

Improved Sawing Machine.

This machine is principally intended to cut down standing timber, but is so designed that it may be used subsequently to cut the wood up into lengths for any purpose, but more especially for firewood. Full views are given in the accompanying engravings of it in both positions as it appears at work. In order to facilitate its transportation to various localities, or from one point to another when in use, the machine is set upon wheels.

In detail it consists of a frame, A, carrying a crank shaft, B, on the front end. The shaft, being driven by the crank wheel, C, imparts motion to the saw through the agency of a lever, D, jointed to a curved support, E, the saw being attached to the lever below the frame. Guides, F, are provided which serve to keep it straight and prevent buckling when at work. Where the machine is used to cut down trees the saw is above the frame and works horizontally, as shown, instead of vertically. A bolster, G, is also provided as a guide, in which there is a mortise through which the saw passes, and a gib, H, is fitted to this mortise against which the back of the saw works. This gib has a long surface and presses the saw, or feeds it up to the tree, through the agency of a weight, I.

The hind end of the frame, where it bears on the axle, at J, is rounded off so that the machine may accommodate itself to inequalities of surface. By these several parts and the arrangement of them the inventor claims to have invented a useful machine which can be applied to the purpose set forth. The reader will understand that there is but one machine which is capable of being used on different kinds of work.

For further information address Jas. R. Logan, Bellmore, Ind., by whom a patent was obtained Dec. 19, 1865, through Scientific American Patent Agency.

Ready Mode of Amalgamating Zinc Plates.

Mr. B. Gibsons writes to the editor of the *Chemical News* and says:—"I venture to send you a method of almost instantaneously amalgamating corroded zinc battery plates, which occurred to me recently, after some twenty years' trial of different plans; perhaps economy of time in even humble matters of detail may be worth record where the process is of repeated occurrence.

"The following treatment in the case of thickly oxidized plates will yield in speed and effectiveness to few:—Place in a flat dish two ounces of common hydrochloric acid, one drachm of a saturated solution of bichloride of mercury (corrosive sublimate), and half an ounce of the latter metal; lay the zinc without previous scouring, in the liquid mixture, and gently smear the mercury over the surface of the plate with a tooth brush; the mercury will readily and thoroughly adhere to each portion of the surface as the oxide is rapidly dissolved by the HCl.

"As a means of comparing speed, in seventy seconds, I completely coated inside and out a cylin-

dric plate of forty square inch surface, whose interior was rather inaccessible and very corroded.

"A set of six cylindrical cells of Groves' battery were thus, with the same materials, amalgamated, equipped, and primed for action in a quarter of an hour.

"No friction is needed; the plates should be well

principal cities and towns along the route. This check is set, at the beginning of the journey, at the place the traveler starts from and the one he is going to, so the baggage master, or others in authority, can see, at any station, exactly where the trunk has come from and how far it has to go, a little opening in the outer disk enabling the direction to be read, as may be seen

in the engraving, where the check reads from New York to New Orleans.

A very important consideration in reference to the through route check is, that one check will take the place of twenty-five checks, and can be constantly used on the different routes of travel, and also serves as an advertisement in keeping the name of the route which the traveler is passing over continually before him. Immediately upon the arrival of the baggage with the check attached to it at any station, the baggage agent can, in one moment of time, remove the check from the baggage just arrived, and return it with other baggage to any of the several points named on the check.

This is also a local check which serves to answer the purpose of some two or three hundred checks. It represents one hundred stations by its peculiar construction, so arranged as to be kept constantly traveling to and fro from one end of the line to the other. As we have stated, they require but one minute's time for a person of the most ordinary capacity and intelligence to become acquainted with the manner of changing their destinations. They are in no way, manner, or form, complicated. No springs or anything connected with them which render them liable to get out of order; and their cost,

comparatively speaking, is from two to three hundred per cent. less than the checks at this time in use, thereby the means of saving hundreds and thousands of dollars to railroad companies. For further information address G. F. Thomas, Nos. 443 and 445 Broadway, New York City.

Simple Process for Silvering.

An employee of the Bavarian Mint has published an improved process for silvering copper, brass, and other alloys by means of a solution of silver in cyanide of potassium; the difference from the usual method consists in the use of zinc-flings, with which the objects are coated; when the silvering solution is applied, an immediate deposition of a much more durable character taking place. The flings are easily removed by rinsing in water, and may be used repeatedly for the same purpose. Metallic iron may be coated with copper in the same manner, by substituting for the silver, a solution of copper in cyanide; and over this copper deposit a coating of silver may be applied.

It is suggested in the London *Chemist and Druggist* that chloroform is an excellent medium for the removal of stains of paint from clothes, etc. It is found that portions of dry white paint, which resisted the action of ether, benzole, and bisulphide of carbon, are at once dissolved by chloroform.

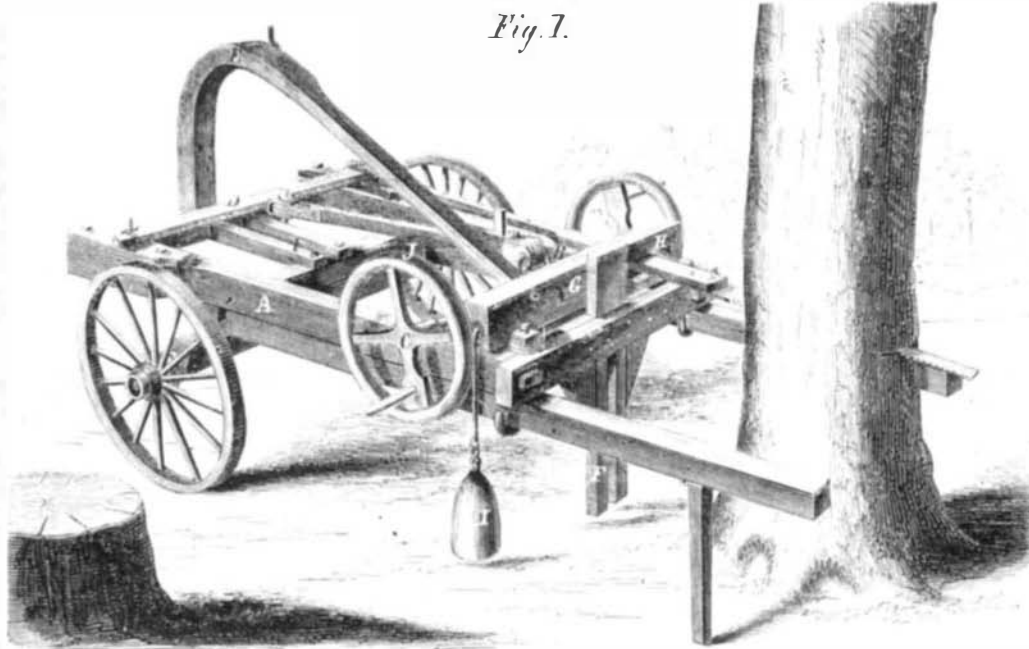
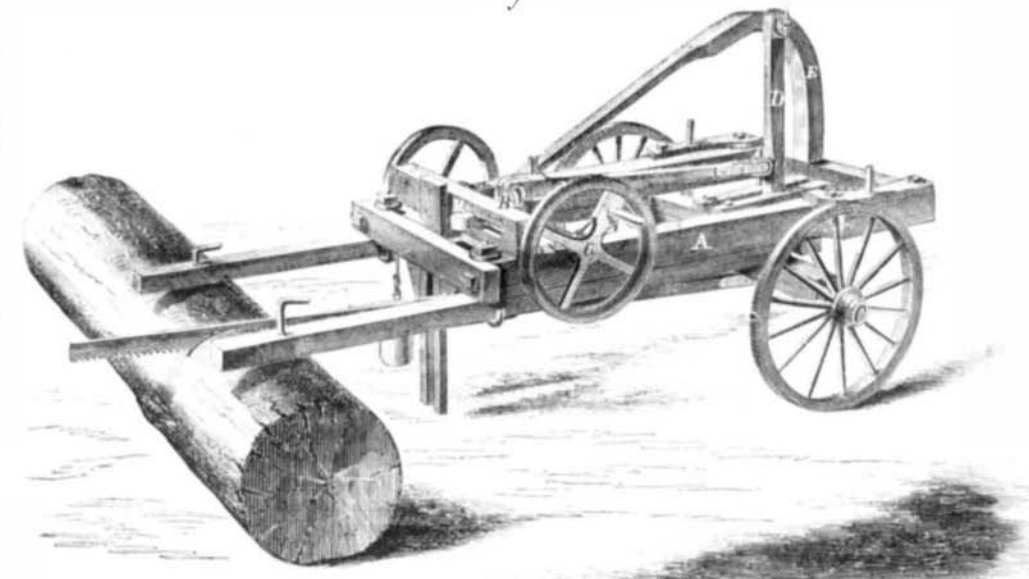


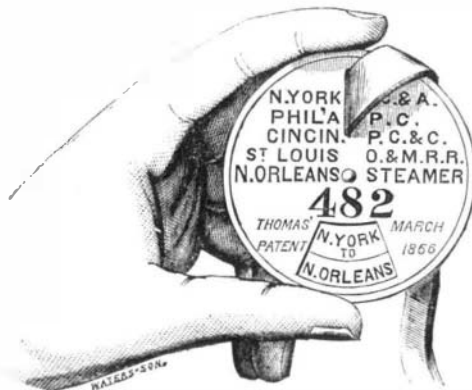
Fig. 2

**LOGAN'S SAWING MACHINE.**

drained from excess of mercury, lest they become brittle, though this danger is lessened by the rapidity of the process."

THOMAS'S RAILWAY CHECK.

A novel check for use on railway trains has been lately invented, and we here give a representation of



it. It consists of two brass disks, one inside the other, held in the proper position by the strap. The outer one may have the names of any roads engraved thereon, while the inner one contains the