the complex control system.

A newspaper of 24 pages can be produced, completely folded at the rate of 18,000 an hour.

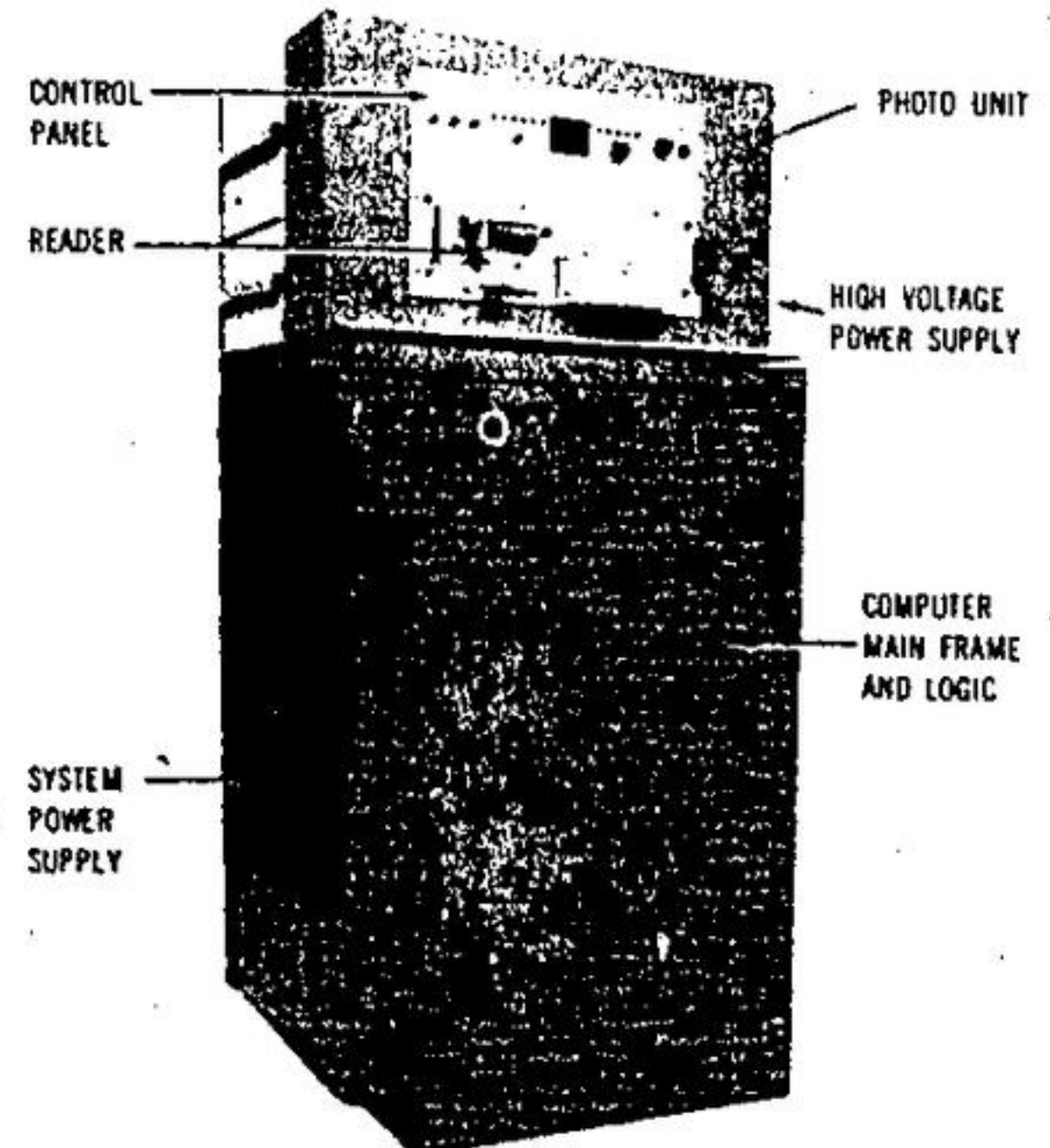
News stories are set at keyboards producing perforated tape. The perforated tape is then processed through two Compu-graphic phototypesetters. These phototypesetters are comprised of two major units: (1) The computer which contains the logic circuits required to perform specific calculations such as, justifying copy, word hyphenation, etc. and (2) the photo unit which projects the type characters onto photosensitive paper.

The model 4961 will produce three inches of news type, one column wide, per minute, or over 700 individual letters and spaces—25 lines per minute.

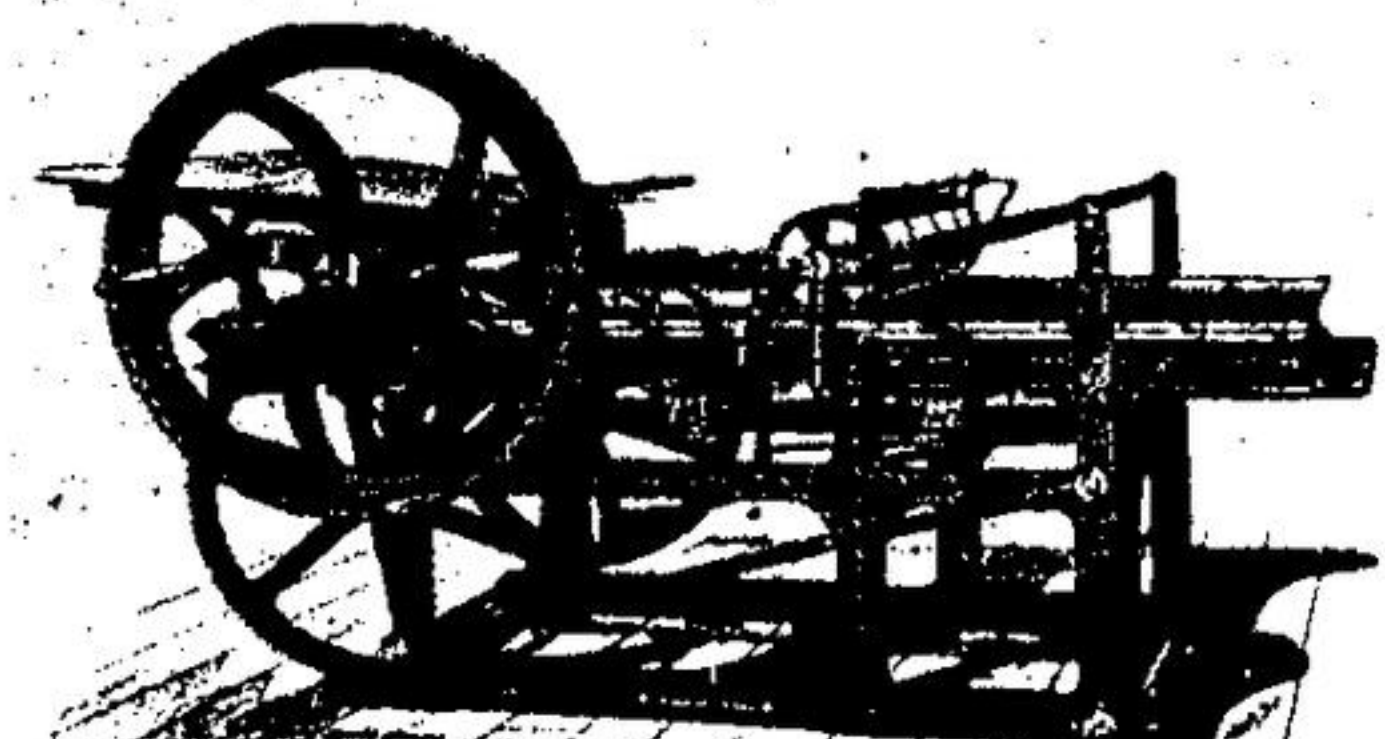
The model 2961HS will produce approximately nine and a half inches of news copy, one column wide per minute, or over 1,600 individual letters and spaces—60 lines per minute.



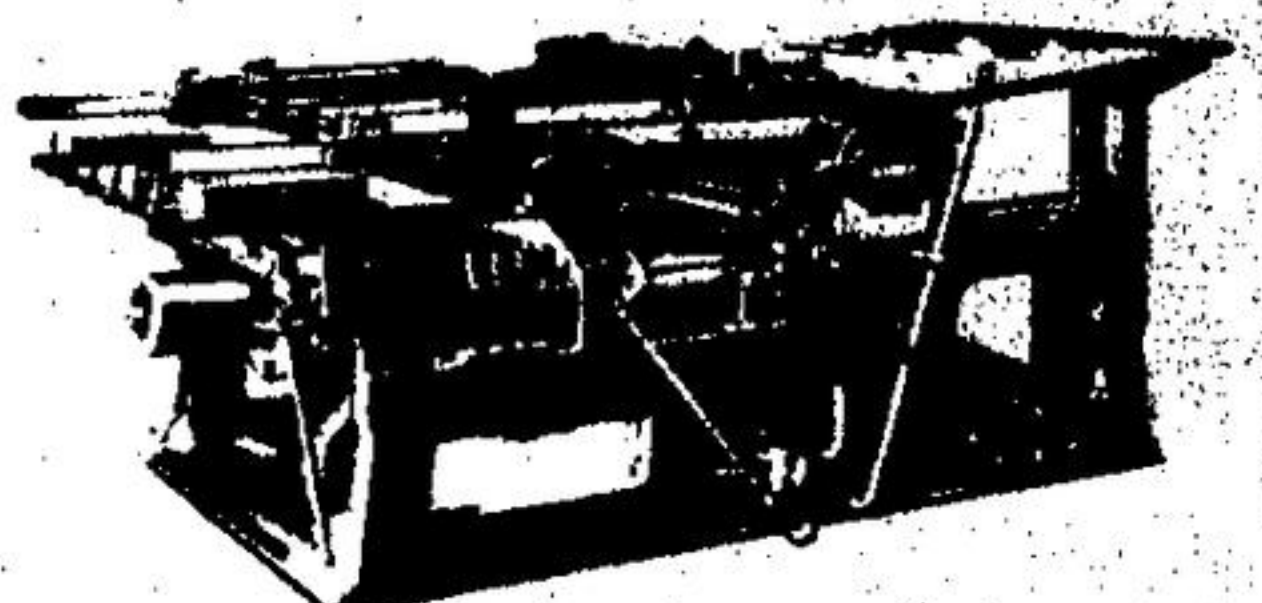
Arlof Dills was a competent linotype operator. He had taken training on the equipment in New York and returned to Acton for the installation of the first linotype in Halton County, at the Free Press in 1919.



Technology has changed and photo typesetting is in use replacing the once-innovative linotype. A model of one of the units in use to produce the Free Press is shown here.

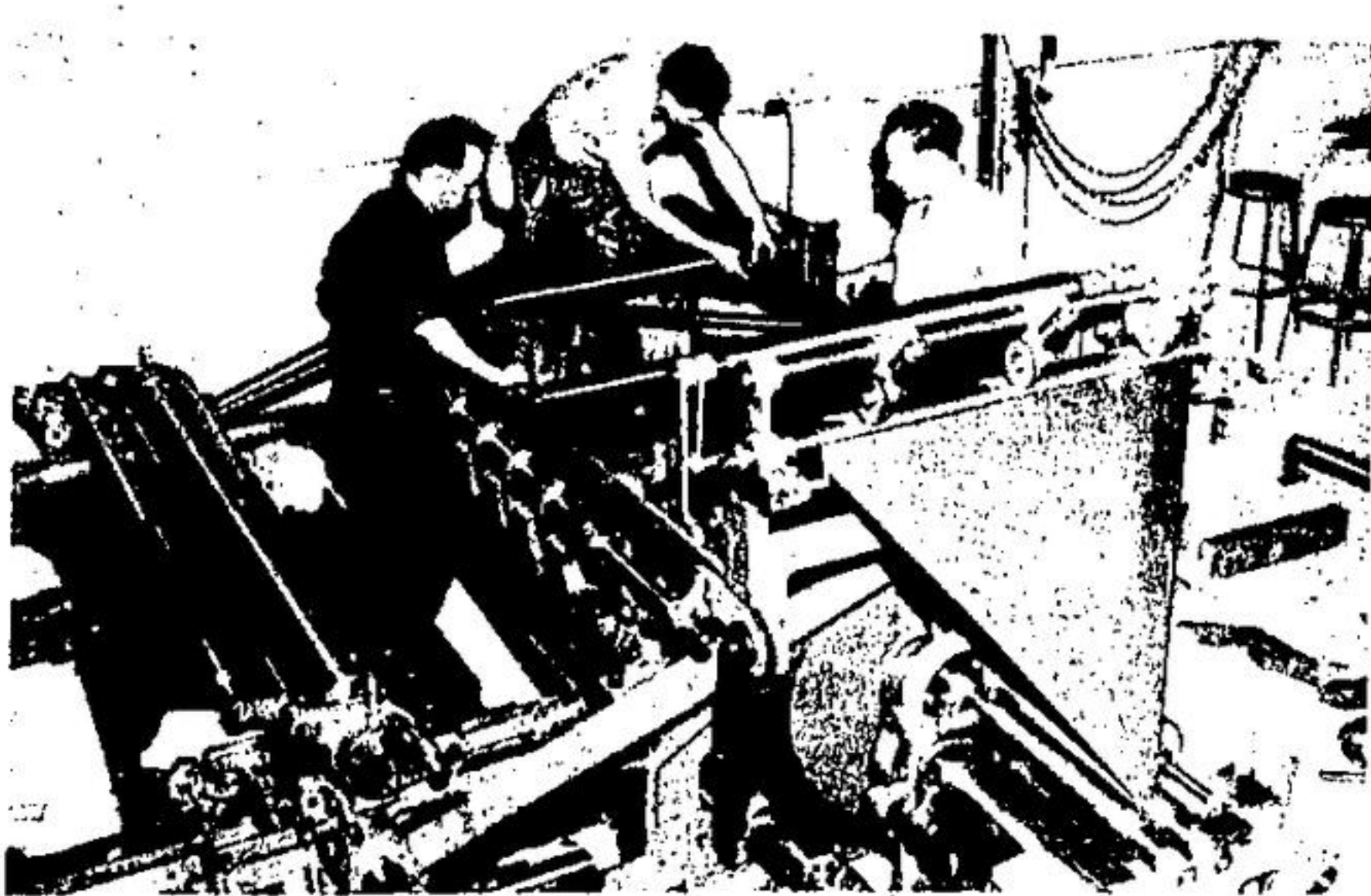


The Prouty Press produced the weekly issues of the Free Press for many years. Printers often had to provide the power to make it work and the handle on the side fly wheel was put to good use.



The Babcock Optimus press was installed in 1930 printing four pages at a time and continued in use until 1957. The heavy duty press rumbled through many weeks and was also used for commercial printing.

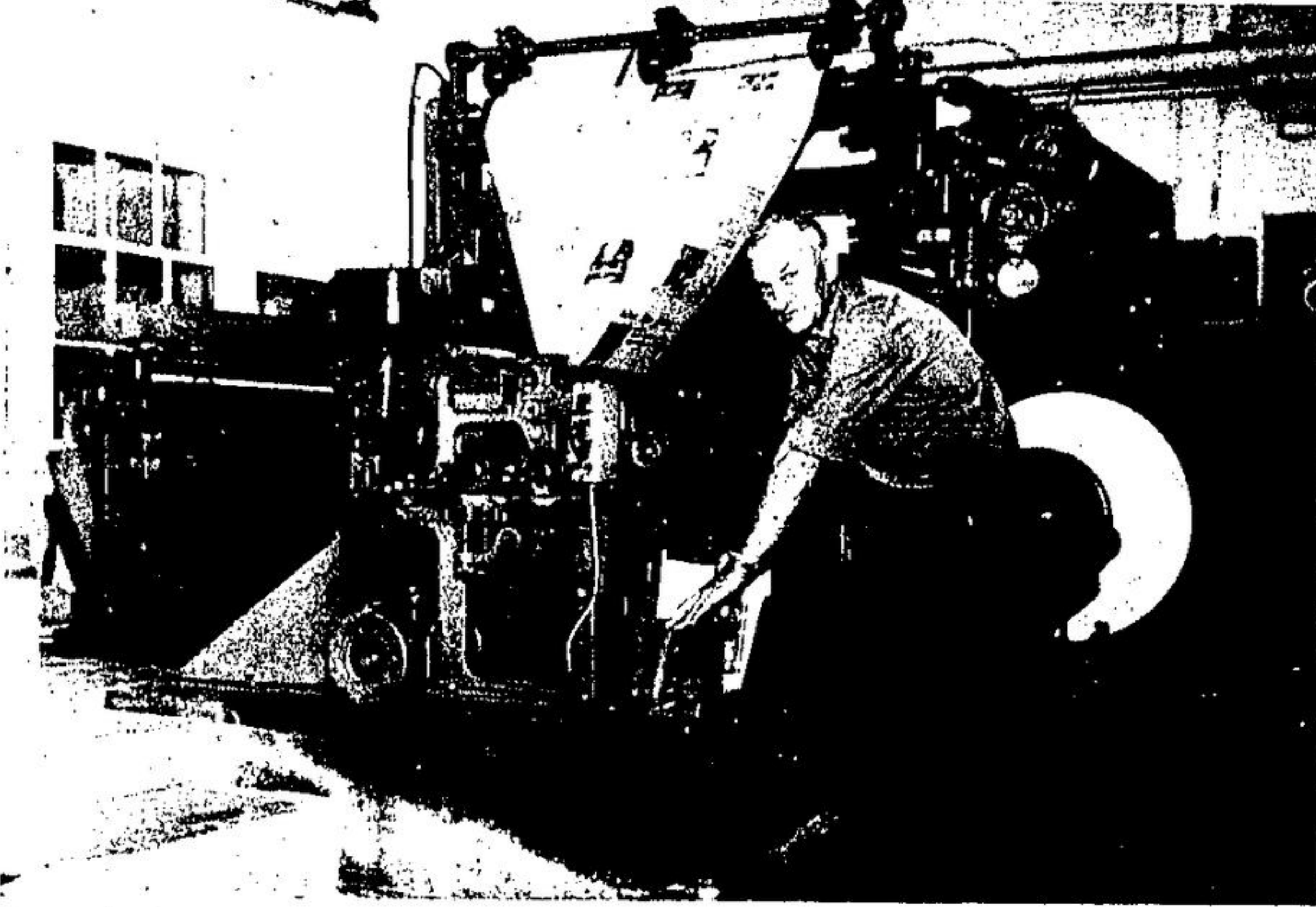
H. P. MOORE'S STEAM PRESS, ACTON, ONT.



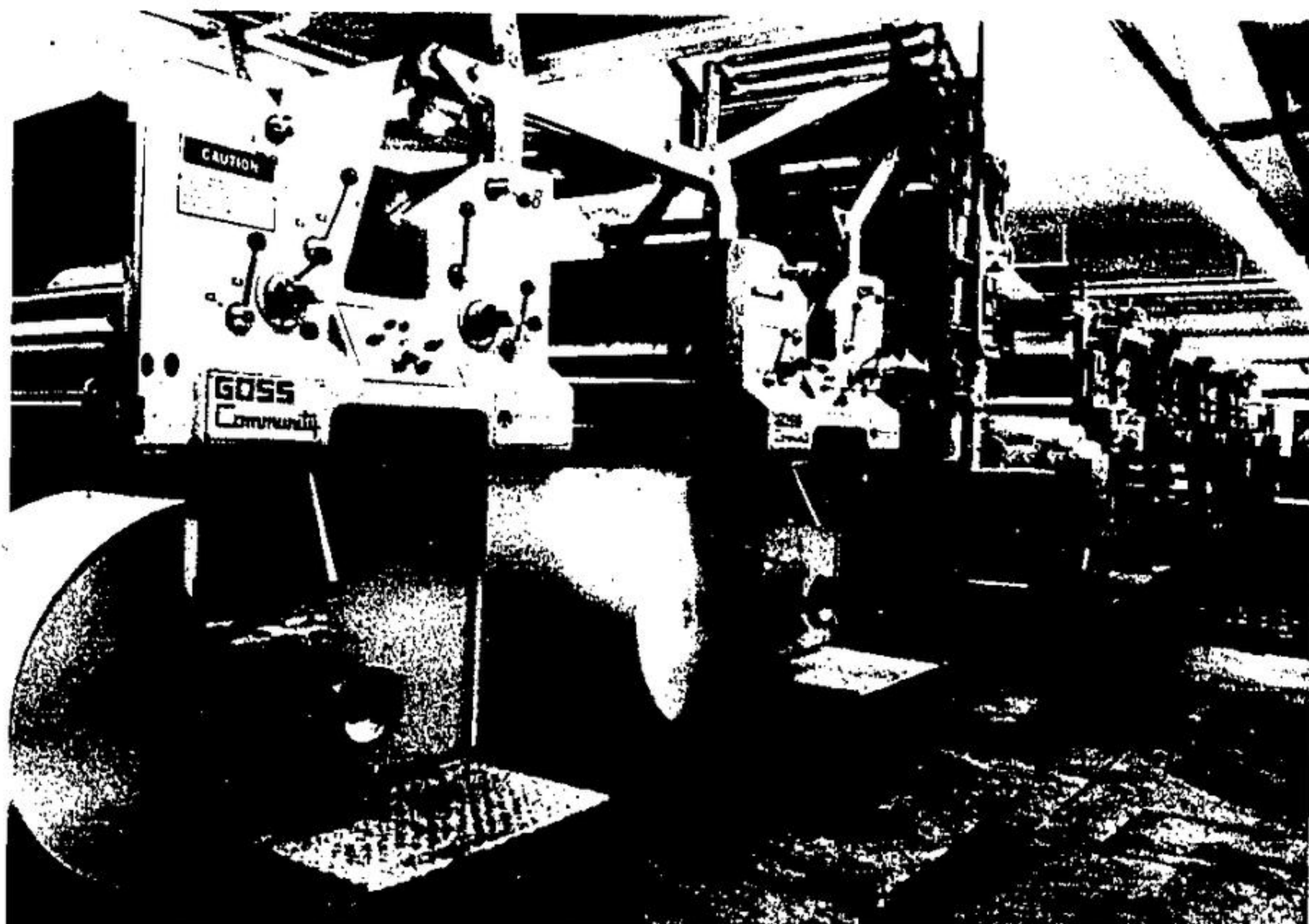
Erecting the Goss Cox-O-Type press in its original location at Mill St. building are Albert Schupp, erector Ben Duca and Wilfred Duval.



Dora Ryder and Hartley Coles are shown in the Free Press plant on Mill St. before any expansion took place. Dora is at one of the hand fed presses and Hartley is feeding the large newspaper press. Type cases are in the foreground.



Pressman Wilf McEachern is shown at the Goss Cox-O-Type press after it was moved to the new location in the former Baxter building in 1959. It had been installed at Mill St. in 1957.



The Goss Community press was installed in 1966 and expanded in 1974. The press is the one currently in use for the production of the Free Press and a number of other publications. It signalled the conversion to offset printing of the publications. The addition in 1974 included two additional printing units and a folder to increase the ef-

fective capacity of the press almost 66 per cent through increased speed and printing capacity. The press is also capable of printing and folding two publications at the same time in its present configuration at 12,000 copies on one folder and 18,000 copies on the second folder each hour.