

ultimately promoted. His division is provided with roads.

"Underbush is not allowed to accumulate; in some places belts of green leaved trees are grown or openings left to prevent the spread of fire. Trespassers of all sorts are excluded. It is personal presence, watching and patrolling, and the enforcement of reasonable regulations that prevent fires. But should a great fire occur, he is already instructed how to proceed for its extinguishment. There are good means of communication, and he can promptly summon assistance. It is made the duty of all neighboring inhabitants to lend their help. Women and children with wet brooms are sometimes his effective assistants. If a fire has gained considerable headway, he can pretty quickly have a belt of timber felled in its path, or he can meet it by an opposing fire. There is a sentiment in those countries which carefully administer their forests against any act or neglect that might cause a forest fire.

"If our government would adopt reasonable measures for preventing forest fires on its own timber lands, it could more effectively insist that railroad companies should employ guards to extinguish fires set by locomotives, or that appliances be used to prevent their setting fires.

"As one step, I would suggest that this Association adopt a short memorial to Congress substantially like the following:—

"To the Congress of the United States: Your memorialists, the American Forestry Association, respectfully represent that forest fires annually cause great damage to the timber lands of the United States, and are frequently attended with a great deal of suffering and loss of life; that such fires could very largely be prevented by the adoption of forest management, such as has proved successful in Germany and several other European countries; and we would respectfully ask that suitable legislation for this object may be enacted. Also that a committee be appointed by the Association to request the president to consider this subject in his next annual message."

CAUSES OF FIRES.

Compiled by THE INSURANCE AND FINANCE CHRONICLE, from *The Chronicle, N.Y.*

[The figures represent the percentage of fires from each cause in each class of property, omitting those under 5 per cent.]

Agricultural Implement Factories.—Spontaneous combustion, 18½; sparks, 15½; engines and boilers, 10½; friction, 8; stoves, 5; defective flues, 5½.

Agricultural Implement and Seed Stores.—Spontaneous combustion, 16; defective flues, 15½; cigar stubs, 10½; explosions, lamps, 10½; matches, 11; sparks, 10½; candles, 5.

Asylums.—Defective flues, 46½; sparks, 6½; defective ovens, 6; stoves, 6½.

Auction and Commission Stores.—Matches, 11½; stoves, 10½; defective flues, 8½; cigar stubs, 8½; spontaneous combustion, 7; candles, 6; carelessness, 5½.

Bakeries and Confectioneries.—Over-heated and defective ovens, 26½; ignition, grease, 16; defective flues, 12½; stoves, 5½; matches, 6; explosions, lamps, 5; sparks, 5.

Barns, Stables, Granaries, etc.—Lightning, 43; matches, 12; sparks, 7; cigar stubs and tobacco pipes, 6; lamp accidents, 6; explosions, lamps, 6.

Billiard Saloons.—Explosions, lamps, 17; defective flues, 16½; cigar stubs, 16½; sparks, 12½; stoves, 12½.

Book-binding and Blank Book Factories.—Spontaneous combustion, 20; matches, 15; explosions, lamps, 15; carelessness, 5½; explosions, naphtha, 5; explosions, chemicals, 5; natural gas, 5; gas jets, 5; sparks, 5; stoves, 5; electric wires, 5; ignition, alcohol,

Blacksmith Shops.—Sparks, 65½; spontaneous combustion, 6;

Book and Stationery Stores.—Matches, 12½; explosions, lamps, 12½; gas jets, 11; lamp accidents, 9½; defective flues, 9½; stoves, 7½.

Boarding Houses.—Defective flues, 18½; explosions, lamps, 16; gas jets, 10; matches, 9; stoves, cigar stubs, 6½; sparks, 5.

Boot, Shoe and Materials Factories.—Defective flues, 11½; stoves, 8½; explosions, lamps, 8; spontaneous combustion, 6.

Boot and Shoe Stores.—Explosions, lamps, 21½; stoves, 14½; defective flues, 12½; matches, 10; gas jets, 7½; lamp accidents, 6.

Box Factories (Fancy and Paper).—Stoves, 21½; spontaneous combustion, 8½; engines and boilers, 8½; matches, 8½; carelessness, 9.

Box Factories (Wood).—Sparks, 21½; engines and boilers, 20; friction, 6½; forest fires, 5; locomotive sparks, 5; stoves, 5.

Breweries.—Sparks, 13; explosions, dust, 11½; friction, 9; ignition, tar, 8½; spontaneous combustion, 7; defective flues, 5½; engines and boilers, 5½.

Brick and File Works.—Over-heated and defective kilns, 48½; sparks, 19; engines, 8.

Broom and Brush Factories.—Ignition, chemicals, 11½; stoves, 10; sparks, 8; spontaneous combustion, 7½; explosions, lamps, 6; carelessness, 6.

Butcher Shops and Meat Markets.—Explosions, lamps, 20; defective flues, 13; stoves, 12; ignition, grease, 11; matches, 9½.

Button Factories.—Spontaneous combustion, 18; stoves, 18; furnaces, 9; ignition, japan, 9; sparks, 9; ashes, 9; friction, 9; ignition, paint, 9; carelessness, 9.

Candy Factories.—Defective flues, 20; furnaces, 14; stoves, 11½; gas jets, 5½; grease, 5½.

Canning Establishments.—Carelessness, 9; defective flues 9½; explosions, gasoline, 9; furnaces, 6; sparks, 6; lamp accidents 6; spontaneous combustion, 6; engines and boilers, 6; explosions, alcohol, 6; explosions, lamps, 6.

Carriage and Wagon Factories.—Spontaneous combust 22½; sparks, 20½; defective flues, 11½; stoves, 9½; engines and boilers, 6½.

Cement, Lime and Whiting Works.—Over-heated and defective kilns, 20; lime slaking, 20; accidents, 10; sparks, 6½; defective flues, 7; engines, 6½; explosions, lamps, 6½.

Cheese and Butter Factories.—Engines and boilers, 30; defective flues, 19; stoves, 13; sparks, 9½; spontaneous combustion, 8.

Churches.—Furnaces, 23½; defective flues, 21; lightning, 15; defective heating apparatus, 6.

Clothing and Furnishing Goods Factories.—Stoves, 22; matches, 9½; ashes, 7; explosions, lamps, 7; furnaces, 7½; friction, 5; explosions, gas, 5; explosions, oil stoves, 5.

Clothing (Retail) Stores.—Gas jets, 12½; explosions, lamps, 12; electric wires and lights, 11; stoves, 10½; matches, 8; defective flues, 8; cigar stubs, 6.

Club Houses.—Defective flues, 16; cigar stubs, 14; furnaces, 11; matches, 8; sparks, 6; explosions, gas, 5; gas jets, 5.

Coal and Wood Yards.—Spontaneous combustion, 43½; sparks, 15; locomotive sparks, 13; engines and boilers, 6½.

Coffee, Chocolate and Spice Mills.—Sparks, 17; spontaneous combustion, 12½; friction, 12½; accidents, 13; furnaces, 11; carelessness, 9.

College Buildings.—Defective flues, 35; furnaces, 7; stoves, 7; explosions, lamps, 6.

Cooperage Establishments.—Sparks, 21½; defective flues, 12½; over-heated and defective kilns, 10½; engines and boilers, 8; carelessness, 6½; furnaces, 7.

Cordage and Twine Factories.—Friction, 53; lightning, 13½; matches, 7; engines and boilers, 6½; carelessness, 7; stoves, 6½; spontaneous combustion, 6½.

Cotton-Gin Houses.—Matches, 41; friction, 25; sparks, 19; accidents, 7½.

Cotton Goods Factories.—Friction, 62½; spontaneous combustion, 12½; matches, 6.

Cotton in Transit.—Locomotive sparks, 66½; sparks, 16; cigar stubs, 7.

Cotton on Wharves and Platforms.—Locomotive sparks, 51; sparks, 21½; matches, 8½; cigar stubs, 6½.

Cotton Warehouses and Storehouses.—Locomotive sparks, 18; spontaneous combustion, 16; matches, 16½; lightning, 11; sparks, 11; cigar stubs, 9; accidents, 7.

Country and General Merchandise Stores.—Defective flues, 26; explosions, lamps, 15; matches, 8½; lightning, 7; accidents, 6; spontaneous combustion, 5.

Court Houses.—Defective flues, 24½; defective heating apparatus, 14½; spontaneous combustion, 10; stoves, 9½; accidents, 7½; cigar stubs, 7½; sparks, 5; furnaces, 5.