utes, Chapter 475, except that the bonds authorized herein may be issued by such resolution of the county board without the approval or a vote of the electors.

Sec. 3. **Proceeds of bonds.** The proceeds from the sale of such bonds shall be deposited with the County Treasurer and held subject to the order of the board for the purposes for which the bonds were issued.

Sec. 4. **Payment of bonds.** The full faith and credit of the county shall at all times be pledged for the payment of such bonds and the interest thereon, and the county board shall each year include in the tax levy a sufficient amount to provide for the payment of interest as it accrues and for the accumulation of a sinking fund for the redemption of such bonds in the same manner as other county taxes are levied, certified and collected. Provided, however, that the proceeds from the two-mill levy authorized by Laws 1949, Chapter 693, shall, to the full extent thereof, be appropriated to such annual payments as they accrue, and all monies now in the fund authorized by said Laws 1949, Chapter 693, shall, in addition to the proceeds of such bond issue, be used solely for the purposes specified in Section 1 of this act.

Approved March 15, 1957.

CHAPTER 135—S. F. No. 278

An act relating to railroad fire prevention; amending Minnesota Statutes 1953, Section 88.21, Subdivisions 1, 6 and 11.

Be it enacted by the Legislature of the State of Minnesota:

Section 1. Minnesota Statutes 1953, Section 88.21, Subdivision 1, is amended to read:

88.21 **Reports by railroad companies.** Subdivision 1. **Copies.** When the director has reason to believe that a certain locomotive caused a fire he can order the railroad company to forward to him at once by mail a written report covering the inspection of the fire-protective appliances of such locomotive made next after the occurrence of the fire. Such written report shall be copied from the inspection book required to be kept by the railroad company under sections *88.03* to 88.21. Every person operating a railroad for any purpose shall equip and use upon each *steam or Diesel* locomotive engine a practical and efficient ash-pan and/*or* spark arrester

device, which the master mechanic or corresponding skilled employee of the operator shall cause to be inspected each time before the locomotive leaves the roundhouse or starts on any trip, between the dates of March first and November thirtieth, both dates inclusive, each year. It shall not be required to make more than one such inspection of any one engine within a period of 24 hours. Between the dates of December first and February twenty-eighth, both dates inclusive, each year, this inspection shall be made at intervals of not more than seven days. Where spark arresters are equipped with a manhole door, such door shall be removed at the time of inspection and replaced before an engine goes on any trip. Such ash-pan and spark-arrester device shall be constructed and operated in conformity and in compliance with all the following specifications and rules:

(1) Except when the ash-pan is being cleaned, the hopper opening for removal of cinders on ash-pans constructed with hoppers shall be kept closed while the engine is in use by a cast slide supported by cast guides; and there shall be no opening greater than five-sixteenths of an inch between the slide and hopper; or such openings in hoppers for removal of cinders may be closed by what is known as the "radial type of hopper bottom," the general design of which shall be approved, in writing, by the director;

(2) Ash-pans commonly known as solid or swipe pans shall have the ends, if open, covered either with a substantially constructed solid damper or screen damper, which shall extend at least one and one-fourth inches inside or outside the pan when closed, leaving no opening greater than five-sixteenths of an inch in width, so arranged that it can be fastened down, and kept fastened down when the engine is in use; if a screen is used, it shall conform to the specifications for use in spark-arresters, as contained in sections *88.03* to 88.21;

(3) Openings in ash pans for draught purposes shall be protected by screens bolted firmly and securely over such openings or by the use of deflector plates in place of screens; provided, that any deflector plate used for such purpose shall extend above or below, as the case may be, the opening to be protected a distance at least equal to the width of such opening; and, provided, further, that any such deflector plate so used shall be closed in at each end thereof; (all screens so used and the bolting in place thereof shall conform to the specifications for spark-arresters, as contained in sections *88.03* to 88.21);

(4) On locomotive engines where there is an opening between ash-pan and the foundation ring, protection shall be

furnished by a flare brought up level with the bottom of the foundation ring, such flare being either an integral part of the pan or attached to the body of the pan by bolts, rivets, or hinges; where hinges are used the flare shall have suitable locking devices and the hinges and locking devices shall be so spaced and maintained in such condition as to hold the flare securely in place, and the opening between the bottom of the foundation ring and flare of pan, measured horizontally, shall not be greater than eight inches at any point; provided, that for any distance the flare of pan extends above the bottom of foundation ring, the flare may be extended out horizontally an equal distance in excess of eight inches; or such opening between ash-pan and foundation ring may be protected by deflector plates; provided, that any deflector plates used for such purposes shall extend above and below, as the case may be, the opening to be protected a distance at least equal to the width of such opening and that any such deflector plate so used shall be closed in at each end thereof;

(5) Openings in ash-pans for entry of grate connections must be fully protected; and the openings around the rods where they enter the ash-pan must not be greater than five-sixteenths of an inch in width, or the grate connections outside the ash-pan must be boxed in for their full length so that no sparks or cinders can possibly escape;

(6) Plates and angle-irons used in ash-pans, including all fire-protective devices attached thereto, shall not be less than one-fourth of an inch in thickness, and the ash-pans, including all fire-protective devices attached thereto, shall be so constructed and maintained in such condition that there shall be no opening in excess of five-sixteenths of an inch in width;

Material used in construction or repair of ash-pans shall be of iron or steel securely bolted or riveted or welded in place. No cement, putty, asbestos, or other material or substance other than iron or steel shall be applied to, laid on, attached to, or used in any way in connection with or made a part of ash-pans;

From and after May 1, 1933, the spacing of bolts, rivets, studs and other fastening devices in sheet-iron and steel plates, whether fastened to other plates, castings, forgings, or other parts when used in the construction or repair of ash-pans and all fire-protective appliances attached thereto, shall not be greater than three and three-fourths inches center to center;

The spacing of bolts, rivets, studs, and other fastening devices in castings, used in the construction of ash-pans and

all fire-protective appliances attached thereto, shall be such as to hold the casting securely in place;

(7) Such ash-pans shall be equipped with swipes, injector overflow or other sprinkling devices, and ashes and coals therein shall be kept extinguished and dampened at all times between April fifteenth and October thirty-first, both dates inclusive, each year, and during such additional period, in any particular territory, as may be specified, in writing, by the director;

(8) Spark arrester screens shall be either square mesh wire screen or oblong mesh wire screen or perforated plate, and conform to the following specifications:

SQUARE MESH WIRE SCREEN

Mesh per lineal inch in either direction	Least diameter of wire when new	Condemning limit of opening in mesh in either direction
2½ by 2½	0.134 inch	19/64 inch
2-2/3 by 2-2/3	0.134 inch	19/64 inch
3 by 3	0.105 inch	17/64 inch
4 by 4	0.092 inch	0.204 inch
5 by 5	0.072 inch	0.164 inch
6 by 6	0.063 inch	0.1355 inch
7 by 7	0.063 inch	0.1115 inch

Fractional mesh shall not be used except as specified.

OBLONG MESH WIRE SCREENS

Size of opening mesh	Least diameter of wire when new	Condemning limit of opening in mesh
3/16 by ¾ inch	0.134 inch	¼ by 13/16 inch
⅛ by ¾ inch	0.134 inch	3/16 by 13/16 inch

The openings in perforated plates when new shall be oblong, not exceeding three-sixteenths of an inch in width or three-fourths of an inch in length, and there shall not be less than one-eighth of an inch in width of plate between the meshes, and such plate shall not be less than 0.085 of an inch in thickness; the condemning limit of the openings in perforated plate shall be one-fourth of an inch in width and thirteen-sixteenths of an inch in length;

(9) The spark-arrester screen shall have a manhole door with a substantial rigid frame, large enough to allow the entry for purposes of inspection and repair;

(10) All angle-irons and plates used for the purpose

of attaching or supporting any part of the spark-arrester device shall be so placed as to fit closely and continuously to the smoke arch, plates, angle-irons, and other parts;

(11) Plates used in the construction or repair of spark-arresters, wherever attached, shall not be less than three-sixteenths of an inch in thickness;

From and after May 1, 1931, angle-irons used in spark-arresters shall be of sections in size not less than one-fourth of an inch by two inches by two inches, on all *steam or Diesel* locomotive engines unless otherwise authorized, in writing, by the director. The spacing of rivets, bolts, studs, and other fastening devices used in spark arresters shall not be greater than set forth in the following specifications:

Fastening screens — three and one-half inches center to center;

Fastening angle-irons to smoke arch — eight inches center to center;

Fastening plates — five inches center to center;

Fastening angle-irons to flue sheet — eight inches center to center.

Material used in the construction or repair of spark arresters shall be of iron or steel securely bolted or riveted or welded in place. No cement, putty, asbestos or other material or substance other than iron or steel shall be applied to, laid on, attached to or used in any way in connection with or made a part of spark-arresters except upon written approval of the director. No opening anywhere in the spark-arrester device, other than the openings herein specified for wire screen and perforated plate, shall be larger than one-fourth of an inch in width;

(12) Devices and appliances differing from those specified in this subdivision may be used for experimental purposes only by written permission of the director during such limited periods and upon such terms and conditions as he may prescribe; this written permission shall be subject to revocation by the director at any time, and such experimental devices or appliances shall not be permanently adopted unless authorized by law;

(13) Permission is hereby given to use as a spark-arrester on all types of engines using wood, coal, oil, or other fuels the so-called "Cyclone spark-arrester"; this arrester shall consist primarily of a drum with entrance so arranged that the products of combustion shall be given a rotary motion

within the drum to the extent that all sparks shall be sufficiently cooled before leaving the stack as to preclude such sparks reaching the ground alive; the drum shall be constructed of iron or steel at least one-fourth inch in thickness. The number of fastenings shall be such as to hold the plates and other parts securely in position, and all parts of the spark-arrester which are essential to its proper operation shall be maintained in a safe and serviceable condition at all times.

Permission is hereby given to use as a spark-arrester on all types of engines using wood, coal, oil, and other fuels the so-called "Anderson spark-eliminator." This spark-eliminator shall consist primarily of a top ring set horizontally and attached to the extension stack, a bottom ring set horizontally and attached to the exhaust pipe, deflector plates set vertically in between the two rings, such deflector plates being arranged suitably around the exhaust nozzle. Plates used in the construction of the spark-eliminator shall be of iron or steel at least one-fourth inch thickness and the number of fastenings shall be such as to hold the plates and other parts securely in position. All parts of the spark-eliminator which are essential to its operation shall be maintained in a safe and suitable condition at all times.

Sec. 2. Minnesota Statutes 1953, Section 88.21, Subdivision 6, is amended to read:

Subd. 6. **Engines, operation; when forbidden.** Except when the ground is covered with snow, no steam *or internal combustion* donkey engine, tractor engine, sawmill engine, threshing engine, shovel, railroad ditcher, railroad wrecker, or portable engine or other engine or boiler, except any locomotives conforming to all the requirements of sections *88.03* to 88.21, shall be operated in the vicinity of forest, brush, peat or grass lands, unless and until the same is provided with a practical and efficient spark-arrester device.

The person in charge of such engine or boiler shall be held responsible for the good condition of the spark-arrester device, but without relieving the person owning or operating the engine from his responsibility hereunder. Any locomotive inspector appointed by the director is authorized to inspect any steam *or internal combusion* donkey engine, tractor engine, sawmill engine, threshing engine, shovel, railroad ditcher, railroad wrecker, or portable engine, or other engine or boiler operated in the vicinity of forest, brush, peat or grass lands, and to enter upon any property for such purpose whenever he may deem it necessary in order to see that all the provisions of the laws relating to the subject matter are duly complied with, and is authorized to use such methods

as he may deem necessary in making up his records and substantiate his findings.

No steam *or internal combustion* donkey engine, tractor engine, sawmill engine, threshing engine, shovel, railroad ditcher, railroad wrecker, or portable engine or other engine or boiler, shall be operated in the vicinity of forest, brush, peat or grass lands, after being found defective by the inspector and after notice of such condition has been given the person in charge thereof, until the repairs specified by the inspector have been made. Any violation of the provisions of this paragraph shall be a gross misdemeanor; provided, that the provisions of this paragraph shall not relieve anyone of any duty or liability under any other provisions of any statute.

No person operating a steam *or internal combustion* donkey engine, tractor engine, sawmill engine, threshing engine, shovel, railroad ditcher, railroad wrecker, or portable engine, or other engine or boiler, shall leave a deposit of fire, live coals, or ashes in the immediate vicinity of forest lands or lands liable to be overrun by fire.

Sec. 3. Minnesota Statutes 1953, Section 88.21, Subdivision 11, is amended to read:

Subd. 11. **Safety devices on engines.** Every person operating a railroad for any purpose who shall fail to equip and use upon each *steam or Diesel* locomotive engine a practical and efficient ash-pan and/*or* spark-arrester device, constructed and operated in conformity with all the specifications and requirements set forth in sections *88.03* to 88.21, shall be liable to a penalty of $500 per day for each and every day on which such defective locomotive is run within this state. Upon receipt of duly verified information disclosing that a violation has occurred, the attorney general may bring suit in the district court of Ramsey county, or of any other county, at his election, for the recovery of these penalties, which, when so collected, shall be credited to the general revenue fund of the state.

Approved March 15, 1957.

CHAPTER 136—S. F. No. 281

An act relating to leases and permits for the use of any state forest lands, and amending Minnesota Statutes 1953, Section 89.17.