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Improved Machine for Stretching and Winding Woolen Cloth.

All woolen manufacturers are more or less troubled by their goods becoming "cocked" or "mill wrinkled" in the process of manufacture, and the object of the inventor of this machine has been to cure this difficulty. This machine removes all these imperfections, and brings out the cloth perfectly smooth and even, obviating at the same time any annoyance from tight and slack "listing," which is sometimes found to be a detriment to woolen goods in finishing.

The mode in which the machine is used will easily be understood, by those skilled in the business, and a brief explanation will suffice. All fulled goods after being washed, and the water thrown out by the hydro-extractor, should be run through this machine, and the steam applied—more or less as is required—heavy cloths requiring more steam than light ones. The cloth should then remain on the rolls over night, and by this method all sponginess will be prevented, a much better felt will be secured, causing it to be firm without diminishing its length or width, and enabling the finisher to produce a very fine, even face.

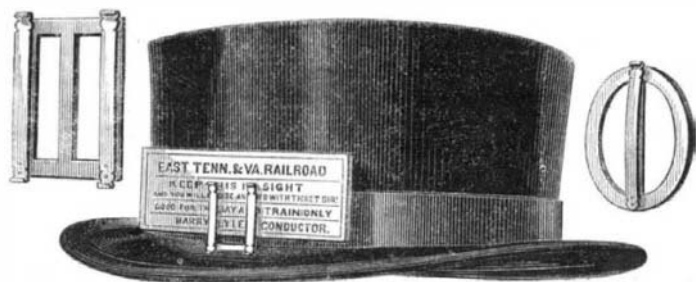
A is a trough in which is a coil of steam pipes which are perforated to moisten the cloth as it passes over said trough. B is a stationary hollow copper cylinder, heated by steam introduced by a pipe. C is an extension roll which draws the cloth lengthwise and removes mill wrinkles and cockles from the same, and can be so adjusted as to stretch the cloth as much or as little as required. D represents the roll on which the cloth is wound, as it passes from the extension roll. E represents the arms which hold the roll on the drum, and are adjustable to broad or narrow goods, being weighted as shown in the engraving.

It has been usual heretofore to subject the cloth to the action of the gig after the fulling; and in order to stretch the cloth widthwise and remove the mill wrinkles and cockles, it has been usual to apply temples upon the wrong side of the cloth as it goes through the gig. An attendant is required to raise these temples as they pass the teasels, or else the cloth will be wadded when pressed upon by the temples. Neglect of the attendant often causes cloth to be injured in this manner.

This machine has been adopted by some of the leading manufacturers in the country. It was patented Dec. 3, 1867, and is for sale by Harwood & Quincy, 25 Bromfield street, Boston, Mass., to whom all orders should be addressed.

Improved Hat Band Buckle for Holding Railroad Tickets.

While it is a trouble to the railway passenger to be compelled to fumble in his pockets after passing every station, to find his ticket for the convenience of the conductor, it is also



BURTON'S PATENT SPRING BUCKLE.

a trouble to the latter. But many travelers refuse to observe the direction printed on the ticket, "Keep this in sight," because of the defacement of the hat and the danger of losing the ticket by placing and replacing it in the hat band, which may be loose.

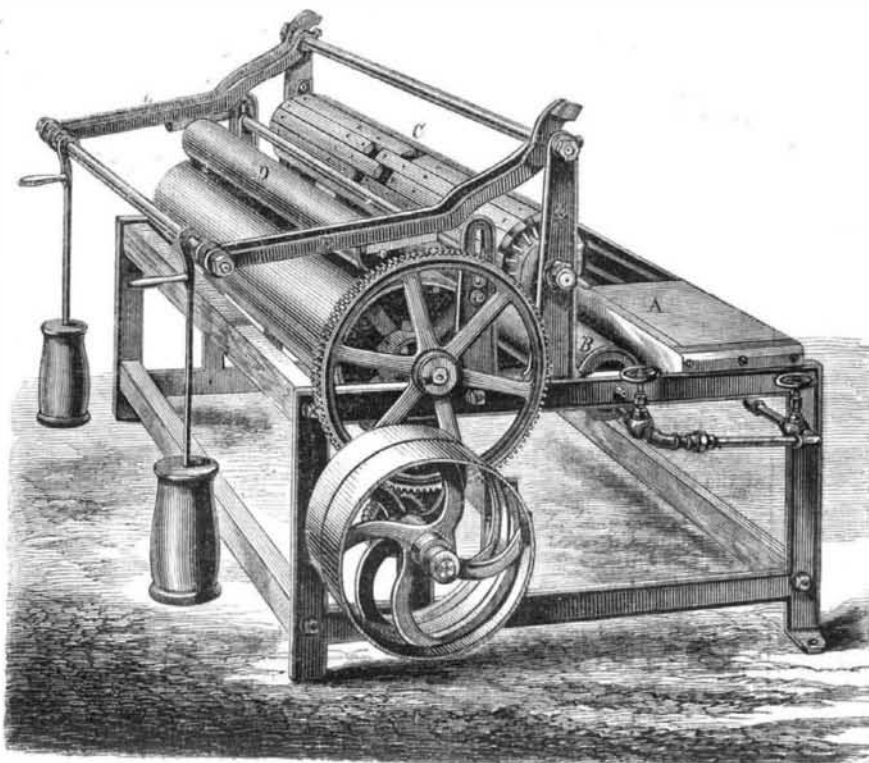
In the engraving is seen a style of spring buckle which will firmly hold any slip of paper placed between its jaws. The buckle is as elegant in appearance as the ordinary buckle and maybe made of any form, as seen. On the square buckle the side uprights are double, the lower ends of the outside pieces being secured to the main portion and the upper ends being curved slightly outward, for convenience of placing the ticket in place. On the oval buckle there is but one holder, it being parallel with the upright bar in the center. These holder strips are springs, so that they effectually hold the ticket in place.

Patented through the Scientific American Patent Agency

March 10th, 1868, by J. N. Burton, who may be addressed for rights for manufacturing or for territory, at Senoia, Coweta Co., Ga., or his agents, J. M. Keep & Co., No. 8 Dey street, New York city, will answer all communications.

To Toughen and Refine Gold.

This invention has for its object the toughening of brittle gold bullion, and the refining of alloyed gold whilst in a melted state, together with the separation therefrom of the silver they may contain. This is effected by means of chlo-



FRINK'S PATENT CLOTH WINDER.

rine gas, brought in contact with the alloyed gold, when the metal is in a molten state. In this manner, the silver present, and any baser metals which render the gold brittle, are converted into chlorides, whilst the gold remains in a purified and tough condition.

The crucible is heated in a furnace, and the gold is melted in the usual way, with a small quantity of borax. The crucible has a closely-fitting cover, with a small hole bored through it; and when the metal is melted, a fire-clay tube of, say, three sixteenths of an inch internal diameter, is inserted through this hole, so as to dip into the molten gold down to the bottom of the pot. The upper end of the tube is connected, by a vulcanized india-rubber pipe, with a glass or stone-ware vessel, in which chlorine is generated. The joints are tied round with wire, and the india rubber is protected from the direct radiation from the fire. The chlorine generator is fitted with a safety tube, say six feet long, dipping, at its lower end, into the liquid in the generator, and the liquid stands in this tube to such a height as is equivalent to the pressure necessary to force the gas through the melted gold which is above the end of the fire-clay tube. The current of gas through the metal is maintained for about three hours, and the metal may advantageously be agitated, from time to time, by stopping the flow of the gas for a moment by pinching the india-rubber pipe until the pressure ceases, and then allowing the accumulated gas to pass suddenly. At the end of this operation the gold will be nearly pure, and the chloride of silver formed will be floating on its surface, together with such other chlorides as

may be formed, and which are not readily volatilized. The contents of the crucible may be poured out all together into moulds, so as to form ingots; and the chlorides are, in this case, detached from the surfaces of the ingots when they are cold; or, by preference, the metal is allowed to cool in the crucible until it sets, and the still liquid chlorides are then poured from its surface into a mould, so as to form a slab.

The borax is, in this operation, retained in the crucible, and in this no difficulty will be found, as it is much less fluid than the chlorides. The crucible, still containing the gold, is at once replaced in the furnace until the purified gold is again melted, and it is then cast into ingots.

The chloride of silver, and the other chlorides mixed there with, are reduced to the metallic state by one or other of the processes commonly employed for this purpose. Patented by Francis Bowyer Miller, Sydney, New South Wales.

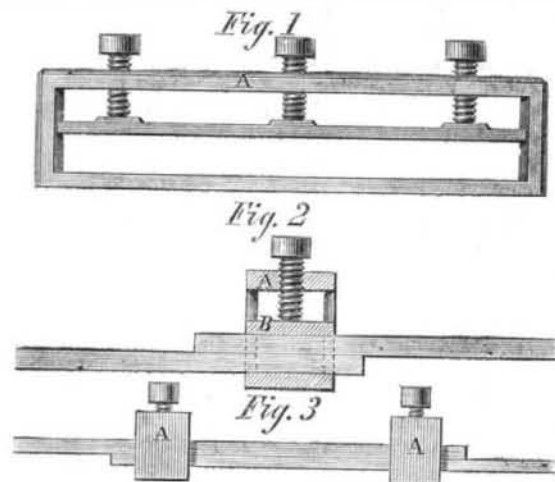
Composition Oil.

The nature of this invention relates to utilizing the waste from paper mills, said waste being the liquid which runs from the certain oils, produces a composition or an oil to be used as a substitute for linseed oil in the various preparations of paints, putty, and cement, or for all the purposes for which pure linseed oil is ordinarily used, for painting, etc. The following is a full and complete description of the ingredients, and manner of compounding the same:

This liquor or waste is subjected to a process of cleansing, by filtration or otherwise, if intended for fine work. With this liquor is compounded, in about equal parts, according to the strength of the liquid, linseed oil, or other oils of an analogous nature, or with the distillates of petroleum. This fluid or waste, when mixed with linseed oil in about the proportion above said, forms a thick semi-transparent fluid or oil, which may be thinned down to a proper consistency for painting, by the use of turpentine or benzine, in the ordinary way, and which, of itself, forms an excellent varnish, which dries, having a hard, glassy surface, and fire-proof. This composition readily combines with the various pigments, as white lead, zinc, ochres, and other coloring materials ordinarily used for painting, making a hard, durable, glassy, and fire-proof paint, which can be laid on with a brush with the same facility as the best linseed oil paint, and at little more than one half the expense. This oil, when combined with whiting and lead, makes a good putty for glazing, much stronger and more tenacious than ordinary putty, and will not crack and peel off by exposure to the weather; and when used simply in combination with lime, it forms a strong, hard cement, or stone-like substance, which, for roofing purposes, when made of a proper consistency, can be spread on with a trowel, on tin, sheet iron, or paper. This coating soon becomes as hard and strong as slate. Recently patented by William Ward of Cleveland Ohio.

THOMAS' PATENT BELT COUPLING.

The design of the device illustrated in the engravings is to obviate the necessity of lacing belts, and to provide a ready means of taking them up when slack, and loosening them when too tight. Its simplicity is apparent at a glance. Fig. 1 is a front or face view of the improvement; Fig. 2 a vertical transverse section, and Fig. 3 an end view. It is simply a flat, rectangular collar, A, in one piece, having, sliding within it, a clamping plate, B, the ends of which are slotted to fit projections on the inside of the band. This clamp bar is forced down on the belt by three or more set screws, accord-



ing to the width of the belt, the sizes of the clamps or coupling being adapted to the different widths of belts. Its method of application is shown plainly in Figs. 2 and 3.

It is well known that leather belts contract and expand with changes of temperature, at times being too slack to drive well, and again so tight as to be strained. Also, if a belt of the proper length breaks by the tearing out of the lacing holes, a piece must be put in to make up the required length, which is a process requiring considerable time. The intention of the inventor of this device is to provide against both these contingencies. To accomplish this he overlaps the ends of the belts, as in Fig. 3, and places a clamp on each end. The belt can thus be taken up or let out very quickly and effectively.

Patented through the Scientific American Patent Agency, Feb. 11, 1868, by John L. Thomas, who may be addressed relative to the sale of the entire right, or of territorial rights, at Alliance, Ohio.