

division and two employees from the Machinery Department, two from the Transportation Department, and two from the Road Department, elected by their fellow-members. Subject to these committees but in direct management of the Relief Department is a Superintendent. He is helped by an assistant superintendent, an actuary and a force of clerks.

The department is divided into three sections, called the Relief, the Savings, and the Pension Feature.

The Relief Feature affords relief to its members when they are disabled by injury or sickness, and to their families after their death.

The Savings Feature affords opportunity to the railroad employees and their near relatives to deposit with it their savings, and earn interest thereon; and to employees only it offers to lend money at a moderate rate of interest and on easy terms of repayment, for the purpose of acquiring or improving a homestead or freeing it from other debt.

The Pension Feature makes provision for those employees who, by reason of age or infirmity, are relieved or retire from the service of the company.

The railroad contributes to the department every year the following amounts:

1. The sum of \$6,000 for the support of the Relief Feature, or, when not needed for that feature, for the support of the Pension Feature.
2. The sum of \$25,000 for the support of, the Pension Feature.
3. The sum of \$2,500 for the physical examination of employees.

THE RELIEF FEATURE.

Membership in the Relief Feature is voluntary for:

1. Officials receiving an annual compensation of over \$2,000.
2. Employees who entered the service prior to May 1, 1880, and who have been continuously therein since that date, except members of the Baltimore & Ohio Employees' Relief Association.
3. Clerks, telegraphers and others of similar employment, who are in no degree exposed to accidents in the service.
4. Agents receiving commissions only and employees receiving \$20 per month or less.

All of these persons may acquire membership in either the sick benefit or the natural death benefit of the Relief Feature, or both, but not in the accidental injury or the total disability benefit. Having once become members, they must continue so while in the service.

All other persons employed by the company must, as a condition of employment or advancement, become full members of this feature, entitled to all its benefits, before being permitted to go on duty.

So stringently is this regulation enforced that it is compulsory on all classes of employees, whether called regular, extra, temporary or constructive force, and it is imposed even on persons who are on probation or learning their duties, although not then receiving pay from the railroad.

The only exception to this rule allowed is in cases of great emergency, when the service of extra help is absolutely necessary on short notice and for a brief period. Even then, work will be given only for two days, unless application be made for admission into the Relief Feature.

No person, however, who is over 45 years of age, or who is not in good physical health—to be determined by a physician employed by the company—will be allowed to join.

Before a man can get employment from the B. & O. Railroad, therefore, he has to sign a contract applying for membership in the Relief Feature, agreeing to be bound by its regulations, consenting to have a deduction made for it monthly from his wages, and declaring that in consideration of the contributions of the company to the Relief Department, and of the guarantees by it of the payment of the benefits promised, the acceptance of benefits from the Relief Feature for injury or death shall operate as a release of all claims against the road for damages by reason of such injury or death, which could otherwise be made by or through him.

The beneficiary or beneficiaries named in any application for full membership in the Relief Feature, must, if the applicant be single, be his father and mother; or the survivor, if he be married, must be his wife or his wife and children.

Employees who have been furloughed (that is, put off work for a while without fault on their part) or suspended (that is, laid off for a while as a penalty for slight offenses not deserving a permanent discharge) may maintain membership in the natural death benefit only, while out of the service of the company, by making the usual monthly contribution. But, if they remain away longer than six months, they will have to submit to all the requirements exacted from new employees.

Persons who have once become members must continue so while in the service. Whenever a member quits the employment of the company, his membership will, as a rule, terminate on the date of his departure, unless he applies within 10 days for the natural death benefit only.

Members are divided into two general classes:

First Class.—Those engaged in operating trains or rolling stock.

Second Class.—Those not so engaged.

These are further divided according to their average monthly pay, as follows:

- A. Those receiving not more than thirty-five dollars.

B. Those receiving more than thirty-five and not more than fifty dollars.

C. Those receiving more than fifty and not more than seventy-five dollars.

D. Those receiving more than seventy-five and not more than one hundred dollars.

E. Those receiving more than one hundred dollars.

The contributions for these classes are per month in advance, as follows:

	A.	B.	C.	D.	E.
First Class	\$1.00	\$2.00	\$3.00	\$4.00	\$5.00
Second Class .....	.75	1.50	2.25	3.00	3.75

The contribution for the natural death benefit only, is at the rate of 25 cents a month for every such benefit of the lowest class.

Members of the Relief Feature are entitled to benefits as follows:

First.—Payments while totally disabled by accidental injury received in the discharge of duty in the service, for each day other than Sundays and legal holidays, during a period not exceeding 26 weeks, at the rate of 50 cents a day for a member of the lowest class, and at a higher rate for members of the other classes in proportion to their contributions; and at half these rates during the continuance of the disability after the first 26 weeks.

Second.—Payments while totally disabled by sickness or from any cause other than accidental injuries received in the discharge of duty in the service, for each day other than Sundays and legal holidays, after the first six working days of such disability, and for a period not exceeding 52 weeks, at the rate of 50 cents a day for a member of the lowest class and at higher rates for members of the other classes in proportion to their contributions.

Third.—Payment on the death of a member of the lowest class from accidental injuries received in the discharge of his duty in the service, of \$500, and of greater amounts for the other classes in proportion to their contributions.

Fourth.—Payment on the death of a member of the lowest class from any cause other than accidental injuries received in the discharge of duty in the service, of \$250, and of greater amounts for the other classes in proportion to their contributions.

Fifth.—Payment of fees for such surgical attendance as the company's medical examiner approves as necessary in consequence of accidental injuries received in the discharge of duty in the service, at the rates fixed in a schedule adopted by the Relief Department, when the bills therefor are approved by the local medical examiner. The Superintendent will arrange for the admission of members to hospitals, at moderate cost, when requested.

The following table shows in brief the contributions and the benefits of the several classes:

	A.	B.	C.	D.	E.
Rates of contributions per month:					
First class	\$1.00	\$2.00	\$3.00	\$4.00	\$5.00
Second class .....	.75	1.50	2.25	3.00	3.75
Entitling to benefits for accidental injuries, per day, not including Sundays and legal holidays:					
First 26 weeks .....	.50	1.00	1.50	2.00	2.50
After 26 weeks .....	.25	.50	.75	1.00	1.25
For a sickness, per day, not including first six working days, Sundays or legal holidays, for 52 weeks:					
In the event of death from accidental injuries	\$100.00	1,000.00	1,500.00	2,000.00	2,500.00
In the event of death from natural causes	250.00	500.00	750.00	1,000.00	1,250.00

Any member under 50 years of age, who can pass a satisfactory medical examination, may enter a higher class than that to which his pay assigns him, or may take additional natural death benefits, provided his total natural death benefits shall not exceed five times the natural death benefit of a member of the lowest class.

Any such member who has obtained a loan from the Savings Feature of the Relief Department may take additional natural death benefits to a sum total equal to the amount loaned, provided that, in every such case, the additional natural death benefits shall be reduced as the amount due on account of the loan is reduced.

Benefits will not be paid for injury or sickness, which is in any way caused or increased, in whole or in part, by intoxication, the use of intoxicating liquors, sexual immorality, breach of the peace, or other violation of law, on the part of the member; or for death by the hands of justice.

In the event of disability or death from accidental injuries, benefits will not be paid until releases are filed with the Superintendent of the Relief Department freeing the company from all claims for damages by reason of such injury or death, signed by all persons who might bring suit for such damages, or those legally competent to release for them, and by the beneficiaries named in the respective applications.

In case a suit is brought by a member, his beneficiary or his legal representative or others against the company on account of injury to him, no benefit shall be paid, and all claims to such benefit shall be forfeited, unless the suit is discontinued and all costs incurred by the railroad because of it are paid by the plaintiff before any hearing or trial on demurrer or otherwise. Simi-

larly, in case of death, should suit be entered by any person claiming an interest in the life of the deceased member, no benefits shall be paid from the Relief Feature, and any payment of damages or costs incurred in the action will act as a release in full of all claims against the department.

The benefits on account of the death of a member will be paid to the beneficiary designated in the application, and these beneficiaries are limited to parents, wives and children. Why should not brothers and sisters, sweethearts and others be allowed to be included by members who have none of the beneficiaries designated by the company? If no beneficiary named in the application of a member be living at his death, the benefits will lapse and remain for the benefit of the other members. In such a case, however, the funeral expenses may be paid, in whole or in part, by the Superintendent.

No assignment of benefits or change of beneficiary will be permitted without the written consent of the Superintendent, nor will benefits be subject to attachment or other legal process.

The benefits paid by this department (and its predecessor, the B. & O. employees' Relief Association) from May 1, 1880, to June 30, 1895, were as follows:

	Number.	Cost.
Deaths from accidents	1,014	\$1,075,014.22
Deaths from other causes	1,996	913,690.50
Disabilities from accidental injuries received in discharge of duty	56,168	720,334.55
Disabilities from sickness and other causes than as above	80,016	1,179,232.55
Surgical expenses	32,678	157,953.28
Aggregate	171,882	\$4,043,325.06
Add disbursements for expenses, etc.		574,210.90
Total disbursements		\$4,617,535.96

The membership in the Relief Feature at the close of the last fiscal year consisted of 20,710 members, with an average monthly membership of 20,947.

The gross balance on hand June 30, 1894, was \$301,063.18. The receipts from July 1, 1894, to June 30, 1895, were \$365,933.47. Interest on monthly balances and bonds and dividend on B. & O. stock, 13,117.03. Returns on account of artificial limbs furnished members, and from other sources, 4,187.79.

Total \$684,361.47

The disbursements made during the same fiscal year were: Relief Department checks cashed from July 1, 1894 to June 30, 1895, \$361,006.57. Amount due from sundry persons on account of advances for artificial limbs, and from B. & O. R. Co. for interest, etc., \$11,055.69.

Total assets June 30, 1895, \$334,410.69. The liabilities of the Relief Feature on that date were: Amount due sundry persons, \$7,147.15. Checks issued prior to June 30, 1895, and remaining then unpaid, 9,688.10.

Claims for benefits, etc., for which checks had not been issued on June 30, 1895, and amount (estimated) due or becoming due on account of disabilities which originated prior to July 1, 1895, 66,216.62. Total, \$83,051.87. Assets over liabilities June 30, 1895, \$251,358.72.

The benefits paid out from July 1, 1894, to June 30, 1895, were as follows:

	Number.	Cost.
Deaths from accidents	55	\$61,812.06
Deaths from other causes	155	91,466.69
Disabilities from accidental injuries	4,738	58,299.74
Surgical expenses	3,087	8,028.56
Disabilities from sickness, etc.	5,720	87,913.98
Aggregate	13,755	\$307,451.28

(To be continued.)

Hydraulic Interlocking.

Engineering of March 6 contains illustrations and a description of the Bianchi-Servetaz system for hydraulic interlocking as built and installed by Messrs. Saxby & Farmer. This is an apparatus for working and locking switches and signals through hydraulic pressure. Installations in various parts of the world, aggregating many thousands of levers, are in daily use. The fluid used is preferably a mixture of water and glycerine, carried in pipes laid underground, to double pistons fixed near the switches, or small single pistons on the signal posts. The necessary power is generated by a pump worked by hand, steam or gas. Each switch is moved by two pistons put in alternate communication with fluid under pressure and a discharge reservoir. When the switch has been moved the fluid is allowed by opening a valve worked by the switch lock to pass back to the signal cabin where it permits final movement of the switch lever, which unlocks the signal lever, which can then be moved. The first and partial movement of the switch lever turns on the fluid, unlocks the switch, moves it and locks it; then the fluid pressure returns to the cabin and releases the switch lever for further movement, when it can be pulled through the remainder of its stroke, releasing the signal lever. This provides an infallible detector to each switch. The cabin apparatus is very small and compact. Signals are worked directly by fluid pressure or by ordinary wire connections worked by rams fixed in or near the cabin, and compensators are not required in either case. One lever unlocks, moves and relocks the switches and works the locking bar.