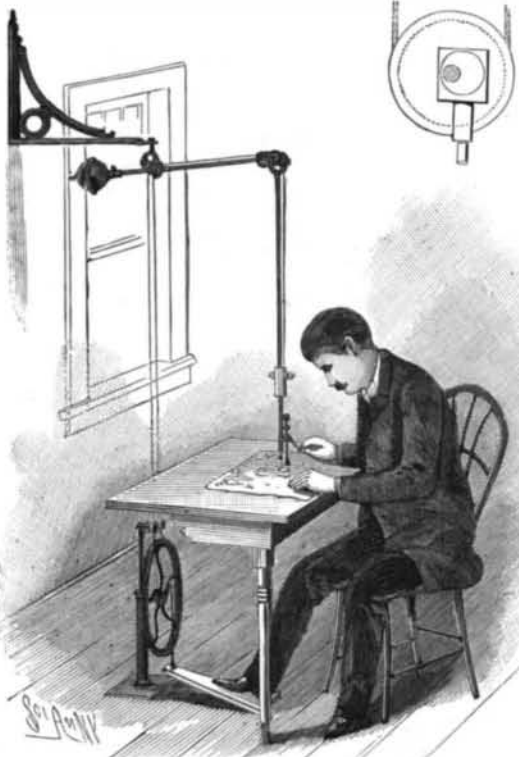


AN IMPROVED STENCIL PERFORATING MACHINE.

In the manufacture of stencils used especially for stenciling designs on cloth, leather, and other goods there has long been the need of a perforating machine simple in its construction, adjustable to the various requirements, and convenient in operation.

The machine which is the subject of our illustration combines all these desirable qualities, instead of having the perforating mechanism suspended from an upright rod, as is customary. A wall bracket is provided from which the mechanism is suspended and balanced by a weight so that it may be swung in any direction to suit the work. Under the table is the foot treadle, which operates the cord belt passing over pulleys and

**STERNFELD'S STENCIL PERFORATING MACHINE.**

down to the reciprocating shaft located just above the needle. The needle rod is operated vertically by the eccentric on the shaft, as shown in the diagram in the upper right hand corner of the engraving. Attached to the tube through which the needle rod passes is a finger ring for guiding the needle over the pattern and a clamping screw for holding the sheets of paper firmly in place near the needle. The needle itself is also adjustable on the end of the reciprocating rod to suit different thicknesses of paper. There are other minor features which make this machine very useful and practical for perforating stencils. It is the subject of a patent and is manufactured by Mr. Julius Sternfeld, No. 125 East Twenty-third Street, New York, from whom further particulars may be obtained.

TRAVELING FREIGHT RAMPS.

Those who are engaged in transferring freight to or from vessels will, without doubt, find interest in a description of a somewhat recently devised ramp for the economical and rapid performance of this work. The device is an adjustable and moving section of the pier, of which it forms a part. The different conditions at different harbors are met by ramps, not alike in all respects, but the characteristic features of the machine will be found in the six installed for the Northern Steamship Company, at Buffalo, N. Y., one of which is represented in the accompanying illustration. Each of these ramps is made up of a

moving part and a stationary gangway, the former consisting of an endless apron composed of metal-covered planks attached to two strands of chain running around head and foot wheels, the upper and lower runs of this carrying apron being supported by small flanged rollers traveling on T-rail tracks. At either side of the foot of the moving portion an arm projects with a number of recesses for the reception of the brow-plate which connects the ramp with the vessel. The machine is pivoted at its inboard end, so that, by means of hoisting gear and counterweights, the outboard end may be swung to and locked in any position within 20° above or 20° below the horizontal plane, these inclinations representing the extremes of the various heights of the ports of the vessels to be loaded or unloaded.

Our illustration represents one of these machines at work unloading freight from a point below the level of the pier. The operation is as follows: The ramp having been swung to the proper position and the brow-plate having been adjusted so as to form a tangent plane from the carrier to a loaded car or deck of a vessel, the men are enabled to push their loads to the moving apron without shock. If the freight is on trucks, their wheels are allowed to rest in the recesses formed by the metal-covered planks, and the men are thus freed of their burdens until they reach the inboard end of the ramp, where they unload and then return with the trucks down the stationary gangway.

The machines at the Northern Steamship Company's pier are about 25 feet long, are run at a speed of 108 feet per minute, are reversible, so that they will carry freight to or from the vessel or car, and are compactly constructed. Each ramp is operated by a 5½ horse power alternating current motor, placed between the upper and lower runs of the apron. The carrier is readily started and stopped by means of a friction clutch, and after being stopped, is prevented from running down the incline by a brake.

The ramp dispenses with the extra men required to take freight up an incline; the labor of those who work in connection with it is made light, and in rapidly loading or unloading freight it reduces the time of the vessel's detention at the wharf, and so enables the pier to unload a greater number of vessels in a given period.

The traveling ramps referred to were designed and installed by The Link-Belt Engineering Company, of Philadelphia and New York, and The Link-Belt Machinery Company, of Chicago and New Orleans.

Fire Losses for 1897.

The Chronicle fire tables for 1898 give information in regard to the fire losses and insurance losses for the year 1897. The aggregate fire loss was \$2,454,592,481, which is \$2,382,845 less than in 1896. The insurance loss for the year was \$1,438,902,448, or \$7,181,655 lower than the loss for the previous year. This showing is smaller than for any year since 1890. A noticeable feature is that for the first time the yearly loss of New York was exceeded by that of another State, Pennsylvania leading with a fire loss of \$13,706,315 and an insurance loss of \$8,674,980.

The number of fires reported during the year was 55,779, of which but two caused a loss of over \$1,000,-

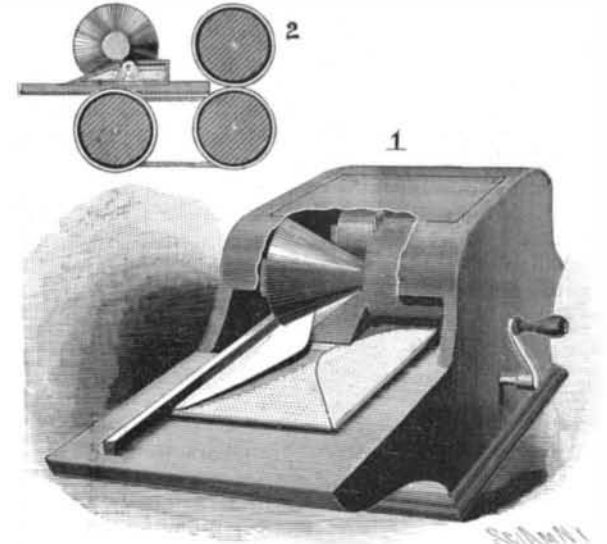
000. One was at Knoxville, Tenn., in April, where the figures footed up to \$1,019,725, and the other was at Pittsburg, Pa., in May, when the loss was \$1,905,515. The loss to the State of Pennsylvania on the buildings at Harrisburg aggregated \$700,000. The greatest monthly loss occurred in January, when the property loss was \$11,594,495 and the insurance loss \$7,187,515.

There were burned in 1897, 33,033 dwellings and tenements; 11,811 barns, stables, and granaries; 1,753 general merchandise stores, 913 retail liquor stores and saloons, and 735 churches.

A NOVEL ENVELOP MOISTENER AND SEALER.

The illustration which we present herewith represents an improved moistener and sealer, designed to facilitate the work of sealing envelopes. The apparatus has been patented by H. A. Thexton, of St. Thomas, North Dakota.

Referring to our illustrations, it will be seen that

**THEXTON'S ENVELOP MOISTENER AND SEALER.**

the device comprises two pairs of rollers mounted in a frame. These rollers are covered with a layer of rubber and a layer of felt. The lower layer of rubber provides elasticity and the upper layer of felt absorbs any unnecessary moisture. The two lower rollers, as shown in Fig. 2, are connected by a belt. A crank-arm and shaft is attached to the lower forward roller. The upper forward roller is formed at one end with a conical moistening section mounted above a water reservoir. A wick extends through an opening in the top of the reservoir and is designed to absorb water, and to apply it to the gummed portion of the envelop.

The envelop to be sealed is placed upon a forwardly projecting platform as indicated in Fig. 1, and is pushed forward, with its flap over the water reservoir. The envelop is fed along by the first pair of rollers, and the gummed surface is moistened by the damp wick. The second pair of rollers then receives the envelop, closes and presses the flap down and discharges the sealed envelop. The upper rollers are provided with springs, so that they shall yield under the pressure of an exceedingly thick envelop. The device

is especially adapted for use in large commercial establishments where many letters are daily mailed.

IN France the annual consumption of matches is about 900 per head of the population. About 33,000,000 matches were made in France in 1897 and about 45,500,000 were imported. The state has a monopoly for the sale of matches and tobacco. The sale of matches in 1897 brought a profit of about \$4,000,000, and the tobacco monopoly a net income of \$65,000,000. — *La Vie Scientifique.*

**FREIGHT RAMP IN OPERATION.**