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LIST OF PATENT CLAIMS

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PRESSING GLASS—H. W. Adams, of New York City. I claim the mold, composed of the several parts specified, combined and operating substantially as specified.

LIME KILNS—Levi Averill, of Elmira, N. Y. I claim the construction and arrangement of the kiln, with small separate branches, attached outside or around a single furnace, from which the heat is conducted through converging passages to several points of their peripheries, substantially in the manner and for the purposes set forth.

FURNITURE POLISH—P. Brabyn, of New York, N. Y. I claim the composition of muriatic and acetic acid with the usual ingredients of furniture polish, in the proportions and manner substantially as specified, for the purpose of producing a polish capable of resisting the action of hot or cold water.

PLASTER COMPOUND—Lewis Buckholds of Richmond Va. I claim the composition and application of the ingredients mentioned, whether in the ratio described, or in any other substantially the same, in the manner and for the purposes substantially as specified.

COUPLING PIPES—Geo. Fetter, of Philadelphia, Pa. and J. S. McClintock, of Libertyville, Ill. We do not claim, exclusively, the enclosing of the ends of lead pipes, in a tapering ferrule of metal harder than lead, for the purpose of attaching connections thereto, and the use of right and left-handed screws on such connection.

But we claim the tapering screw terminating in a smooth and rounded end, on the connections for the purpose of guiding the said screw, and preventing the lead from burring up inside the pipe, in combination with a tapering ferrule on the end of the lead pipe, said ferrule having any convenient number of projections for preventing the pipe from turning within the ferrule, while the end of the said connection is being screwed into the pipe.

FARM FENCE—E. D. Foss, of Mainville, Ohio. I distinctly disclaim all and each of the several devices used in the construction of portable fences, which have been in common use and have been patented.

But I claim the vertical shifting base post, in combination with the arrangement and use of the tenons, as set forth.

KNIFE CLEANERS—Wm. W. Hopkins, of Chesterfield Factory, N. H. I claim the reciprocating scourers, e f g, and elastic bolster, D, arranged as shown and described, for the purpose set forth.

PADDLE WHEELS—Abraham Houseworth of New York City. I claim the floats or buckets, D D, applied or attached to the wheel, as shown, and expanded or spread and contracted, or closed by the crms, F G, arranged as shown and described.

ADDING NUMBERS—I. G. Hubbs, of New York City. I do not claim the scale of numbers inserted in the spaces formed by the spiral and radial lines on the dial, C, as that is known and used.

But I claim the disk, E, with its continuous spiral tooth, the ratchet-index, H, and the indicator, I, substantially as and for the purposes set forth.

SWEEPING GUTTERS—Wm. H. King (assignor to himself and Levi Hyman) of Philadelphia, Pa. I claim the combination of the revolving brush and guiding board, arranged, located, and operating together substantially as described, for the purpose of making a side or gutter sweeping machine, that will leave the sweeping in the windrows, as set forth.

BRACES FOR CARRIAGES—F. A. Jewett, of Abington, Mass. I claim combining with a thorough brace a right and left threaded screw, working in the nuts, e, f, substantially as described, whereby the thorough brace can be tightened, and the slack taken up at the same time, as set forth.

CUPPING INSTRUMENTS—Sherman McLean, of Reynolds Basin, N. Y. I claim constructing the cup, B, with one or more smaller cups, D, fitted and secured within it, and provided with perforated sides, substantially as described.

HARVESTING MACHINES—L. L. Moore, of Petersburg, Va. I claim adjusting the frame on its supporting wheels for cutting higher or lower, by uniting the frame and tongue by means of the pivoted hounds, E, screw winch, F, and pin, a, passing through a slot in the rear of the tongue into the standard, C, the above parts being arranged and operating in the manner and for the purposes set forth.

PRESSING BONNETS—Wm. Osborne, of Louisville, Ky. I do not claim any of the separate parts set forth.

Neither do I claim pressing or forming a separate flaring face piece, or a separate crown piece for bonnets, or for bonnet frames.

I claim forming the flaring face piece and side crown of a bonnet or bonnet frame in one piece, and at one operation, substantially in the manner set forth, and irrespective of the particular form of the bonnet or frame.

FORGING HORSE SHOE NAILS—Charles Parkhurst & Chas. Weed, of Boston, Mass. We claim making the nail guide, M, movable up and down with respect to the anvil, and its top and lateral hammers, when said anvil is made stationary, as specified, said improvement being advantageous in several respects.

We do not claim moving the nail guide, M, towards the cutters, P, Q.

We claim the combination of mechanism for operating said nail guide, or moving it from the anvil to the cutters, and retaining it between the cutters during the descent of the vertical slider, L, far enough to separate the nail from the rod, said combinations consisting of the lever latches, R and W, the eccentric, S, the rocker lever, N, and the springs V and X, applied to the guide tube, M, and the vertical slider, L, constructed and operating essentially as described.

TENONING MACHINE—John Potter, of Ellicottsville, N. Y. I claim the combination of the revolving knife cutter heads, c, d, and rotating saws, a, b, when these devices are arranged in relation to each other, and for operation together as shown and described, causing the knives of the cutter heads to relieve the saws from binding, and insuring many other advantages in the cutting of the tenon, as specified.

Further, I claim the alternate arrangement of the cutter heads, c, d, when operating in specified relation to and connection with the saws of the square and level nosed knives or cutters, s, s', for action with each other, and the saws, in the formation of the shoulder, as set forth.

BRISTLE SEPARATOR—Adonijah Randel of New York City. I claim the vibrating board, J, and discharging rollers, L L M M, arranged and operating as shown, for the purposes specified.

DOOR SPRING—John Broughton, of Chicago, Ill. I claim the combination of an additional hinge, C, unfolding and folding the reverse of the hinges, a, and having formed on each side of its leaves, a quadrantal or other suitable projection, in combination with the flat or other suitable springs, D D', substantially as and for the purpose set forth.

SASH SUPPORTER—C. S. Bruff, of Baltimore, Md. I claim the application of the described rack corrugated in the particular form described to one edge of a sash, and the metal spring catching into said corrugations secured in the jambs, or on the stop bead, as described, for the purpose of holding up window sashes at any desired elevation.

CONCENTRATION OF MILK—Gail Borden, Jr., of Brooklyn, N. Y. I am well aware that sugar and various extracts have been and are now concentrated in a vacuum, under a low degree of heat to prevent discoloration and burning.

I am also aware that scalding milk, to improve its preservative qualities, has been long known, and that it has been kept in hermetically sealed vessels, I do not claim these processes.

I am also aware that William Newton, and many others since, have obtained patents for concentrating milk by various modes of evaporation, and combining it with sugar to render it soluble and preservative. I do not claim this as my discovery or invention.

But I claim producing concentrated sweet milk by evaporation in vacuo, substantially as set forth, the same having nosugar or other foreign matter mixed with it.

HAND STAMP—E. A. Russell, of Hookset, N. Y. I do not claim the combination of a movable stamp carrier or lever, with an inking bed, and a bed for supporting a piece of paper or any article to be printed, the stamp being moved by one hand of a person alternately from one bed to the other, and driven downwards by a blow from the other hand of such person, or a hammer held therein as I am aware that such a hand press or stamp is not new.

But I claim combining with the movable lever or stamp carrier, E, and beds, B and C, a mechanism substantially as described, whereby, during and by the lateral movements of the said lever or stamp carrier from one bed to the other, the stamp shall not only be struck or forced downwards, but raised off the same, in the manner and for the purpose specified, such mechanism being a trip hammer with its operating spring, and cam, L, and a spring, G, constructed and made to act with respect to the stamp, and its carrier, substantially as stated.

CART SADDLES—H. A. Rains, of Nashville, Tenn. I claim uniting the tree bars and pads of a saddle by providing said bars with grooves around their edges, or with grooved rims, and the linings of the pads with looped, corded, or perforated borders, which are firmly but removably secured in the grooved edges of the tree bars, by wires, cords, or bands passing through or around said loops or borders, and held by right and left hand screws or equivalent fastenings, substantially in the manner and for the purposes specified.

CLAMPING AND UPSETTING TIRE—O. L. Cowles, of Tecousha Township, Mich., and Allen Le Deming, of Homer Township, Mich. We are aware that machines have been in use for clamping and upsetting tire by the use of levers and screws for that purpose, requiring several distinct motions by hand to effect it, and we therefore do not claim clamping tire or iron for the express purpose of upsetting it when so clamped.

But we claim the combination of the lever, fig. 1, with the auxiliary clamping levers, D D, fig. 2, the carrying sheds, E E, the connecting bars, F F, the saddle piece, H, and the slotted clamping bars, A A, for the purpose of clamping and upsetting tire by a single continuous motion of the slotted lever, fig. 1, as set forth.

REGULATING VELOCITY OF FEED FOR SAW MILLS—R. Eickmyer, of Yonkers, N. Y. I claim driving or operating the log carriage, by means of two shafts, I, G, placed out of line with each other, and connected by a pin, h, and grooved plate, L, or draw link, i, or any equivalent, device, for the purpose of giving a desirable movement to the carriage, thereby feeding the log to the saw, as described.

WINDOW SASH—Grascrib Sessions, of Worcester, Mass. I do not claim the principle of connecting two pieces of metal, by casting metal on both while they are in a mold.

Nor do I claim making a window of separate bars united by brazing, soldering, or riveting them together, when they abut against one another.

But I claim the combination of a new or improved combination of manufacture of window sash, as made not only of rebated and tenoned side and cross bars, but of separate rebated corner pieces or combinations cast in manner as specified on the tenoned ends of said bars, and not only constituting rebated angular continuations thereto, so as with said bars to complete the sash frame, but serving to connect the bars together, in manner as explained.

ARRANGEMENT OF STEAM CYLINDER—J. S. Shapter, of New York City. I do not claim inclosing a steam cylinder in a steam boiler, as that is known and used.

But I claim enclosing a steam cylinder in a steam chamber separated from the body of the steam boiler, where the supply of steam can be shut off from the chamber by a valve for that purpose, and where the cylinder and its attachments can be drawn through the valve, when the supply of steam to the chamber is so shut off.

VALVE MOTIONS FOR STEAM ENGINES—E. S. Renwick, of New York City. I claim the combination of the parts of a valve motion, substantially in the manner described, so that the steam valves shall be opened by mechanism at intervals coincident or thereabouts with the opening and closing of the exhaust valves, and that the exhaust valves shall be closed by mechanism that is independent of the exhaust valves, but which governs and controls the toes by which the steam valves are opened, in such manner that the closing of the steam valves does not change the angular position in which these toes have been placed to open the valves.

Second, I claim the combination of the steam toes, G, G', rock shafts, J, J', arms D D', and link L, with the exhaust rock shaft, I, for opening the steam valves.

Third, I also claim the combination of a cam and spring cam box, with mechanism for imparting the movement of the cam box to the valves.

Fourth, I claim the combination of the yokes, K K, and shaft, M, with appropriate operating mechanism, depending on the movement of the crank, and that the engine for holding the steam toes in the proper position to open the valves and for lowering the same bodily to close the steam valves.

Fifth, I claim closing steam valves that have been opened by moving the steam toes or their equivalents bodily, without changing their angular position, the distance required to shut the valves.

PROJECTILES—Nathan Scholfield, of Norwich, Conn. I claim the application of wings, as described, either with slight springs to force them from close contact with their seats, when left free, so as to allow the air to act thereon to perfect the expansion, or by having a passage for air beneath the wings, and through a slight inclination diagonally, on the cylindrical surface and without springs.

I claim the construction of the guiding wings for a projectile to be fired from a gun of thin sheets of metal, having one of their edges folded around a piece of wire or its equivalent, to form journals on which the wings may turn as joints.

I also claim applying these wings, either plane or curved, on the cylindrical surface of a projectile, and either parallel to its axis, or diagonally in such form and position that the said wings may be closed down on the cylindrical surface or on grooves thereon, fitted to receive them, and by the action mainly of the air on the wings as the projectile is discharged, they shall be opened and expanded, as described.

I also claim the construction and application of these wings slightly curved, composed of metal possessing elasticity to resume their curved form after being changed therefrom, so that if while its rear end rests on its seat, the forward end of the wing is elevated therefrom when free, then if this end is also pressed down to its seat, it shall be raised again by its elasticity when left free from pressure, so that the action of the air on the exposed curve of the wings will force them open to their greatest capacity, after being discharged from a gun.

BEDSTEPS—J. H. Belter, of New York City. I claim a bedstead constructed of fifth parts, A A, supported independently without posts or joints, when the parts are composed of veneers, and arranged substantially as described and for the purposes set forth.

I also claim the wedge-shaped projections, B B, on the inside face of each part of the hollow notches, B' B', on the edge of the internal frame, C, when combined substantially as described and for the purposes specified.

CARPENTER'S GAUGES—Joel Bryant, of Brooklyn, N. Y. I claim point holders, or holders for the points, markers, and cutters of the gauges, irrespective of the kind and form of gauges, or instruments equivalent thereto, constructed and operated as described.

WASHING MACHINE—John S. Shepler, of Beaver, Pa. I do not claim the half cone rubbers, nor do I claim concave rubbers.

But I claim the forming of ribs in sections parallel to the rubbers, and gradually forming a double inclined plane out of any odd number of ribs, thus causing a wedge shape opening between the ribs of equal opening when vertical to each other, to admit the clothes, as the machine rotates back and forth, without the abrupt contact caused where the ribs are of equal height, as set forth.

HEAD REST FOR R. R. CARS—William B. Slaughter, of Chicago, Ill. I claim the yoke set forth together with its mode of attachment to the person, and the combination of the head rest with the yoke, in the manner described, so that it can be attached to the person and made to serve the purpose of a head rest, without any other attachment, substantially as set forth.

HARVESTERS—William Tinker, of Kelloggsville, Ohio. I do not claim, irrespective of the relative arrangement of their cutting edges to the finger bar, and their action, the projecting bar or cutting projections, over or through the fingers between the finger bar and sickle.

And I am also aware that a sickle has been provided with back scraping projections, presenting parallel sides or edges, and moving crosswise to the traverse of the machine on or over the plain surface of the sickle bar. Such, therefore, do not constitute a new or improved mode of reaping.

But I claim forming the cutting teeth, d, with narrow back projections, e, having cutting edges parallel to each other along the sides of each projection, so as to cut at right angles to the face of the finger bar, when said projections are arranged for operation over the fingers between the finger bar and sickle, as specified, in combination with the wiper wheel driving appliance for giving an abrupt action to said cutters for the better clearance from grain or grass of the space which separates the finger bar and sickle, as set forth.

WISE—R. W. Thickens, of Brasher Iron Works, N. Y. I do not claim the cross levers or bars, E E, separately, for they have been previously used.

But I claim the combination of the levers or bars, E E, and slotted arm, D, arranged and applied to the jaws, A B, as shown, for the purpose specified.

SELF-CLEARING CHIMNEY COWL—Charles H. Watkins, of New York City. I claim the more leg, H, H', having the circle of the revolving top, B, and connected with a common spindle, C', as described and set forth.

WATER-PROOFING TEXTILE FABRICS—Benjamin Weigert, of New York City. I claim the treatment of textile fabrics with a solution of acetate of alumina and glue, prepared in the manner and from the ingredients and proportions stated, and for the purpose specified.

GRAPPLE FOR RAISING SUNKEN BODIES—Greenleaf A. Wilbur, of Skowhegan, Me. I do not claim the use of a buoy or buoy chain to indicate the position of sunken bodies.

But I claim the improved construction of the grapple to be operated with a buoy and staple, in the manner and for the purpose substantially as set forth.

BORING ARTESIAN WELLS—Clarendon Williams, of Frankford, Me. I claim the boring of earth and stone and sinking of tubing at one operation, forming artesian wells, by the mechanism employed, consisting of screw, F, and nut, G, arranged and operating in the manner described, with the auger, constructed substantially and operating in the manner set forth.

SWAGING IRON—John T. Willmarth, of Worcester, Mass. I claim mounting the hammers on opposite sides of a rocking frame, operated by eccentrics, or their equivalents, substantially as specified, in combination with the anvils placed on opposite sides of the axis of vibration of the said rocking frames, as described, and for the purpose specified.

LOCKS—Hjalmar Wynblad, of New York City. I am aware that eccentric disks and ward plates have been before known and used, and I do not claim them.

But I claim the arrangement of a series of eccentric disks separated by stationary ward plates, with each of said disks having an arched cut at the center of its motion, fitted to the shape of the bits of the key, and moving upon and guided by a segmental standard, and moved at the same time and to the same distance within a frame attached to and working the bolt of a lock, as set forth.

BLEACHING IVORY—A. C. Breckenridge, (assignor to Julius Pratt & Co.) of Meriden, Conn. I claim providing the bleaching frame with grooved strips of glass, C C and D, to receive the ends or sides of the pieces of ivory exposed to the sun's rays, whichever side of the frame is upward, substantially as described.

DRILLING AND DRESSING STONES—Wm. M. Barton, (assignor to himself and Robert M. Barton.) of Russellville, Tenn. I claim the arrangement described of the drill, a, on one side of the slab or stock, A, and the crank, F, and connecting rod, J, on the other, with the spring, T, and vibrating arm, L, to connect the said drill and connecting rod, as set forth.

MOSQUITO CANOPY—Levi J. Henry, (assignor to Benjamin J. Hart.) of New York City. I claim the construction of the clamp, b, c, with the rod, e, and screw studs, I and J, by which the canopy can be raised or lowered, and made to stand vertically, whether the clamp itself stand vertically or horizontally, as specified.

I also claim the cap, f, fitted to receive the bars, 8 and 9, for sustaining the canopy or covering, when combined with the sliding tubes, 3 4 5, for regulating the height of said canopy, and also receiving the bars, 8 and 9, when transported, substantially as specified.

WHEELWRIGHT'S MACHINE—A. D. Stewell, (assignor to John A. Prall.) of Fulton, N. Y. I claim the combination of the spoke set with the carriage, carrying the hollow auger, when the whole is attached to the hub wheel resting over the pit, as set forth.

EXTRACTING OILS—Charles Moore, of Trenton, N. J. I claim the process of extracting oils and other liquids from the pulp of prepared or ground linseed or other seeds or substances.

I claim forming it of them into cakes, by molding and partially pressing or packing of them, substantially as described, for the purposes set forth.

ROCK DRILLS—Wm. M. Barton, (assignor to Robert M. Barton and himself.) of Russellville, Tenn. I claim the combination of the segmentally toothed wheel, H, gearing into the rock wheel, I, with the spring, L, and its drum, M, when their parts are arranged as set forth.

MAGNETO-ELECTRIC MACHINES—Edward Shepherd, of New York City. I do not claim the helices, the connecting bands or rings, p' n', the connecting rods, the frature plates, or the springs, P or G, individually.

But I claim the spring, F and G, the frature plates, P, the connecting rods, r' r', and the conducting bands or rings, p' n', when these are combined with helices in sets of four, said helices being united amongst themselves, and by their terminal wires with the rings, p' n, or their mechanical equivalents, so as to collect and aggregate in one current the several currents generated in the said helices when resolved between the magnetic poles, as set forth.

RE-ISSUES.

REAPING MACHINES—Jonathan Read, of Alton, Ill. Patented March 12th, 1842. Extended March 12th, 1856. I claim the combination of the reel for gathering the grain to the cutting apparatus and depositing it on the platform, with the seat or position for the raker, located and arranged substantially as described, to enable the raker to ride and rake the grain from the platform, and free the reel and cutting apparatus from obstructions.

REAPING MACHINES—Jonathan Read, of Alton, Ill. Patented March 12th, 1842. Extended March 12th, 1856. I claim, in combination with the main frame of the machine, hung or balanced on the supporting wheels, with the thick tongue by which the horses draw the machine, hinged to the main frame, a lever connected with or acting upon one end and extending to the drivers' stand or seat on the other, so that the driver, who is the sole conductor of the machine, may, from said stand, by this arrangement, raise or depress the cutter at pleasure, during the operation of the machine, for cutting grain at any suitable height about the ground, or for passing over any intervening obstacles, substantially as described.

HARVESTING MACHINES—Jonathan Read, of Alton, Ill. Patented March 12th, 1842. Extended March 12th, 1856. I claim the arrangement of parts, whereby a clear space is obtained, and the grain discharged between the platform, and the path of the driving wheels before the latter has passed the discharged grain, as set forth.

REAPING MACHINES—Jonathan Read, of Alton, Ill. Patented March 12th, 1842. Extended March 12th, 1856. I claim, first, the sickle with its cutting edge, when both are scolloped and serrated.

Second, reserving the serrations on the edge of the sickle, in short sections, substantially as set forth.

Third, constructing the guard fingers in the shape of a spear head, for the purpose of affording a shoulder on each edge, against which the grain will be held, thus counteracting its tendency to slip from the action of the sickle and forming an acute angled space in front of the edge of the sickle, to render the severing of the grain more easy and certain.

REAPING MACHINES—Jonathan Read, of Alton, Ill. Patented March 12th, 1842. Extended March 12th, 1856. I claim, first, the combination with the platform of a reaping machine of a mechanical rake, which traverses said platform at intervals, and draws off the grain gathered thereon, substantially as set forth.

Second, the combination with a mechanical rake of the roof or screen described, or the equivalent thereof, to intervene, and keep the gavel of grain collected on the platform separated during its discharge by the rake from the grain just cut, and falling towards the platform, thereby avoiding the scattering and entanglement which takes place when the grain is passing off, and that falling upon the platform are not kept separate.

Third, the combination with the roof screen of a mechanical rake, of a stripper or guard, P' or P'', or its equivalent, to sweep from the screen any grain which may have fallen upon it during the passage of the rake to and fro over the platform, as described.

Fourth, constructing the platform with slats or ribs for the grain to lie on, and intermediate spaces for the teeth of the rake to run in, to pass below the grain, and thus avoid all danger of overrunning and imperfectly discharging it, as set forth.

DESIGNS.

COOKING STOVES—N. S. Vedder, (assignor to Cox, Richardson & Boynton.) of Troy, N. Y.

COOKING STOVES—N. S. Vedder and Ezra Ripley, (assignors to Cox, Richardson & Boynton.) of Troy, N. Y.

PANTRY STOVES—David Hathaway, (assignor to Cox, Richardson & Boynton.) of Troy, N. Y.

One Cord of Wood on a Locomotive.

Our excellent cotemporary the *Railway Times*, Boston, gives an account of a locomotive called the *Mississippi*, built by Rogers, Ketchum & Grosvenor, Paterson, N. J., which run 125 miles on the Pacific R.R.—Missouri—with one cord of wood. It also states that the average run of a locomotive on the N. Y. and Erie Railroad, is only 26 miles to a cord of wood.

In the account given of the performances of the *Mississippi*, it is stated that it run the 125 miles in seven hours—that the train consisted of three passenger cars, containing 106 passengers, one baggage car, and Adams & Co.'s Express and baggage car. It is also stated that 45 miles of the track was an ascending grade of 45 feet to the mile, and 80 miles from 20 to 10 feet per mile.

It appears to us that this feat is not so very great. The size of the train and the speed must all be taken into account in judging of the economy of fuel in locomotives. The average speed of the *Mississippi* was only about 18 miles per hour, while the average speed on express trains, on the N. Y. and Erie Railroad, is 35 miles, or about double that on the Pacific Railroad, and the trains on it are also usually far heavier and larger. For a double speed, it requires at least four times the quantity of fuel, we understand; therefore, if we take the greater speed, and great weight of trains on the N. Y. and Erie Railroad into consideration, 26 miles per hour with one cord of wood, may be as economical as one cord for 125 miles on the Pacific Railroad.

Gas on Steamboats.

The Buffalo (N. Y.) *Commercial* states that a steamboat was recently fitted up with an apparatus to make its own gas, but it has proved a failure—the smell was too offensive. There must have been some defect in the apparatus for making gas on board of that boat. It is very difficult to neutralize a disagreeable odor which is generated in making gas. Still, this can be done by proper apparatus, especially if crude rosin oil be used to generate the gas, as is done in many cotton factories.

Mine Water for Boilers.

The Pottsville *Journal* states that Messrs. Mangay & Trucks have introduced a method of purifying mine water, by which the acids are removed, and it is made pure and soft as rain water, and so rendered fit for using in boilers, without the destructive effects usually attending the use of mine water in eating away boilers.—[Philadelphia Ledger.]

Curious Experiment.

At the Royal Polytechnic, in London, a thin band of wire is bent or shaped into the form of a word or a sentence and then placed on a sheet of white paper. A powerful battery is discharged through this wire, which melts and oxydates it, and there is left in its place the word or sentence, plainly visible, of a black color.—[Exchange.]

[The paper may be white in appearance, but it must be impregnated with some substance, such as tannin, to produce this result. The oxyd of a wire will not make a black mark on unprepared white paper.]