METHODS OF MOVING MAIL

Every Known Means Employed to Facilitate Prompt Dispatch and Delivery.

TRACING THE LETTERS AS THEY GO

Quick Hands, Sharp Eyes, Trained Minds and Automatic Machinery in Strenuous Action—The Old and the New Ways.

Perhaps it is about 6:30 when Mr. Brown emerges from his office on the fourteenth floor of the big skyscraper in lower Broadway, writes Earl Mayo in the Outlook. Usually he leaves an hour or more earlier than this, but today he has delayed to pen an important personal message to a business associate in San Francisco. Finding the quiet of the office conducive to this exercise, he has continued it by writing to his brother, who lives on the old home farm among the Chautauqua hills of western New York, and to the proprietor of a little hotel up in the Adirondack wilderness arranging for his summer outing.

As he steps into the corridor he drops the three letters into the glass-fronted chute that leads from top to bottom of the big building, and they slip swiftly out of sight. His part in the important matter of communicating with three widely separated sections of the country is completed, and he gives no thought to the effort that will be expended and the many activities that will be called into play in carrying out the remainder of the undertaking.

Before the elevator has had time to respond to the waiting man's impatient ring the three letters are reposing in a big steel mail box in the lower hallway of the building. Five or perhaps ten minutes later the box is emptied by a perspiring postman, whose leather pouch is already overflowing and who is forced to find room in his pockets for some of the mail that he takes out. In this part of the city there are twenty-seven mail collections between 7 in the morning and 11 at night. During the rush hours at the close of the business day these collections are made at intervals of fifteen and twenty minutes, and even then it is difficult for the carriers to handle all the mail.

By 6:40, while Mr. Brown is journeying homeward on the elevated train, his letters are dumped upon a long table in the big gray postoffice building on the south side of Printing House square, forming part of a white avalanche that has been pouring in from the drops, the carriers and the special messengers from the big offices for three hours, and that threatens momentarily to engulf the crowd of clerks who are working desperately to reduce its proportions.

Canceling the Stamps.

Some of these clerks are rapidly gathering up the envelopes that lie before them in an indiscriminate heap, and arranging them in order, all standing on their sides and all facing the same way. Then they are carried to the receiving table of a busy little contrivance that hums like a sewing machine while it is in operation and is somewhat like one in size and shape.

This is the automatic canceling machine. The letters are fed into it from the receiving board by swiftly revolving rubber wheels. They pass through one at a time, but with such swiftness that the eye cannot follow them, and in the process each stamp is canceled and the postmark is stamped upon each envelope.

In more primitive days all letters were postmarked and all stamps canceled by hand stamping machines, as is still done in rural offices. This required two distinct operations for each letter, and the limit of accomplishment for a rapid clerk was from 1,500 to 1,800 letters per hour. The canceling machine, which is operated by electricity and requires a single clerk to attend it, eats up 30,000 letters or 40,000 postals in an hour, and there are no uncanceled stamps or indistinct postmarks on the letters after they have passed through it.

There are fourteen of these machines in the main postoffice in New York, and during the closing hours of the business day they are worked to their full capacity to cope with the flood of mail that is pouring in from all directions. During this rush period these machines are handling the mail at the rate of over 250,000 pieces an hour.

Routing the Letters.

From the canceling machines the letters are carried to what is called the primary separation table, where the first step in the process of sorting out the different letters and starting them properly on their various journeys takes place.

The primary separation tables are faced by pigeonhole cases made up of compartments about a foot square. Space is left between the table and the case for the clerks to move about. Beneath each compartment is pasted a printed slip bearing the name of some city, state or group of states. The classification is made according to the amount of business, so that while Boston, Philadelphia and Chicago have each a box, and New York state has two, there are groups of a half-dozen distant states which have only one.

The clerks take up the letters in armfuls and run hastily through them, glancing at the lower line of the address on each, and pitch them rapidly into the proper compartments. The letters fly through the air like the flakes of an April snowstorm, and it seems impossible that the clerks can read the inscriptions on the envelopes, so swiftly do they work.

Every few minutes, while this is in progress, other clerks come and empty these compartments, bearing the contents away to other tables for a more complete distribution. For instance, one clerk gathers up all the letters intended for points in the state of New York and carries them to the New York separation case; another takes those for Pennsylvania; another those for the division known as "south and west." A large part of the space on the ground and basement floors of the New York postoffice is given up to these separation cases, which are crowded together as closely as possible, so that they form a perfect labyrinth and leave scarcely room for the employes to move about. Each of these separation cases is like the one first described, except that the compartments are smaller and far more numerous. There is a pigeonhole for each important postoffice in each division, while those less important are grouped under the routes by which they are served.

What Clerks Must Know.

What it means to be an efficient separation clerk may be imagined when it is said that there are 6,500 offices in the state of Pennsylvania, and the clerks in this section must know the location of all these offices and the routes by which they are reached. Some of the divisions are larger even than this. Until recently the "South and West" case, the largest in the New York postoffice, included 12,500 different offices. It was found that this division was too large and that the clerks were not equal to the mental strain of carrying this tremendous number of names and locations in their minds. The case has been subdivided, and the largest of the present divisions includes about 7,500 offices.

At their work the separation clerks stand a few feet back from the cases and throw in the letters as fast as they can read the addresses. For an experienced clerk the average is from fifty to fifty-five letters distributed per minute. This is rapid work and is the rate maintained during rush hours.

Three or four clerks work at each of the larger cases, and as they walk back and forth, flipping each envelope to its proper compartment while scarcely looking up from the pile in their arms, the air is full of flying missives and the scene is one of seemingly hopeless confusion. The men soon acquire an unerring aim, and it is seldom that a letter goes into the wrong pigeonhole or overshoots its mark, although clerks constantly patrol the spaces before and behind the cases to pick up any that may fall on the floor. As the New York postoffice handles daily about 3,000,000 pieces of mail matter, and as each of these pieces must be properly separated by the method described, it will be seen that this is no small task.

Tracing the Letters.

The three letters which we have traced thus far part company in the process of separation. The one directed to San Francisco goes directly to the compartment at the primary separation table devoted to that city. The others are taken forward to one of the secondary cases and then distributed to two of the railroad postoffice routes.

As the clock moves on the clerks work more and more rapidly. At length the heaps on the receiving tables cease to grow; then they diminish, and finally the tables are swept clear of envelopes, which now are all in the separation cases or on their way outward bound.

The first mail train by which our three letters can leave the city departs from the Grand Central station at 9:14 p. m. It is now 7:50, and time to begin "tying-out" the mail for this train. In tying out the clerks place on top of each bundle a "facing slip," marked with the name of the route to which it is assigned, and wrap it about with cord. All the bundles going by a certain route are then thrown into a big basket together and are trundled away to the pouching cases, where they are put into pouches and loaded upon one of the big mail wagons waiting to convey them to the train.

In this particular case, however, our letters have a more rapid means of transit than the lumbering mail wagon. Consequently it is possible to wait about twenty minutes longer for any further letters that may come in. Then, at 8:20, the final tie-out occurs.

All the letters that are to go by this particular train are wheeled in baskets to another part of the basement, where is the terminus of the pneumatic tube which leads underground to Station H, one block from the Grand Central station and three and one-half miles uptown.

The pneumatic tube system is one of the modern appliances for facilitating the movement of the mails. The main line in New York consists of two parallel pipe passages eight inches in diameter, through which shells not unlike those used in an eight-inch gun are shot. The shells hold about a half bushel of letters each, are tightly sealed by screwing on a metal cap and are made to fit closely in the tubes by bands of solid rubber encircling each end. They are driven by compressed air and are fed into the tubes by an automatic apparatus which regulates their departure at intervals of fifteen seconds.

The tube carries mail at the rate of thirty miles an hour, and in seven minutes our letters are at Station H, having covered a distance that would have required forty minutes by the old system of wagon transportation.

At Station H the mail received through the tube is pouched—that is, the letters are put in bags, each marked with the route to which it is assigned. Wagons hurry it around to the railway station, and a few minutes after 9 o'clock it is loaded upon the train which is to bear it on the next stage of its journey.

The first of the three letters reposes in the San Francisco pouch. It will speed across the continent as fast as steam can turn the wheels, and will never leave the mail bag until the last stage of its journey, when the Ogden & San Francisco railway postoffice will make a further subdivision of the mail intended for different sections of the latter city. It is mailed in New York on Monday evening, and completes its 3,000-mile journey in almost exactly four days, an average rate of travel of a little more than thirty miles an hour for the whole distance, not allowing for stops and transfers. It is sent direct to the station from which it is to be delivered, where it is stamped with the receiving postmark, assigned to the proper carrier's route, and goes out in the first delivery on Saturday morning, or, if it bears a special delivery stamp, by messenger on Friday evening.

Work in Postal Cards.

The second letter is in a pouch consigned to the New York and Chicago railway postoffice. As soon as the train pulls out of the station the railway mail clerks begin opening the different pouches, taking them in order, those for the nearest stations and junction points being assorted first. The work is very much like that of the clerks we have previously watched in the New York postoffice. Everything moves like clockwork. Pouch after pouch is emptied upon the tables. The letters are sorted out, tied up into bundles, and put into other pouches. At every stop one or more of these is thrown off and others taken on, the contents of which must be immediately sorted, because some of their letters may be intended for the next stopping point. It means lively work sometimes, and there is constant, intent, hard work through all the first part of the trip. Later on the tension will slacken somewhat, and some of the clerks may even be able to snatch a half-hour's sleep. At many stations where no stop is made a bag is thrown out as the train thunders past the station, the iron hook known as the mail catcher is brought into play, and a pouch comes swinging into the car while the traveling postoffice goes rushing on with no slackening of its fifty miles an hour.

The letter in which we are particularly interested goes through the same treatment as the others. After the last stop before Buffalo is passed, and it is certain that there is no more mail for its particular route, it is tied with two or three fellows in a package bearing a slip with the name of a certain Chautauqua town, and placed in a pouch tagged for a railway line extending out of Buffalo.

Arrived in that city it is hurried across the station to another train, on board which it is again removed from the pouch and put into another one, which is presently thrown out upon a station platform, carried away by a waiting messenger to the local postoffice, stamped, given over to the care of a young man, who places it with many others in a light wagon, and drives away to the home of Farmer Brown, five miles out in the country, where it is delivered at 1 o'clock on Tuesday afternoon. It has traveled a distance of 476 miles in about sixteen hours, which is a rate of speed almost equal to that of the transcontinental letter.

These examples fairly illustrate the operations of the postoffice, the methods by which its ordinary routine is performed, and the varying facilities for reaching different points in its system. The postoffice is a great business institution, and is conducted on business principles. That is to say, it affords the best service where there is the most business, the most demand. But it also affords an efficient service where the demand is slight, and where the returns from mail operations do not begin to pay the cost. In this respect it is administered as a public utility, and does work which it would not do if conducted by private capital.

Extent of the Business.

Some idea of the extent of the business transacted by the United States postoffice may be gained from the fact that last year its receipts amounted to over $121,000,000, while its expenditures were about $3,000,000 greater. Of second-class matter alone the postoffice handled last year nearly 250,000 tons. As the result of some observations made about five years ago, it was estimated that the average distance traveled by each piece of mail matter was 328 miles. To carry a letter over 300 miles to any point in the country for 2 cents, and to transact a business of over $120,000,000 with a net loss of only 2½ per cent, implies a highly effective organization.

The efficiency of the postoffice depends largely upon the rapidity with which its work is done. It is natural that in this respect there has been a steady advance keeping pace with the improvement in the railway facilities of the country. The most important phase of this improvement is apparent only from a careful study of the schedules in the various division headquarters, and is quite unnoticed by the general public. We marvel when it is announced that five or ten or fifteen minutes has been cut off the transcontinental trip, but what is of more real importance is the saving of fifteen or thirty minutes in the time required by the average letter in traversing its average course of 300 miles. It is in this direction that the most important recent improvements have been made.

The actual movement of mails between important business centers is not likely to be made more rapid in the immediate future. Many practical railway men believe that their lines, in the keen rivalry for business and for the advertising it brings, have overdone the fast mail train business. They hold that the heavy expense of operating these fast trains, the interference with freight traffic and the loss through the frequent imposition of government fines for failure to come up to schedule requirements make the operation of these contracts a positive source of loss to the roads in times of great freight congestion like the present. There is a movement on foot among some of the western railway managers to decrease the speed of some of the fast mail trains, and, while this is not likely to be done, there probably will be no increase in the immediate future.

The chief delays in the transmission of mail at the present time arise through its lying in the mail box awaiting collection, through its lying in the postoffice awaiting the departure of trains, through its lying at junction points awaiting train connections, through its lying at terminal points awaiting delivery. In other words, while the mail is actually in transit, whether by carrier, pneumatic tube, trolley, train or free delivery wagon, it moves at the highest practicable rate of speed. The room for greatest improvement lies in closing up the gaps indicated above, in providing for more frequent and rapid collections and deliveries, more rapid movement in the short hauls and the substitution of mechanical devices for hand labor whenever possible in handling the mail.

Trolley as a Factor.

One important factor in the improvement of mail transportation is the trolley. It gives quick and regular service between the big cities and suburban towns not so easily reached by the steam roads. It saves time in transferring mails between offices and railway stations and between junction points. For instance, between Council Bluffs and Omaha, on opposite sides of the Missouri river, where much through as well as local mail is transported, the use of electric lines has resulted in a gain of from fifteen to twenty minutes in getting letters into the hands of the persons to whom they are addressed. In many other places a similar saving is effected and there are now over 300 electric car mail routes in operation. It seems likely that in time the electric lines will do away very largely with the comparatively slow wagon service and will take a large part of the short-haul business from the steam roads. They have the advantage of greater economy, for the cost of trolley carriage per mile is just about one-half that of the regular railway service.

In the perfection of mechanical devices for the handling of mails there is a field for the inventor to which considerable attention is coming to be paid. For example, a work that requires several clerks in the New York postoffice is the arranging of letters so that all shall face in one direction ready for the canceling machine. A device has just been perfected which, while intended for use in business offices rather than in the postoffice, will do away with this part of the work. This is an automatic sealer, into which unsealed letters are fed as in the manner of the canceling machine. The apparatus moistens the flaps, seals them down and delivers the letters arranged in order so that they may be tied together and taken in this shape to the office, thus saving one step in the work performed there.

Another automatic device which the Postoffice department is now testing is a box for special delivery letters in which one may drop a letter by inserting a dime in a slot in lieu of a special delivery stamp. Collections are made from these boxes by special messengers at frequent intervals, thus saving considerable time.

Testing Improvements.

For some time past the government has been testing a machine intended for use in the offices of business concerns that send out a large amount of mail. This machine seals the letters as already described, and also stamps and postmarks them so that when delivered to the postoffice it will be necessary only to go through the operation of sorting them before they are forwarded. The machine keeps an exact record of the number of letters passing through it, and if adopted the plan would be for the users to make a regular accounting to the postoffice authorities at daily or weekly intervals for the sums due in postage. Such a contrivance, of course, would be used only by firms sending letters in large quantities.

It is possible that the general adoption of the machine described above and the extension of the pneumatic tube service may make possible the delivery of mail from the big office buildings and from sub-stations convenient to the general public direct to the postoffices already postmarked and canceled and ready for the separation clerks.

There is no branch of the public service more efficient or more arduous in its requirements than the work of the postoffice. The carriers make their rounds bearing heavy loads and exposed to all kinds of weather. The employes in the railway branch of the service pursue their work at irregular and broken hours and under constant pressure. They have not even the assurance that if, as has happened in many cases, they lose their lives in the course of duty, provision will be made for their families. The office clerks work at high pressure and with the necessity of having all their faculties alert at all times, often, especially in the older offices, under conditions that are unsanitary and that make the efficient performance of their duties almost impossible.

OUT OF THE ORDINARY.

The surplus of the Western Union Telegraph company has risen, as shown by the report just issued, to $13,619,000.

Out of the 13,500,000 people in Mexico less than 2,000,000 can read, though the first printing press in the world was set up in Mexico.

An economic census of the town of York, England, showed that 23,000 out of the 70,000 inhabitants live habitually below the starvation line.

Morgan and the Standard Oil alliances control no less than $205,000,000 of the $451,000,000 of the banking capital invested in the city of New York.

Exploration of the Yenisei and Obi rivers of Siberia, which empty into the Antarctic ocean near Nova Zembla, has shown them to be navigable to ocean steamers for a distance of nearly 1,000 miles.

The army is to have an entirely new outfit of field guns and siege guns, which will be of a pattern different from any weapons hitherto employed in the service. They will be of the quick-fire kind and will shoot twenty times as fast as the guns now in use. They can throw twenty explosive shells in a minute.

The Brooklyn firm that recently purchased Shamrock I, the first of Sir Thomas Lipton's challengers for America's cup, announce their intention to convert it into a schooner for trading purposes. After being remodeled it will run between New York and South American ports, carrying scrapiron—rather degrading work for a boat that once tried to lift the international cup.

The recording of a deed in Charles Mix county, South Dakota, has brought to light two unique Indian names. The deed was executed by Grover Cleveland Surrounded and his wife, Julia Waubdiwanyaghipwin, members of what is known as the Yankton tribe of Sioux Indians, who under a recent act of congress were permitted to sell some of the land which had been allotted to them and their relatives years ago by the government.

Harry Warner of Aurora, Ill., was convicted in the federal court at St. Joseph, Mo., of using the mails to operate a game of fraud. He is known over the country as the "egg man." His specialty is to secure consignments of eggs from farmers and decamp with the proceeds of the sale. He was sentenced to four months in jail and to pay the costs, which will amount to $600.

The profits of the Minnesota state fair this year were more than $71,000. The total receipts were $30,000 more than last year. The report of the board of managers at the fair grounds showed that the total receipts were $221,436.35, and the disbursements $140,000. Last year the total receipts were $150,909.05. Total paid admissions this year amounted to 182,906, making an increased attendance over last year of 13,000. In the matter of complimentary tickets the board cut them down 9,000 under last year. Still, more than 52,000 people saw the fair free of charge.