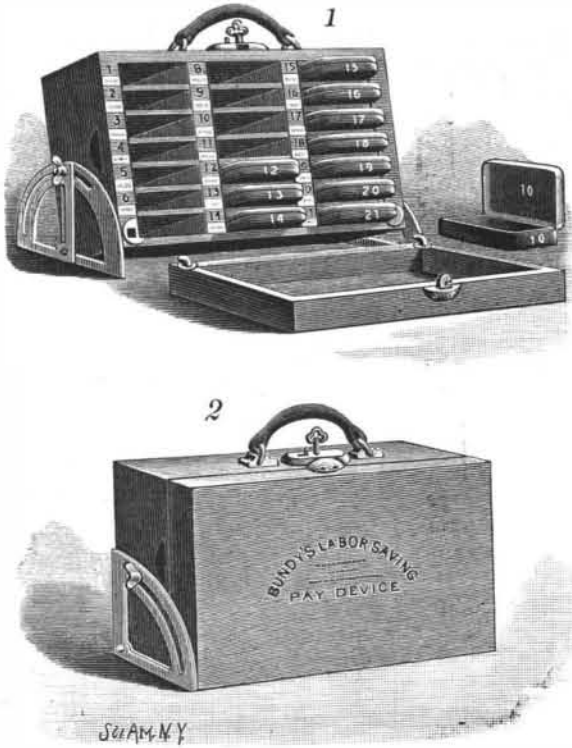


IMPROVED DEVICE FOR USE IN PAYING HELP.

The illustration herewith represents an improved device for use in paying off the employees of business establishments, and facilitating the proper payments to each, without danger of accidental or designed mis-carriage. It has been patented by Mr. David W. Bundy, of Toronto, Ontario, Canada. Fig. 1 shows the device as arranged for use, and in Fig. 2 it is closed for

**BUNDY'S LABOR SAVING PAY DEVICE.**

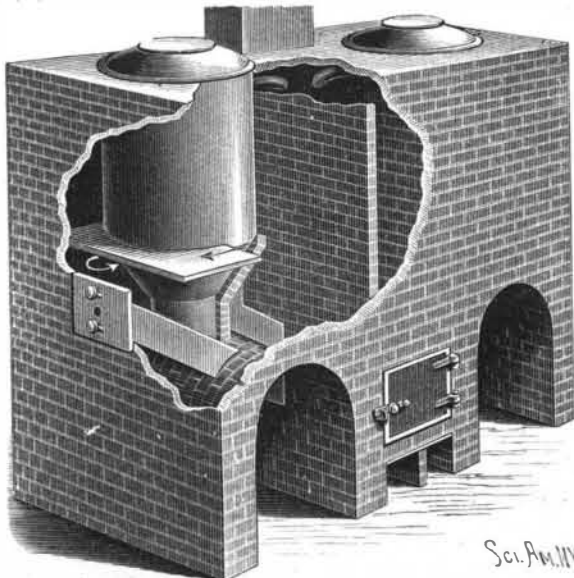
transportation. The main portion consists of a box-like tray provided with a series of pockets, opposite each of which is the name and a number for an employee, these pockets being adapted to receive a number of money boxes, each box bearing the number of its respective pocket. The boxes have their respective numbers on the outside of both ends and on the interior of the hinged lid. A cover which is entirely removable

TIME AND PAY ROLL, WEEK ENDING FRIDAY, Jan. 4, 1889

NO.	NAME.	S	M	T	W	T	F	S	RATE	NO.
1	James W. ...									1
2										2
3										3
4										4
5										5
6										6

is provided for the tray, the device being so constructed that the cover can be locked in closed position. To each end of the tray is pivoted a slotted bracket piece, which slides within the limits of the tray or can be adjusted to project outwardly, as shown in Fig. 1, to hold the tray in an inclined position, to enable the characters on the tray and boxes to be more readily observed, and for convenience in placing and removing the boxes, the bracket pieces being adapted to be locked in any position to which they may be adjusted.

This inventor has likewise designed a special form of time and pay roll, to enable business men to record in the most simple and condensed manner the details of the time made by workmen and facilitate making up the amounts due them. In this form, shown herewith, the small letters "M," "A," and "O," under each designation of the days of the week, indicate respectively "morning," "afternoon," and "overtime." There are two lines opposite each man's name, a mark in the lower divisions of this line indicating attendance,

**BLISS' FURNACE FOR DESTROYING REFUSE.**

while a figure in one of the upper divisions indicates short time in either morning or afternoon, as a figure in the "O" column would indicate overtime.

This inventor has established a factory provided with special machinery for the manufacture of his improved pay device, and may be addressed, for further particulars in reference thereto, at 211 and 213 Lippincott Street, Toronto, Canada.

Tracing Curves by Photography.

In the *Bulletin* of the Académie des Sciences de Belgique, M. Eric Gérard describes a new method of automatically registering observations by means of photography. *Engineering* says: In making a research in the variable current supplied by alternate current machines, he had got very good curves by using an extremely delicate and aperiodic galvanometer, the inertia of the moving parts also being extremely small. A beam of electric light was reflected from a very small concave mirror attached to the moving portion of the galvanometer through a lens, falling finally on to a sheet of sensitive paper, on which it cast a very minute image. After some trouble very good results were obtained in this way, but not being completely satisfied, he cast about for some other method of obtaining the same end, the arc light in particular being costly and troublesome. His new arrangement consists of a moderate-sized Ruhmkorff coil, the spark from the secondary coil of which plays between a piece of aluminum wire and the point of a carbon for an arc lamp. The two electrodes are fixed at least one millimeter apart. The spark is projected on to the movable mirror aforesaid, and thence to the sensitized paper, which may be wrapped round a drum, or more conveniently simply stretched on a frame, which can be allowed to fall between guides. The period of the sparks depends solely on the elasticity of the spring of the vibrator of the primary coil, and the number of spots photographed in unit length of the curve on the sensitized paper forms a convenient time scale. By connecting the electrodes of the secondary coil to a couple of small Leyden jars, a very short and white spark is obtained, the position of which is invariable. This plan has the advantage of reducing the dimensions of the numerous spots which make up the curve photographed.

IMPROVED FURNACE FOR DESTROYING REFUSE.

The accompanying illustration represents a furnace for burning or carbonizing refuse, utilizing the same as fuel or fitting it for use as a fertilizer. It forms the subject of a patent issued to Mr. W. H. Bliss, of Newport, R. I. The furnace is constructed principally of masonry, and is preferably about 22 ft. long, 11 ft. wide, and 20 ft. high. There is a space inside the walls at each end, about 6 ft. wide and 9 ft. high, for the removal of carbonized matter when it is desired to use it as a fertilizer, brick division walls separating these spaces from the furnace proper, these walls extending to the top of the structure, and forming the sides of flues on each side, closed at the top and connected with the ash spaces. The retorts are preferably made of wrought iron, and funnel-shaped at the bottom, being tightly closed at the top by large annular covers, in each of which is formed a small cover for convenience in inserting small substances. The retorts are held in chambers communicating with the furnace through inclined flues, so arranged that the heat of the furnace first strikes against a deflecting wall of fire-brick, separated from the cone by an air chamber, thence circulates around the cones of the retorts below a horizontal plate, as shown by the arrows, and then around the main body of the retort above such plate, from which there is a passage to the chimney flue. Below the lower ends of the retorts are inclined chutes, each provided with two valves, operated by means of rods reaching to the outside of the furnace, whereby the contents of the retort can be discharged into the furnace, or into one of the chambers beneath the retorts, to be conveyed away for use as a fertilizer. Pipes connect the interior of the retorts with the flues built into the walls, for conveying away the steam and gases generated in the process and discharging them under the grate bars. The space above the furnace is adapted to receive a steam boiler, that the refuse treated may be thus utilized as fuel in generating steam for power.

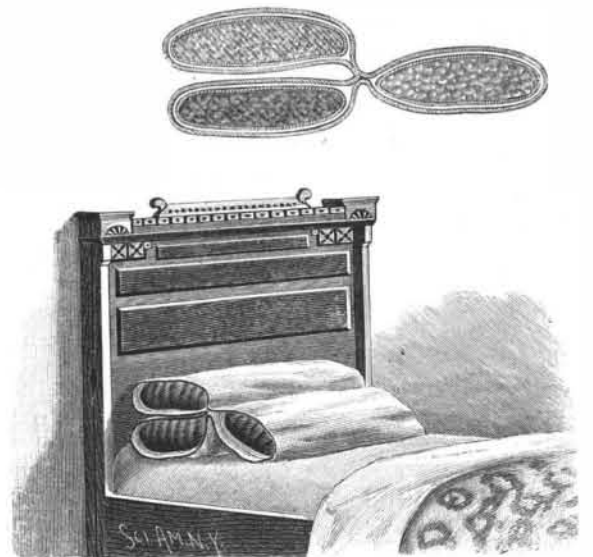
For further information relative to this invention, address Mr. Edward Newton, administrator of the estate of W. H. Bliss, deceased, P. O. Box 703, Newport, R. I.

Exhibitors to the French Exposition.

Manufacturers and others intending to exhibit at the Paris exposition next summer, and wishing some one to represent them and attend to receiving and entering their goods, will find a capable representative in Mr. Wm. Herrick, an American gentleman who has resided with his family in Paris a number of years. Mr. Herrick is favorably known in the American colony and to American travelers accustomed to visiting Paris. His office is at 32 Rue de Paradis, where letters may be addressed and information as to entering exhibits obtained.

AN IMPROVED PILLOW BOLSTER.

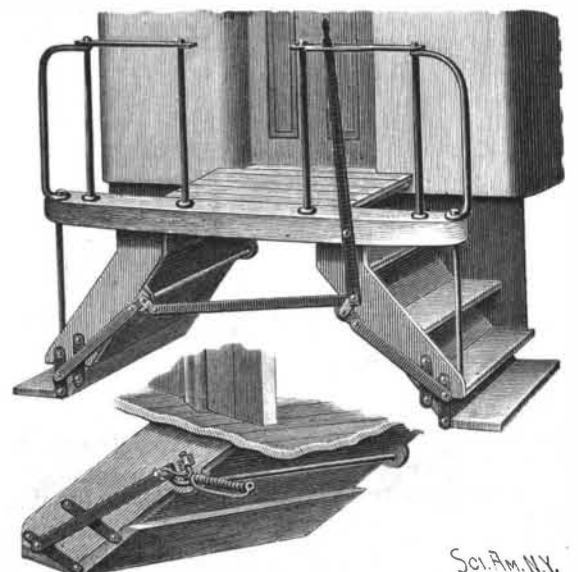
The accompanying illustration represents a combination of pillows, or what may be used as pillows and bolster, in one pillow slip, which has been patented by Mr. William T. Doremus, of No. 150 West Twenty-third Street, New York City. Each roll is made an independent pillow covered by its own ticking, while the slip or removable cover is made up of longitudinal compartments adapted to separately receive and hold in parallel relation with each other the independent rolls or pillows, the slip being left open, or made to open, at either or both ends. In use it is designed that the top roll of the pillow bolster should always be in contact with the neck, and in asthma or lung

**DOREMUS' PILLOW AND SLIP.**

troubles, etc., a roll of feathers may support the neck and head, while one or more of the other rolls may be filled with balsam or hops, without incurring any of the discomforts usually attendant upon the use of the ordinary balsam or hop pillow. This combination also tends to facilitate one's getting into a "comfortable position for sleep" with ease and comfort—a matter which is often a subject of considerable vexation and difficulty to those troubled with insomnia.

AN IMPROVED FOLDING CAR STEP.

Extensible car steps, which may be held folded to the permanent steps while the car is moving, and be almost instantly lowered or extended when the car stops, to promote the convenient exit or entrance of passengers, are illustrated herewith, and form the subject of a patent recently issued to Mr. Henry A. Merritt, of No. 49 Third Street, Brooklyn, N. Y. The extensible step is hung at each end to the permanent steps by two links pivoted at their upper ends to the permanent stringer and at their lower ends to the step, a transverse shaft being journaled on the permanent steps and having crank arms connected by bars with the suspension links of the extensible step, whereby the latter may be folded up or extended. These crank arms have wrist pins, with which the opposite ends of a transverse operating bar are pivotally connected, one of the wrist pins being engaged by the lower end of a lever fulcrumed to the car platform, and projecting upward where it may be conveniently reached and operated for extending or folding up the steps. To the wrist of the inner crank arm of each shaft is attached one end of a spiral spring, its other end being connected to a rod fixed to the stringer of the permanent steps, these springs holding the steps in either position to which they may be adjusted, independently of the locking tendency of the bars and crank arms.

**MERRITT'S EXTENSIBLE CAR STEP.**