

**The Floods of the Missouri.**

The spring floods of the Missouri River were severer than usual, owing to the vast amount of snow to be melted, and the high water was made more than ordinarily disastrous by the frequent ice jams. For some weeks the local papers were filled with more or less exaggerated reports of destruction and loss of life. The hazards of life were undoubtedly many, but fortunately very few people were actually drowned. The commander of the military department embracing that region, General Terry, promptly sent Captain Claque, Commissary of Subsistence, to investigate the losses and provide for the relief of sufferers. In his report Captain Claque says that from the mouth of the Big Sioux River to Yankton, the bottom land on both sides of the river was covered with water its entire width, and looked like an inland sea, with occasional huge drifts of black ice somewhat resembling lava beds. Such sudden and merciless destruction is seldom witnessed in a lifetime. On the Dakota side alone it is estimated that about 225,000 acres of fertile land were submerged. Some idea of the destruction may be conceived when it is known that here was one of the oldest and most prosperous settlements in Dakota, said to average a family to about every 20 acres, and having a railroad transverse its length for about 50 miles, passing through six thrifty villages, now all submerged with water or entirely washed away, Elk Point Station suffering the least on account of its elevation. It may safely be said that no one living on this bottom was left free from serious loss, many having their all swept away—lands, houses, grain, and stock. On the Nebraska side the destruction was much less, as the bottom was not so thickly settled, and did not contain so much land. The most wonderful thing in this whole catastrophe is the small loss of human life.

**Wool Sorters' Disease.**

For some time past considerable discussion has arisen in the manufacturing districts of England over a malady called wool sorters' disease. Mr. Roberts, the medical officer of health for the district of the K eighley Local Board, treats at considerable length in his annual report for 1880 of the nature and preventives of this disease. In summing up from the report it is recommended that the following precautions be taken without fail by wool sorters: "(1) Wool sorters not to sort dangerous wools when they have any sore places or cracks on their hands or fingers; (2) to be careful not to wipe or rub their faces with their hands while sorting, especially if they have any cracks or pimples on the face or lips; (3) to wash their hands before eating, and to take neither food nor drink into the room where the wool is being sorted." The sorting room, he adds, ought to be well ventilated, to be swept regularly, and to have the walls and ceilings whitewashed twice a year.

**Seats for Shop Women.**

The Legislature of New York has passed a bill requiring employers to provide seats for women in their employ. The absence of any seating contrivance likely to prove convenient and usable in the narrow spaces between shelves and counters is more likely to make the new law practically inoperative than any indisposition on the part of employers to deny rest to the saleswomen, for whose relief the law is chiefly intended. Why cannot some bright shop girl utilize the experience she has painfully acquired behind the counter and contrive a seat that will meet the requirements of the case? The market is ready, and the profit might be considerable.

**IMPROVED CONNECTING ROD\***

The engraving represents an improved connecting rod lately patented by Mr. Jacob J. Anthony, of Sharon Springs, N. Y., and designed for all varieties of machinery in which connecting rods are used. It consists of a straight tube forming an oil chamber, and having on each end a journal box communicating with the interior of the tube. The caps of the journal boxes are held in position by straps extending parallel with the tube on opposite sides of it. In each end of the tube is placed a quantity of fibrous material which acts as a strainer and prevents any impurities that may be suspended in the oil from entering the journals. The fibrous packing is held in place by a pin passing transversely through the connecting rod, and oil is introduced through a hole closed by a screw plug.

When this connecting rod is used vertically an oil cup is placed in the cap of the upper box. This rod has the advantage of being very light and yet strong and free from vibrations, while it is at the same time self-lubricating.

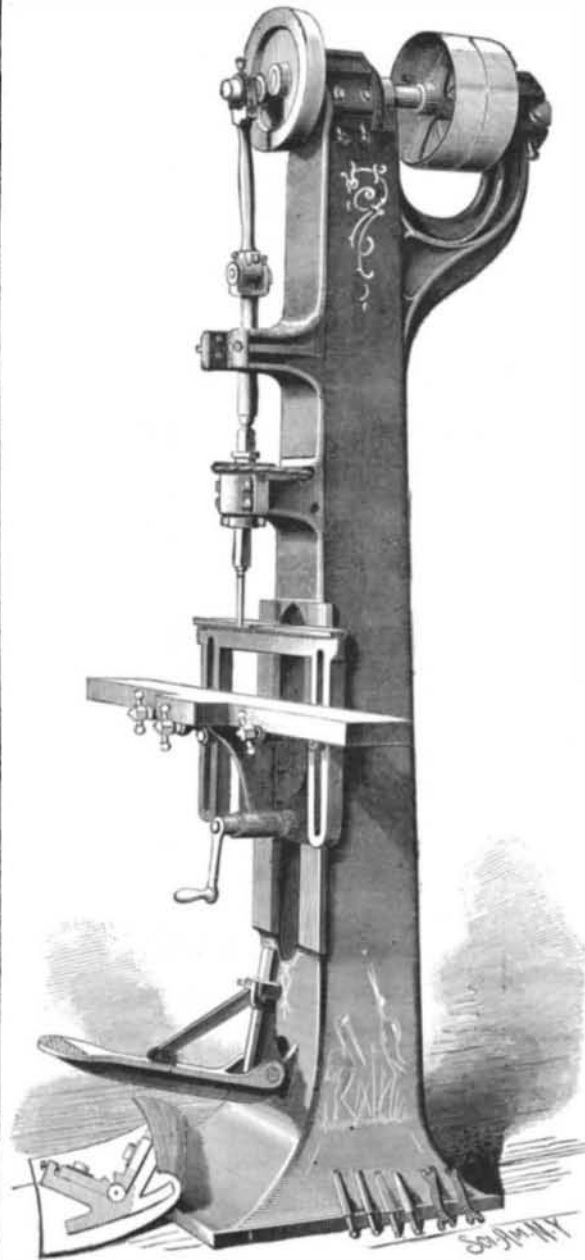
**Lead Pipes Corroded by Lime.**

It is a common practice with plumbers and house builders to embed lead pipes in lime mortars and cements. A writer in the London *Globe* says that when in contact with lime, lead pipes are rapidly corroded, in some cases so as to become porous and brittle within a space of fifteen or sixteen months. Obviously the careful testing of pipes in such position is in order; and if the facts are as stated, the exposure of lead pipes to lime should be carefully avoided.

**NEW STYLE POWER MORTISER.**

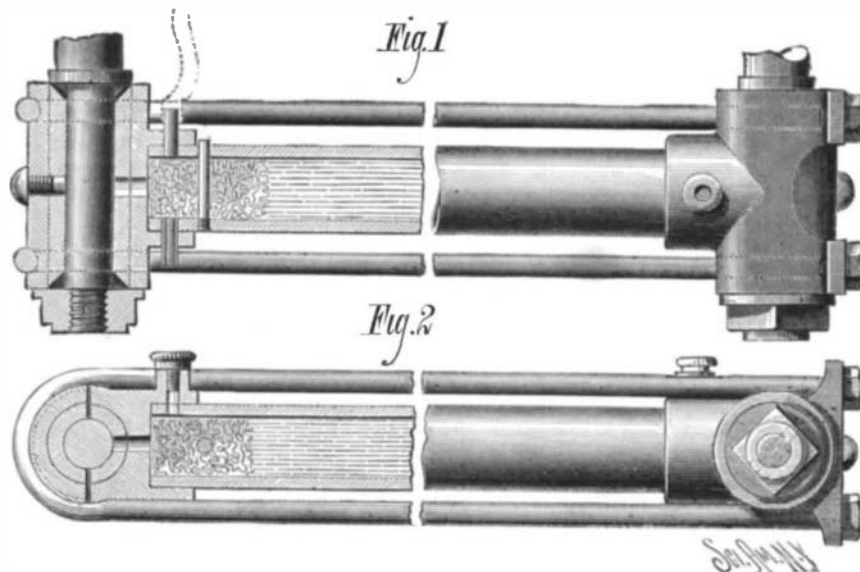
The annexed engraving shows a power mortiser for mortising doors, sash blinds, furniture, etc. The frame is cast in one solid piece, and the machine is built in the most substantial manner, and can be run at a higher rate of speed than other machines for doing the same work.

In all other mortising machines the cap of the box on crank shaft has to withstand the full effects of the blow of the chisel, thus bringing all the strain upon the caps of the

**NEW POWER MORTISER.**

box, causing a great deal of wear and lost motion. In the machine illustrated the solid iron frame is extended over the crank shaft, and the patent sliding caps—shown separately in the small detail view—are placed beneath, and the wear can be taken up by simply setting up the caps. This is an important improvement and will be readily understood. The machine also has the patent three-part box on the vertical spindle.

The bed can be used for straight mortising in the usual manner, and is capable of being tilted to any angle for radial

**LUBRICATING CONNECTING ROD.**

mortising. It is provided with the belt friction reverse known as the "Smith reverse," which reverses the chisel instantaneously, whether working or at rest. This reverse motion is acknowledged to be the best in use.

The shafts are all of the best cast steel, and the bearings are made very long. The high rate of speed at which this

machine is run permits of doing a large amount of work in a given time.

The several improvements on this mortiser make it very valuable and desirable. The manufacturers of this machine call especial attention to their patent three-part sliding cap box, as shown in the detail cut. This box requires no liners, and the side as well as top wear can be taken up by setting down the governing screw.

Rowley & Hermance, the well known manufacturers of woodworking machinery, Williamsport, Pa., are makers of this machine.

**Henry Chisholm.**

In the death of Henry Chisholm, May 10, Cleveland, Ohio, lost a useful citizen and the iron trade one of its most deserving and capable pioneers. Mr. Chisholm was born in Scotland in 1822, and at the age of twenty emigrated to Montreal, Canada. In 1850 he removed to Cleveland to build a break-water for the late terminus of the Cleveland and Pittsburg Railroad Company. For several years he was engaged upon the improvement of the Cleveland docks and piers. In 1857 he turned his attention to the manufacture of iron, forming the company of Chisholm, Jones & Co., setting up a rolling mill. Two years later the company which he founded set up the first blast furnace in that part of Ohio, and in the years immediately following several other furnaces and mills were established by this firm at Chicago and in Indiana.

In 1864 the firm of Stone, Chisholm & Jones organized the Cleveland Rolling Mill Company, and the year after they constructed the second Bessemer steel works in the United States. In 1871 Mr. Chisholm organized the Union Rolling Mill Company, of Chicago, and in connection with his Chicago partners erected another rolling mill at Decatur, Ill. These enterprises, the outgrowth of the original establishment in Cleveland in 1857, gave employment directly to 2,500 men. Mr. Chisholm was much esteemed by his neighbors and employes.

**Arsenic Sulphide as a Poison, and its Import in Judicial Investigations.**

The question was raised whether in a certain dish of cabbage containing arsenic sulphide, there was poison enough to prove fatal to a man. From a number of experiments the author concludes that arsenic sulphide, whether prepared in the moist way, or the orpiment of commerce used by painters, forms, in contact with putrescent organic matter, arsenious and small quantities of arsenic acid. In cases of poisoning with arsenic sulphide these oxidation products appear sooner or later according to circumstances. Hence, if articles of food, vomited matter, etc., are only sent for chemical examination after the interval of weeks, or perhaps months, the expert cannot give a definite answer to the question whether the poison was sufficient in quantity to prove fatal to a man.—*J. Ossikovsky.*

**ENGINEERING INVENTIONS.**

An improvement in that class of devices which are designed to be applied to boilers for automatic extinguishment of the boiler fires when the water in the boiler evaporates to a point below the low water line, has been patented by Antonio A. Amuedo, of Algiers, La.

Mr. Reuben Jones, of Mountville, Ga., has patented an improvement in horse powers which consists in the peculiar construction of the driving wheel, carrying an endless rope, whereby the latter is prevented from slipping on the driving wheel.

Mr. Thomas Trimble, of Albia, Iowa, has patented a removable platform and arm loop, to be used on freight cars to prevent accident to life while coupling the cars together.

The invention consists in a light narrow platform removably attached to the outer end of a freight car, and a suitable loop for the brakeman's arm secured to the platform.

An improvement in dumping cars, patented by Mr. David E. Small, of York, Pa., consists in the peculiar construction of the plate for connecting the tilting body of the car to the truck, the plate being made with elevated side supports, which raise the pivotal point of the car body sufficiently high to enable it to be tilted without striking the truck too soon, and the supports have an offset at one side of its fulcrum, which catches and sustains the car body when in a horizontal position.

An improved automatic valve operator for tanks has been patented by Messrs. Alexander Jones, Charles Collins, and Hartwig A. Cohen, of New York city. The object of this invention is to provide a device for preventing the waste of liquids caused by the overflowing of tanks on account of the

carelessness of the attendants or the inefficiency of the devices for indicating the exact quantity of liquid in the tank.

Mr. John F. Smith, of Erie, Pa., has patented an improved nut lock particularly adapted to bolts for connecting the ends of railroad rails, but capable of being applied to bolts