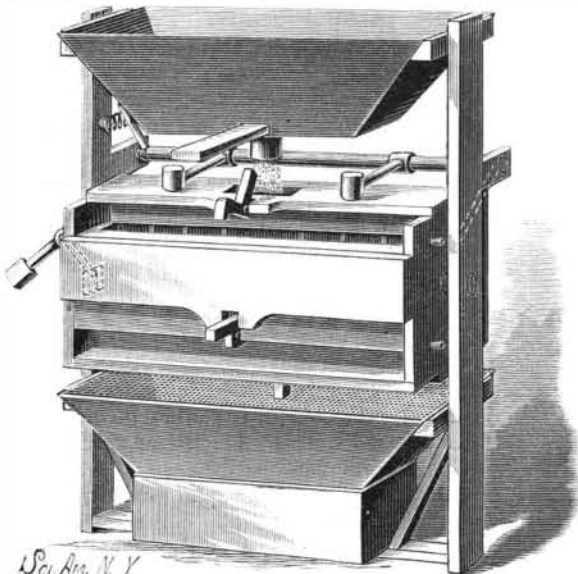


A MACHINE TO SAND BRICK MOULDS.

An easily operated machine, designed to thoroughly sand a number of brick moulds at a time, using the sand so that there can be but little waste, is shown in the illustration, and has been patented by Mr. Robert P. Roach, of Atwood, Tenn. Mounted centrally on trunnions between two standards is a revoluble box having pockets on its four sides to receive the brick moulds, the box having an opening through one of its sides through which the sand is introduced. The moulds are of the usual construction, divided by par-



ROACH'S BRICK MOULD SANDER.

titions to hold a number of bricks each, and they are held in position in the pockets by angular catches pivoted in recesses at the center of the sides. A hopper in the upper portion of the frame supplies the sand through a depending spout in alignment with the opening in one side of the central box, the supply being controlled by a laterally sliding gate in the bottom of the hopper, and a box below, covered by a suitable screen, receives the sand which drops when the moulds are removed, so that it may be again used. Upon arms which extend laterally from the standards, above the revoluble box, is pivoted a shaft on which are projecting rods, carrying mallets, which are held normally on the top of the box by the tension of a spring which connects an arm on one end of the shaft with the main frame. The latter arm has a series of notches by which the point of engagement of the spring therewith may be changed, to increase or diminish the tension, and thus regulate the force of the blow struck by the mallets, according as the moulds are more or less wet when being sanded. An arm extending downwardly from the opposite end of the shaft is adapted to engage pins on the outer end of the box, so that when the latter is revolved the pins will successively strike this arm, tilting the shaft and causing the

Danger of Advertising Houses to Let.

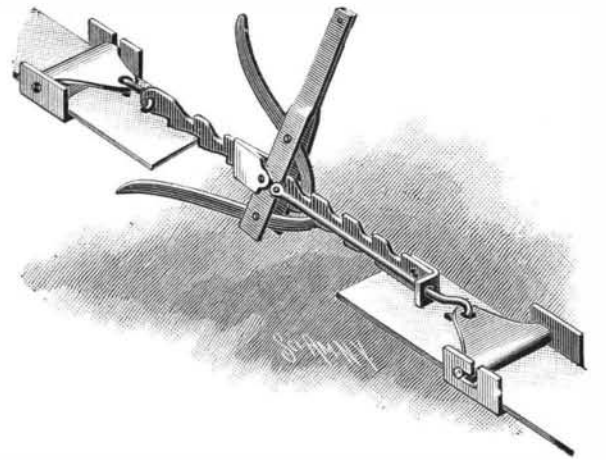
The case of Noble v. Yates, tried by Mr. Justice Charles and a jury recently, should be noticed by house owners and intending tenants. It was an action against a house owner by a would-be tenant for damages sustained through being injured when looking over a house which it was proposed to take. The jury found a verdict for the defendant. There seems, however, to be no doubt that if a person goes into a house which is to be let, and falls, as the phrase is, into "a trap," that the owner of the house would be liable for damages, as, for instance, if a piece of an apparently sound flooring were to give way. On the other hand, people who go over houses must be careful. If they have been guilty of contributory negligence, they cannot, of course, recover damages. The moral seems to be that each party must be careful, but in some respects the chief care should be that of the landlord, who must have no missing steps and similar "traps," which are so conducive to accidents.—*The Builder*.

RAIL ROLLING AT THE KRUPP WORKS, ESSEN.

The name of Krupp is familiar to all far beyond the boundaries of Germany, or even of Europe, and therefore we feel sure that any reference to his works, or the appliances used therein, will be of interest to our readers. The accompanying engraving, for which we are indebted to the *Illustrirte Zeitung*, shows the process of rolling railroad rails as practiced in this establishment. Most of the Bessemer steel made here is used in the manufacture of railroad rails. It is cast in blocks which contain sufficient material for two or three rails, according to the desired weight of the rails. These blocks, while they are still red hot, are carried to the preparatory rolling mills by horses which have been trained to work in the midst of this fire and noise. Here they are heated, or rather kept hot, in special furnaces and are rolled into longer blocks having a square cross section. After being thus prepared they are taken to the rail rolling mills. These consist of two complete rolling mills with all the appurtenances, which stand near together in one large room. The blocks which come from the preparatory mills are heated again and then passed between the rollers, of which there are three placed one above the other, so that the rails are rolled during the backward as well as the forward motion without requiring a change in the direction of rotation of the rollers. The rails have to pass back and forth between the rollers thirteen or fourteen times, and each time that they come from the rollers they are caught by the workmen on the short, bent ends of long levers which run on rollers on movable carriers. Each time the rail passes from between the rollers it is longer and its cross section narrower than after the former rolling, until it finally stretches itself out like a gigantic fiery snake. It is then taken to a circular saw which cuts through the glowing metal as easily as a wood saw in a carpenter's shop cuts through a piece of wood, dividing the long bar into two or three rails. The cold rail is now put under

AN EASILY OPERATED BELT TIGHTENER.

The device shown in the engraving, for which a patent has been issued to Mr. William King, affords a ready means for tightening belts, and holding them in taut condition until the ends are joined. The frame of the clamp is a plate bent upward at the ends forming flanges between which the belt is passed, and one of these flanges has a circular aperture and the other an L-shaped slot to receive a removable dog, the latter having pintles and a depending toe designed to readily catch fast to the belt. A rack bar, with the teeth arranged alternately on opposite edges, has at one end a guide block through which slides a draught bar having at its outer end a hook adapted for connection with one of the locking dogs, while the other end



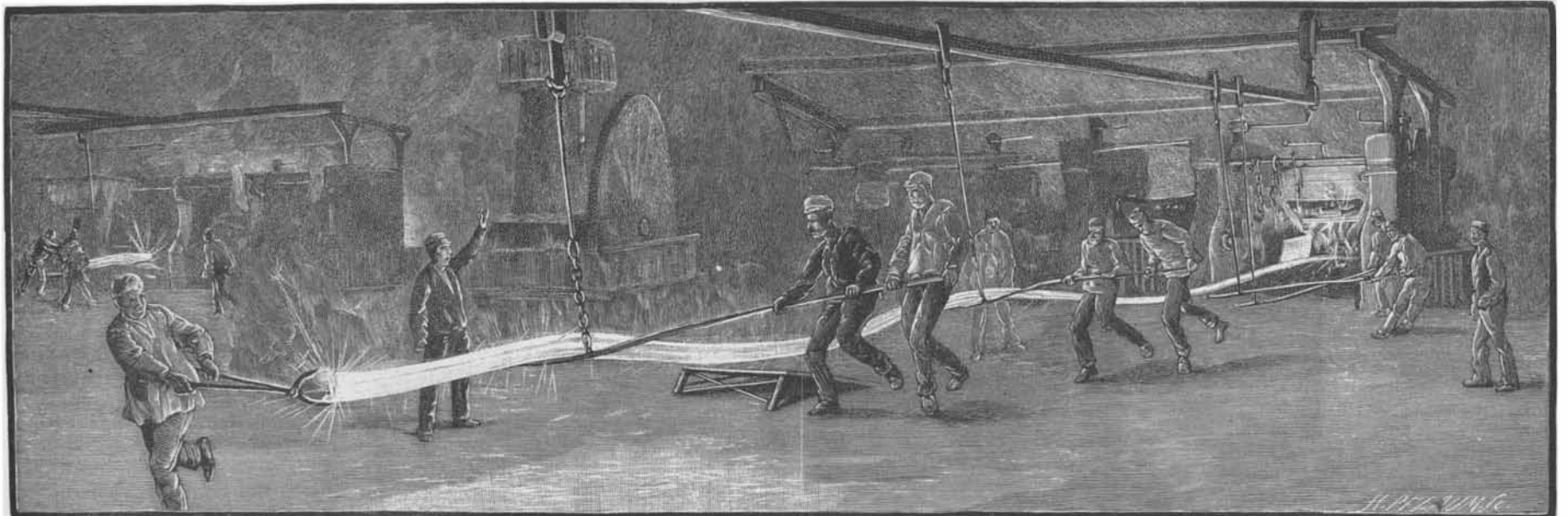
KING'S BELT TIGHTENER.

of the draught bar is pivoted to a forked lever between the limbs of which are pivoted two latch bars whose toes are adapted to engage the teeth of the rack bar when the lever is rocked. The opposite end of the rack bar is connected by a link with the locking dog of the other clamp, while upon the forks of the operating lever is pivoted an abutment block, through which the rack bar loosely slides, adapted to enforce engagement of the latch bars when the lever is vibrated. When the parts are connected with the belt, as shown, and the lever is slowly vibrated, the latch bars alternately push against the teeth of the rack bar, and pull the locking dogs, each engaging a section of belt, toward each other.

For further information touching this invention, address the patentee, or Mr. J. W. Denio, Longmont, Col.

American Society of Mechanical Engineers.

The convention of the American Society of Mechanical Engineers met at Richmond, Va., November 12. The following officers were elected for the ensuing term: President, Robert W. Hunt, of Chicago; vice-presidents, Stephen W. Baldwin, of New York; John F. Parkhurst, Cleveland, Ohio; Alexander Gordon



RAIL ROLLING AT THE KRUPP WORKS, ESSEN.

mallets to strike upon the sand box, to jar superfluous sand from the moulds. Projecting from one of the standards is a stud on which is pivoted a bell crank, one member of which is caused to press against the end of the sand box, and engage recesses therein, by a weight on the other member, thus preventing the sand box from turning backward. The moulds when inserted close the pockets, and the inside of the moulds being open to the interior of the box, which has been supplied with sufficient sand from the hopper, the revolving of the box causes the moulds to be thoroughly sanded.

A NATURAL gas well at Normal, Texas, although only 60 feet deep, yields a fine flow of gas and produces a flame 5 feet high.

presses by means of which skillful workmen remove even the slightest irregularities. The final operations consist of boring the holes, evening the end surfaces, etc.

Lecture on the Mammoth Cave.

A highly interesting lecture on the Mammoth Cave, Ky., was delivered in Chickering Hall, New York City, before the American Geographical Society, on the 8th inst., by Dr. H. C. Hovey, of Bridgeport, Conn. The lecture was illustrated with elegant lantern views. The house was crowded by an audience representative of the intellectual elite of New York. The general verdict pronounced it one of the most fascinating and instructive lectures ever given before the society. As a popular lecturer, Dr. Hovey has few equals.

Hamilton, Ohio; managers, Andrew Fletcher, New York; W. R. Warner, Cleveland, Ohio; Coleman Sellers, Jr., Philadelphia. The secretary read the report of the committee from the American Society of Mechanical Engineers which attended the joint meeting. A resolution was passed for the establishment of headquarters at Chicago, and also the holding of an international congress of engineers during the exposition, to be in session six days, the proceedings to be conducted in English.

IMPROVED FURNITURE POLISH.—The composition is as follows: "Beer, waste beer, cold tea, or vinegar, 48 parts;" methylated spirit or finish, 32 parts; dragon's blood, 1 part; gum benzoin, 3 parts; linseed oil, 16 parts.