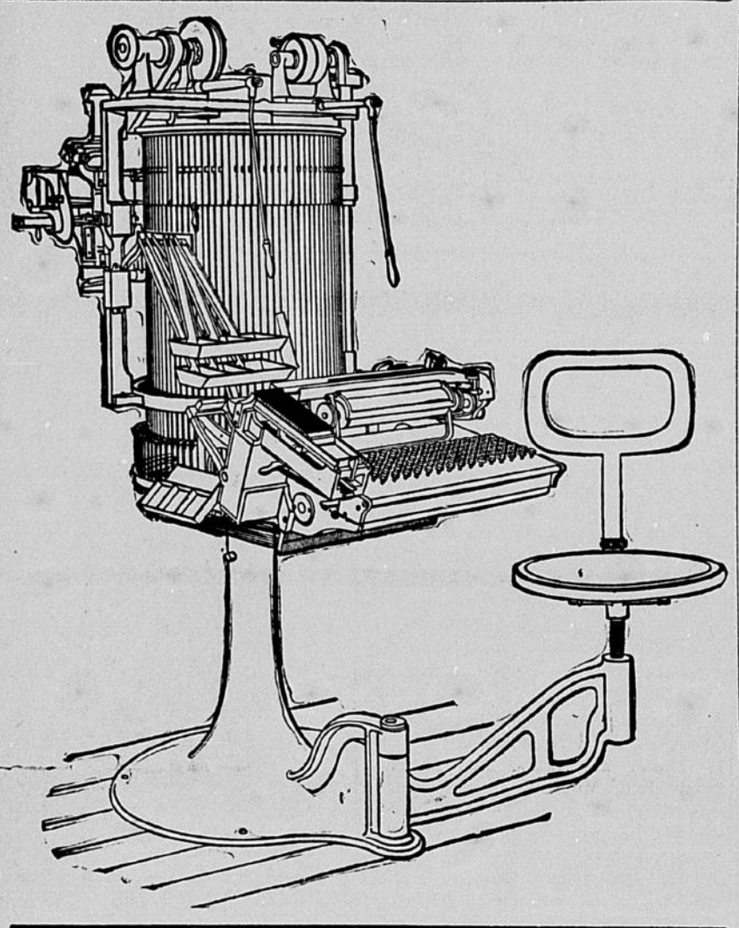
SET BY SIMPLEX.

Wonderful Machine Now in Operation in Review Office.

REVIEW HAS MODEL PLANT.

The New Type-setter Completes One of the Best Equipped Country Offices in Iowa. How the Simplex Works.

Since January 1st. we have been workings day and night to revolutionize the physical equipment of the Review plant, and but this week the best of it all, the well-nigh human Simplex Typesetting Machine has been installed. The new machine will be a source of pleasure and benefit to every reader of the Review. It means practically an unlimited capacity to fill the paper each week with the freshest and latest news. It means, as soon as our operators become skilled, that we will no longer be obliged to omit or abridge our news on account of lack of time, it means that the Review will remain where it has always been, at the head of the list of Denison papers, but that that best shall be bettered many fold.



We can now almost count the days until our new building will be completed and the confusion of construction will be at an end.

The year 1906, should be the best year the Review has ever had, and with our reader's help we shall do our best to make it so.

During the past year there has been added to the Review plant a large amount of new type for job work and advertising purposes, a new Mentges Folder, paster and trimmer, a new Cranston Improved cylinder press, a new Simplex type setter, a new dress of type for the newspaper—The Century Expanded—said to be the most popular type used on American newspapers today.

A new pressed brick office building, which not only adds largely to our own comfort and convenience but is a great benefit to our beloved city.

All this has been accomplished within the year, and in spite of the fact that for months our office has been in a turmoil of building and changing and the installation of new machinery we have not missed an issue and we have given all through the year more news matter than has been printed by our nearest competitor by an average of nearly fifty per cent.

If under such adverse circumstances we could hold our own we are confident that in the near future we will be able to give our readers as good a county seat newspaper as there is published in the state of Iowa. Should we do so it will be nothing more than our hundreds of faithful readers deserve. Another word as to the Review's equipment, we are prepared to do the best and finest of job work. We have a wide variety of type-faces from the big six-inch wood letter to the finest "wedding script." Our job presses are also new and we are sure that we can, both in promptness and excellence, please our customers in this line.

We believe the people of the county are to be congratulated upon the enterprise of both of the Denison papers and that the raising of their standards of excellence will ultimately make for an even higher standard of intelligence and citizenship than the county now enjoys. The Review is at work all the year boosting Denison and Crawford county and their institutions and we know we will be pardoned for this blast on our own horn. The Review invites all of its readers to come in during the winter to inspect the new building and the model printing plant of Western Iowa. This is a personal invitation and we will be pleased to conduct you through the plant from the Simplex to the big new press. The following is an interesting description of the new machine on which this article was set, furnished us by the manufacturers, and it tells the story of what the wonderful machine can do much better than on such short acquaintance we could do ourselves.

The body of the Simplex consists of two cylinders, one above and rotating on the other, having a common axis. In both cylinders, extending vertically, their full length, are ninety parallel channels, those in the lower cylinder forming the magazine into which type distributes from the channels of the upper cylinder and is stored for resetting. The channels are slightly wider than the body of the type which the machine is made to set.

On the forward side of each channel in the lower cylinder a series of steel strips are inserted and project part way across. They are called "wards," as they perform the same functions as the wards of a lock. The combination of wards in each channel differs from that in any other channel. Each type character in a font is given a combination of nicks corresponding with the combination of wards in one particular channel, and can enter this channel only. The central ward extends the full length of the channel, and is cut off just short enough to permit one type to be pushed out at the bottom when the key is touched.

The channels in the upper cylinder have no wards, so that lines containing all characters in the font will enter any channel in the cylinder freely. In each channel is a sliding weight, the function of which is to press lightly down on the line of dead type contained in the channel, so that when the bottom type comes to its proper channel in the lower cylinder it will drop quickly. These weights are lifted up when the channel is to be loaded, the line of dead type inserted in the channel, and the weights lowered again on top of the line.

The channels in the upper cylinder are filled with lines of dead type and the cylinder is revolved step by step, bringing each of its channels in turn directly over each channel in the lower cylinder. At each step or movement of the distributer the bottom type of each line of dead type is tested by the wards in the channels of the cylinder. Every type with a combination of nicks matching the combination of wards in the channel over which it is brought drops down, while those differing in combination rest on the top of the wards, they in turn dropping down when the cylinder in its revolution brings them to their own channels. As the distributer can supply much faster than operators can set it up, it is not necessary to keep it working all the time.

The mechanism by which all this is accomplished is accurately made, and is wonderfully simple in its construction. The channels in the two cylinders are cut with the greatest precision. When it is understood that each of the ninety channels in the upper cylinder matches perfectly each of the channels in the lower cylinder, this accuracy will be appreciated. This in itself would not secure proper distribution unless the upper cylinder were moved positively at each step to the point where the channels all coincide as described, held there rigidly an instant to permit the dropping of any type which may have found its channel.

This accuracy of movement is obtained by employing a cam to impart the step-by-step movement to the revolving cylinder. The cam revolves on a shaft, the bearings of which are rigidly attached to the crosshead of the machine, which in turn is firmly attached to a main shaft extending through both cylinders. Motion is imparted to the cam through gears extending back to a shaft on the cross head driven by a belt or motor. The cam works against roll shaving bearings on pins driven solidly into the top of the cylinder. These rolls, forty-five in number, form a circle about four inches less in diameter than the cylinder. As there are just half as many rolls as there are channels, the cam in each revolution gives the cylinder two forward thrusts, moving it each time a distance equalling the distance between the channels. The rolls are shaped to conform to the shape of the cam; this insures the accurate movement of the cylinder. The rolls overcome friction, thus preventing wear on the cam, and this, the part of the machine requiring greatest degree of accuracy, will work for years without readjustment.

On a solid upright, fastened at the top to the crosshead, and at the lower end to a ring attached to the bottom of the lower cylinder, is a bracket upon which is placed type for distribution. The mechanism for loading the channels of the distributing cylinder with lines of dead type from this gally is also attached to the upright, and its shaft is connected by gears with the shaft of the cam which moves the cylinder, so that the two parts work in unison.

The working parts of the loading mechanism consists of an arm, actuated by a cam, for lifting the weights in the channels of the distributing cylinder; a plunger for pushing a single line of dead matter into the channel when the weight is raised, which plunger is operated by an arm connected with a second cam; and a device for making the parts operate whenever an empty channel comes to the loading point as the distributing cylinder revolves. These parts are all driven by a single shaft, on which are the two cams and the releasing mechanism.

A galley of dead type being placed on the bracket, with face of type outward, the distributer is started.

If the matter being distributed is leaded the leads are withdrawn by the plunger as it returns, and are dropped into a receptical below the loader. The pawl being disengaged, as before described, the vertical shaft now rests until another empty channel presents itself to be loaded. The column of dead matter is moved for ward by a spring, bringing next line in the galley into position to be loaded. All these movements are performed during the interval between each forward step of the cylinder. They are made quietly, and without strain upon the type, each line being separated from the column in the galley before being carried into the channel by the plunger.

The distributer is not delayed by the loading, but rotates at its normal speed. If every channel in the distributing cylinder should be empty when it is started, the loader would fill all in three-quarters of a minute. In practice, however, there are generally but a few lines to be loaded in each revolution of the cylinder.

The lower-case letters and other characters principally used are located in the lower cylinder directly in front of the operator, and as they become filled or emptied he stops or starts the distributer by moving a conveniently located lever. When the galley of dead type becomes empty, it is the work of but a moment to take it off and substitute a full one of either leaded or solid matter.

The sorts in the different channels distribute in about the proportion required by the operator. This depends somewhat upon the character of the matter which is being set and distributed; so provision is made for quickly removing from its channel in the lower cylinder any sorts which distribute faster than required, or for replenishing the supply of sorts which do not distribute rapidly enough. Galleys for containing a reserve supply of sorts are kept in a cabinet sent with machine.

On the setting mechanism is a keyboard with ninety keys—one for each channel in the cylinder—each key being connected by levers and wires with a small plunger at the bottom of its particular channel. The front end of the plunger rests immediately behind the foot of the bottom type in its channel, the plunger being less in thickness than the type. When a key is depressed on the board, its corresponding plunger is moved forward carrying one type out ahead of it. The keys work very lightly, and their action is practically instantaneous.

When ejected by the plungers, as described, the type is pushed upon the flat surface of the disc which encircles the bottom of the cylinder, its upper being on a level with the bottom of the channels. The disc revolves rapidly, and the type ejected upon it are swiftly carried to the right-hand side of the machine, where a switch or guide deflects the type offthe disk and upon a traveling flat belt, running parallel with the edge of the disc at this point, by which the type is carried forward to a point directly back of the keyboard and somewhat above it. About half-way between where the type leaves the disc and the point to which they are conveyed to the belt, is a little device called the separator, consisting of two rolls revolving rapidly in a direction opposite the motion of the belt. There is just distance enough between the two rolls to permit the free passage of a single type. If the operator plays two type which reach this point side by side, one passes between the rolls, the other is held back until this channel is clear, when it follows.

After passing the separators the type are guided, one at a time, to what is called the packer. On entering the packer the type run on a cam, by which they are lifted; a rubber bearing on a piece called the hook, which is pressed forward by a spring, holds the type lightly against the inner wall of the channel. A part known as the hammer now pushes against the foot of the type and carries it forward to proper position. The packer is capable of handling over six hundred type per minute. Type succeed each other in the packer, forming words in a continuous line, which extends across the back of the keyboard, the face of the type in this line being in view of the operator.

At the left of the keyboard is the justyifying mechanism, and the channel through which the long line passes leads to this, the type in the line now being on its feet. When the long line has been filled, the operator, who is seated on a chair which is supported by an arm attached to the base of the machine, swings his chair around to the left, and with a small instrument known as the "grab," which he carries in his left hand, separates from the long line enough matter to practically fill a width of the column being set. Between each word in the line a three-em space was played from the keyboard. The operator increases or reduces the width of these spaces enough to properly justify the line as he does so, and correcting any errors which he may have made in setting. It is thus possible to produce matter remarkably clean and free from errors. Any errors which may be overlooked and appear in the proof are corrected just as in hand-set matter, and without delaying the machine.

A convenient feature in the justifying mechanism is the fact that the spaces and quads distribute directly into boxes located within easy reach when justifying. These sorts return to the point where they are needed without handling or attention of the operator.

In justifying, it is not necessary to pay any attention to the way spaces and quads are put in, as they will distribute no matter which end up or which side round.

Having justified the line the operator touches a thumb lever located beside the galley. The thumb lever releases a pawl which engages with a ratchet on a rotating wheel under the keyboard. In one revolution of the wheel, the rule which stands behind the type line is drawn down below it while a line pusher comes up in front of the line and carries it into the galley, which rests on a support, behind the rule. The pusher now returns to its position of rest, and the rule comes back into positon ready to support the succeeding line while being justified, the whole movement of these parts occupying but a moment.

On top of the "line pusher," which carries the line of type into the galley as above described, is a receptacle for leads. The mechanism is so arranged that a supply of leads can quickly be inserted, and, being in full view, the operator can tell when the supply is becoming exhausted and replenish it as required without disturbing any other part of the machine. If the matter being set is to be leaded, the operator moves a small thumb-nut to position and a lead is delivered behind each line as the line pusher carries it into the galley. If more than one lead is required between the lines, the thumb lever before referred to is held out and the pusher will continue to deliver leads until the desired number has been delivered. If, however, the matter is to be set solid, the thumb-nut is returned to its original position, and the line pusher will convey the lines into the galley without delivering any leads. This device has been found to be a great convenience, as the operator is relieved from inserting the leads between the line by hand, and the output of the machine is thus increased.

All parts of the machine have been designed in the most simple and substantial form, particular attention having been given to making them accessable and interchangeable. Duplicates of parts subject to wear are sent with machines, and can easily be substituted by the operator when those on the machine are worn. The average compositor quickly learns the requirements of the machine and how to meet them, and will soon attain average speed in operating.

Farm Lands For Sale.

160 Acres two miles from town, good improvements, good land, gently rolling, half in tame grass, half in corn, wheat and oats. Price **$80** per acre. See me for terms.

160 Acres one and one-half miles from town; fair improvements, good land, but somewhat rolling. All in cultivation, pasture and hay. Price **$52.50** per acre. Easy terms.

120 Acres one mile from town; common improvements, good land but somewhat rolling. All in cultivation, pasture and hay. Price **$57.50** per acre. Easy terms.

320 Acres four miles from town; very good improvements and good land, gently rolling. All in tame grass except 120 acres, which is in corn and oats. This is one of the best grain and stock farms in the county and is very cheap for the money. Price **$85** per acre; easy terms. If not sold soon will rent the some to the right man.

80 Acres three and three-quarters miles from town; good land, fair improvements, gently tolling. All in cultivation and pasture. Price **$63** per acre. See me for terms.

80 Acres two and one-half miles from town; no improvements except a gooe fence all around. All seeded to tame grass. This is good land but a little rolling, and it is in fine shape to raise crops. Price **$62.50** per acre.

120 Acres good land one and one-half miles from Denison with good improvements. Can be sold on easy terms. Price **$90** per acre.

If you want to buy a farm here or in Dakota, call and see me. It will be to your interest.

J. P. Jones, Denison, Iowa

SEE HERE!

WE have on hand a nice lot of Fence Posts and Poles. Also small Piling, Hog Wire Fence, a car of the very best cement on the market, all kinds of shingles and building materials at bed rock prices.

Call and see us before purchasing elsewhere. At the old Stone & Temple stand.

W. R. TEMPLE CO.

A. J. BOND,

The Pioneer Piano and Organ Dealer

has sold more pianos and organs than any other man in Crawford County having been in business for 25 years. He is still in the business and is making numerous sales of Bush and Gertz High Grade Popular Pianos, and the old reliable Estey Organs Everyone of these instruments has given satisfaction. Should you desire any piano or organ information drop Mr. Bond a line and he will call on you.

Undertaking

A. J. Bond is also the oldest and most experienced undertaker in the county. He holds a state certificate and will respond to calls day or night in any part of the county. We carry a full line of Large and Small Caskets, also Men's, Ladies' and Children's Robes.

Rooms at Basement McKim Hall,
Ring up C. C. Phone 94.

W. A. McHENRY, Pres. SEARS McHENRY, Cash

First National Bank

DENISON, IOWA

Capital and Surplus, $125,000 Deposits, $518,675,16 Loans, $534,751.34

If your patronage and influence have, in any degree, contributed to the success ofour business, we thank you for it. If as yet, you are not a customer, let this be your invitation to become one. We will endeavor to make it both agreeable and profitable for you to do business at our Bank. Personal interviews are desired.

MONEY TO LOAN ON LONG OR SHORT TIME

CAPITAL, $100,000. DEPOSITS, $500,000.

Crawford County State Bank,

Denison, Iowa.

The Best Security for depositors **General Banking Business Done.** Farm Loans at 5 per cent Interest

Incorporated under the laws of Iowa, giving best security to depositors, as each share-holder is holden not only for amount of stock, but his personal property is holden for a like amount also. State Banks are under control of State Auditor, who can examine them at will and published statements are according to his findings, thus depositors have more security than their confidence in the bank's officers. Capital stock can not be used for outside speculation or investment. The Crawford County State Bank is the best incorporated banking institution in the county

PASSAGE TICKETS SOLD. INSURANCE WRITTEN. LOANS NEGOTIATED. ABSTRACTS FURNISHED.

DIRECTORATE: L. Cornwell, Pres. George Naeve, V-Pres. M. E. Jones, Cash. C. J. Kemming, Asst. Cash

DIRECTORS: L. Cornwell, George Naeve, H. F. Schwartz, C. Tabor, J. P. Conner.

Do You Want a Fine

Hard Coal Base Burner

a Hot Blast Oak Heater, a First-Class Steel Range, or an Oil Heater that don't smoke or stink at, lowest prices? Call at

WYGANT'S