

SCIENTIFIC AMERICAN

A WEEKLY JOURNAL OF PRACTICAL INFORMATION, ART, SCIENCE, MECHANICS, CHEMISTRY, AND MANUFACTURES.

Vol. XXII.—No. 18.
[NEW SERIES.]

NEW YORK, APRIL 30, 1870.

\$3 per Annum
[IN ADVANCE.]

Improved Stall Floor for Horses.

In the construction of stables, there has been a great need for some plan whereby the floors may be rendered impervious to the urine of animals, and at the same time admit of its being rapidly and thoroughly conducted away, so that its decomposition will not load the air with foul gases.

The construction adopted in the device herewith illustrated, seems to make provision for all the necessities of the case. The animals, instead of standing upon a continuous flooring, stand upon a wooden grating as shown at B, so constructed that any one of the bars may be taken out independently of the others, and so arranged that by means of a cord and pulley, the whole grating may be lifted, like a trap door hinged at one side, when it is desired to get access to the water-tight gutters A, underneath the grating.

This construction admits of tiers of stalls being placed on one floor above another, as shown in the engraving, without any inconvenience arising from dripping. The form of the gratings is shown at B. The ends of the bars are slotted, as shown at C, a rod passing through them all in common. This allows any one to be withdrawn when the opposite end of the grating is raised. This is a convenience in replacing such as become worn sooner than others, as will be the case in the middle of the grating.

The gutters A are made with a lining of cement on the lower story; but under the upper tier of stalls they are made of wood and lined with zinc. They thus conduct away the urine, and when it is necessary, they may be thoroughly washed out by the use of a hose.

The gratings are raised by means of cords and pulleys, acting upon a cross-bar D, which underlies the bars as shown.

Patented, June 8, 1869, by William M. Bleakley, Verplank, N. Y., whom address for State, county, or town rights.

To Prevent Decay of Shingles.

The following is said to effectually prevent the decay of shingles:

Take a potash kettle, or large tub, and put into it one barrel of lye of wood ashes, five pounds of white vitriol, five pounds of alum, and as much salt as will dissolve in the mixture. Make the liquor quite warm, and put as many shingles in it as can be conveniently wet at once. Stir them up with a fork, and when well soaked, take them out and put in more, renewing the liquor as necessary. Then lay the shingles in the usual manner.

After they are laid, take the liquor that was left, put lime enough into it to make whitewash, and if any coloring is desirable, add ocher, Spanish brown, lampblack, etc., and apply to the roof with a brush or an old broom. This wash may be renewed from time to time. Salt and lye are excellent preservatives of wood. It is well known that leach tubs, troughs, and other articles used in the manufacture of potash, never rot. They become saturated with the alkali, turn yellowish inside, and remain impervious to the weather.

Improved Machine for Cutting Irregular Forms.

We illustrate herewith a very practical and useful device for cutting irregular and ornamental forms, such as table legs, balusters, etc., by which a great deal of work can be done in a short time and in a very exact manner.

The main features of the device are, the attachments for holding, adjusting, and feeding the pillars, balusters etc., to be cut into irregular forms or plane sides, on a table past a rotary cutter. The invention may be said to consist of a bed, with centers, for holding the blank; one of the centers being adjustable longitudinally, and furnished with a dividing plate for adjusting the blank to the cutter, and a pattern for governing

the action of the revolving cutter upon the blank. In the engraving, A is the bed upon which are placed the spindle or centering heads, B and C; B being adjustable vertically, and either having a spindle for holding the blank, or a hole for the turned end of the blank. The head, C, has an adjustable spindle, E, and is itself adjustable along the bed to receive different lengths of blanks. The spindle, E, carries a templet or dividing plate, F, with spacing notches, which dividing plate is removable to permit interchange of plates variously divided for various kinds of work. The notches of the dividing plate engage with a spring catch, G, which holds the plate in the desired position while the cutting is performed. H represents a rotary cutting tool rising

possibly be done by hand. At the same time the hands of the operator are perfectly safe from injury. For dressing stuff like the piece, K, with squares at both ends, the center pin, seen at the end of the piece, is inserted in the hole through the centering head, B. This machine is capable of dressing not only balusters and chair, table, desk, and counter legs, but can be used to dress hay-rake and grain-drill spokes; and stuff that has to be thrown away when finished by hand on account of knots and curls (the handsomest when finished), is dressed almost as readily as straight-grained wood. Any workman knows the disadvantages he labors under in dressing such work as seen in the engraving, on account of the turnings being larger than the neck of the baluster, most of it having to be done with a drawing-knife, chisel, or rasp. We are informed that one of these machines has been in use eight months, and has given perfect satisfaction. State rights, or machines, will be sold.

Patented, through the Scientific American Patent Agency, January 4, 1870, by Franklin Keagey, of Chambersburg, Pa., whom address for further information.

The Trial of the Pyx.

The trial of the Pyx is the formal testing of the coin of the realm of England, to insure its being of the requisite weight and fineness. The name is derived from the Pyx, or chest, in which the coins selected for the purpose are contained. The first trial of the Pyx took place in the ninth and tenth years of Edward I. And as the last observance of this ancient ceremony was held during the past week, a few brief notes may not be without interest.

The authority under which the trials were made varied considerably. First, the members of the King's Council, then the Barons of the Exchequer constituted the court, King James I. presiding at one trial. The court now consists of several members of the Privy Council, under the presidency of the Lord High Chancellor and a jury selected from the Hon. Company of Goldsmiths.

Last week the high officers of the Mint assembled at the Treasury, and in their presence the Lord Chancellor charged the jury to examine the coin of the late Master of the Mint, Thomas Graham, F.R.S., and to ascertain whether it was within the latitude of "remedy" allowed by law.

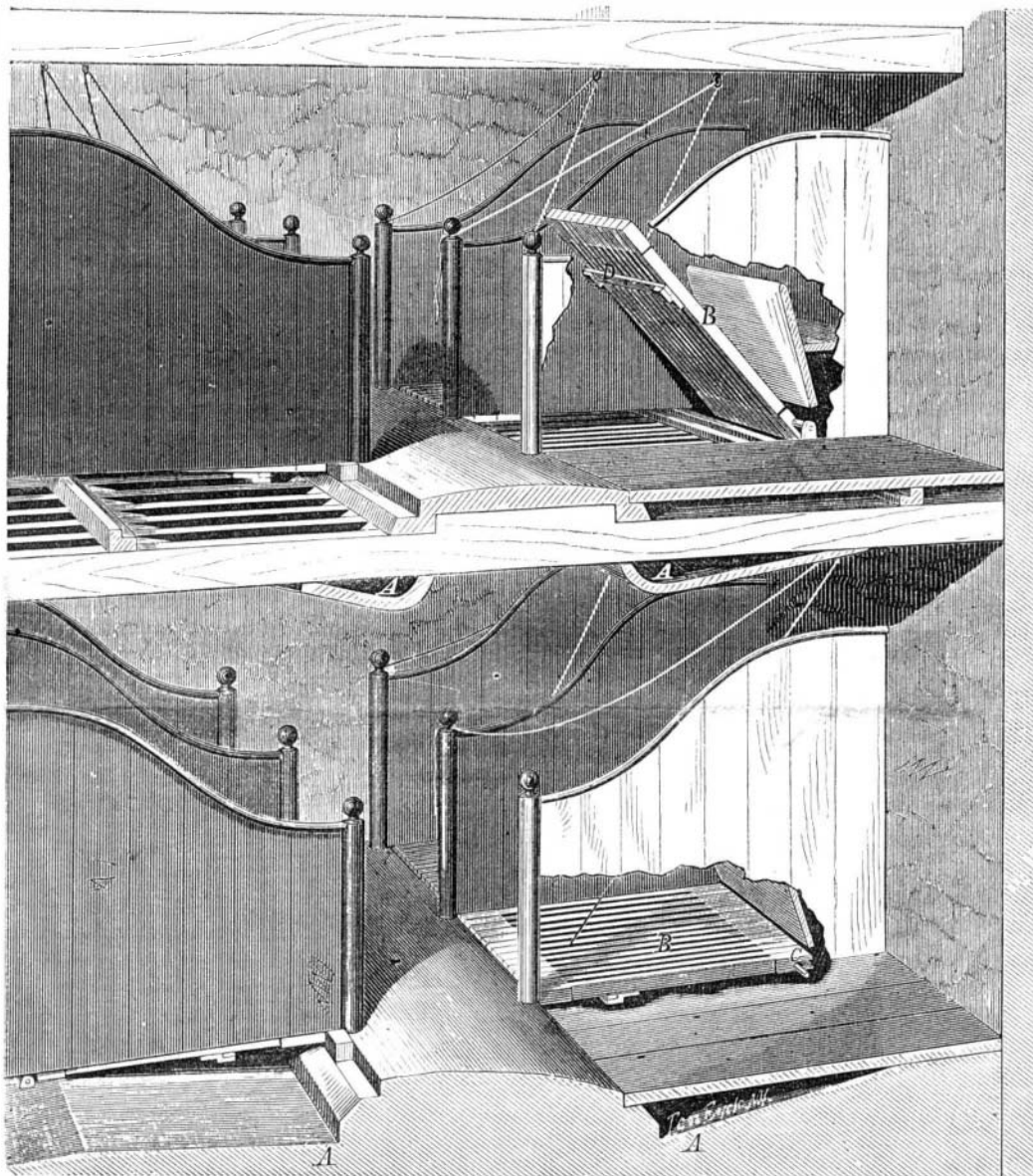
This remedy amounts to 12 grains on each troy pound of gold coin, or to 0.257 grain on each sovereign,

and 24 grains on each pound troy of silver coin. Portions cut from standard test plates were handed to the jury, who adjourned to Goldsmiths' Hall. They then opened the Pyx-chest and tested the coin by weight; having done this, a certain number of gold coins were melted into an ingot, which was then assayed; the same process being adopted with the silver coin. In the present instance the Pyx represented a coinage of fourteen millions gold and one million of silver coin; the verdict of the jury being, that the coin, both as to weight and fineness, was within the remedy allowed by law. The details, however, were most favorable to the late illustrious Master, who has so lately passed away.

An adverse verdict would probably have been followed by no more serious penalty than the forfeiture of the Master's sureties, but it is interesting to note that in the reign of Henry I. the money was so debased as to call for the exemplary punishment of the "Moneyers," while in Anglo Saxon times the chief officer or Reeve would have been punished by the loss of his hand should he fail to clear himself of the charge of pro-

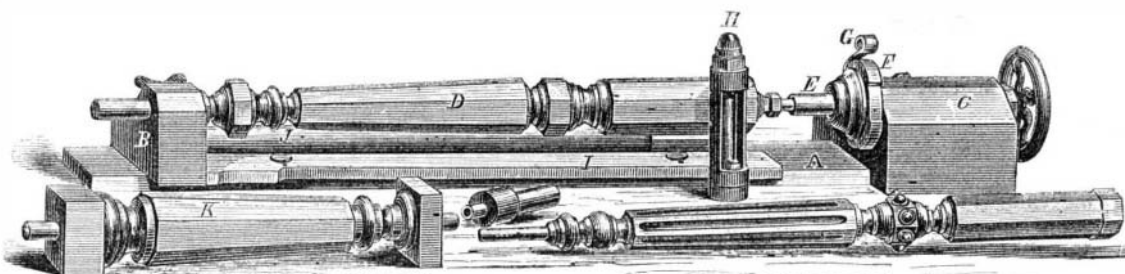
ducing false coinage.—*Nature.*

INFERIOR taste prefers rounded periods to sense and force



BLEAKLEY'S IMPROVED HORSE STALL.

through the table of the machine. A guide plate, I, or pattern adjustably attached to the bed, A, serves to direct the cutting. The operator takes hold of the baluster, at B, with his right hand, and with his left hand on a hand rail, J, pushes the machine from him, and at the same time against the mandrel; the machine is then pulled or drawn back, and lifting the spring catch, G, with the left hand, and turning the baluster with the right, one space, another side is presented to the cutting tool, thereby dressing the sides all alike, and making a thousand pieces exactly similar. After the required number have been shaped the straight bits are removed and properly shaped ones take their place, and the guide pattern is



KEAGEY'S MACHINE FOR CUTTING IRREGULAR FORMS.

changed for one corresponding to the desired ornamental design. When this is effected, one man can do the work of twenty men, and with greater neatness and accuracy than can