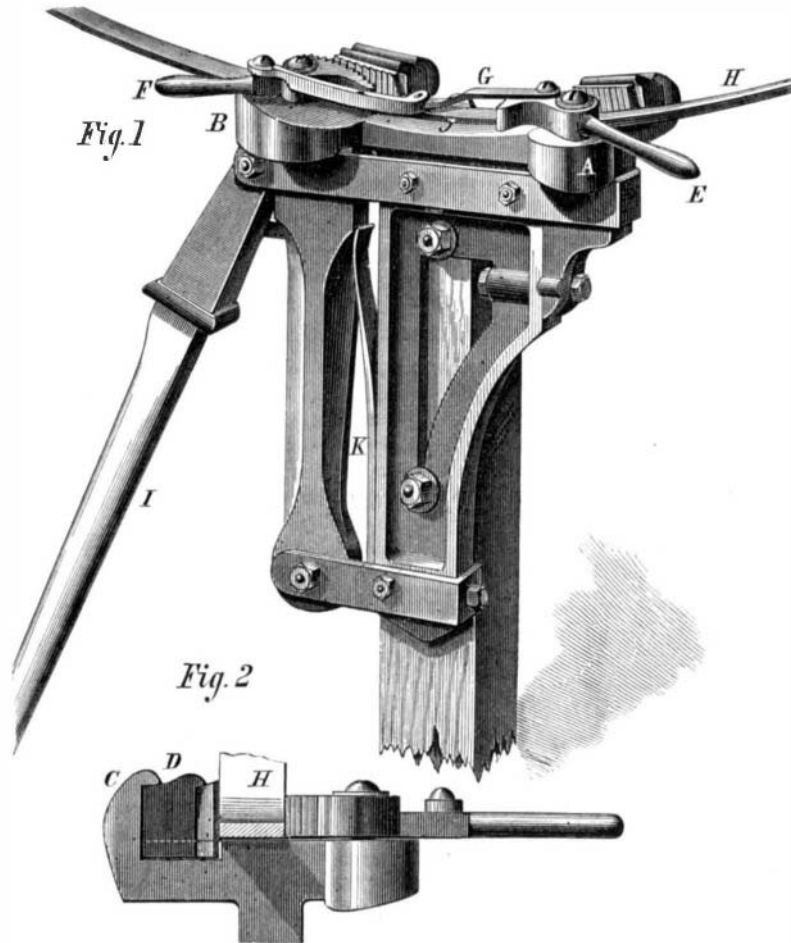


IMPROVED TIRE-UPSETTING MACHINE.

We illustrate herewith a new machine for upsetting or shortening wagon tires or iron bars. It may be operated by one man, and is so constructed as to be capable of doing the heaviest work without danger of breakage or strain in any part. It is quite simple and may be secured on any convenient support.

The stand, which may be of wood or iron, has on each side iron straps, which support the stationary head, A, and guide the hinged head, B. The stationary head is also attached to the end of the stand, and both heads are placed across the bars. C, Fig. 2, is a flange on each head, against which the adjusting blocks, D, are placed. E and F, Fig. 1, are gripping jaws, pivoted one on each head, and provided with lever handles. Said jaws are connected by a jointed bar, G, so that by operating jaw, E, the power is applied to the jaw, F. The last mentioned jaw strikes the tire, H, first, gripping the same; and the power being continued, the jaw, E, seizes the tire also. The tire being in a heated state, is firmly held between the jaws by the operator, so that it can have no longitudinal motion. With his left hand, the operator then grasps the cam lever, I, and forces the movable jaw and head toward the other jaw. This causes the jointed bar, G, to turn outward on its hinge, and completes the operation of upsetting the tire. J is the anvil, which is fastened between the jaws, and on which the tire rests. As soon as the cam lever is applied, the lever of the gripping jaw, E, may be released, so that the right hand of the operator is at liberty to use a hammer in order to press down the tire in case it bends upwards from the anvil, as might occur when the tire is a light one, or to apply both hands on the cam lever, so obtaining a better purchase for upsetting a heavy tire. The back movement of the movable jaw and head is produced by the spring, K.

Patented through the Scientific American Patent Agency, March 10, 1874, by M. Schou. For further particulars address Messrs. Combs & Bawden, sole manufacturers, Freehold, N. J.



SCHOU'S TIRE-UPSETTING MACHINE.

HENNAMAN AND SHAW'S BOILING POT.

The accompanying illustration represents a new cooking utensil for boiling, so constructed that two kinds of vegetables, etc., may be cooked in it at once, without mixing. Housekeepers who find it necessary to economize space on their ranges or cooking stoves, or to whom it is an object to facilitate their culinary operations, will doubtless appreciate the advantages offered. An ordinary iron pot forms the outer vessel. Inside is set a perforated holder, A, in which the articles to be cooked are placed. On each side of the holder



is a vertical flanged groove, and in said grooves is held a detachable perforated diaphragm, B. On top of the latter is hinged a semicircular cover, C. Two kinds of vegetables may easily be prepared, one on each side of the diaphragm, and by turning the cover, C, successively over each side, and holding it with the hand, the separate chambers may be emptied without mingling their contents. The two compartments are easily thrown into one by removing the diaphragm.

In cases where a large amount of cooking is done, it is proposed to make the vessel, A, rectangular, and to divide it into several compartments, by a number of diaphragms.

Patented July 27, 1875, to Messrs. William H. Hennaman and William F. Shaw, Jr. For further information address the last mentioned inventor, 19 South Chester street, Baltimore, Md.

Scientific Apparatus Exhibition.

The British government intends to have an exhibition of scientific apparatus, to be held at South Kensington, London, in 1876, the present arrangements being that it is to be opened on April 1. The Committee of Council on Education, Science, and Art Department have just issued a kind of syllabus, indicating the articles that will be admissible. The exhibits are to include such instruments and apparatus as

are employed for scientific research, experiment, and pupil teaching. It is also intended to include matters that will illustrate the progress of Science and its technical applications, with others of a more special kind, but of general interest and value. In cases where original apparatus, etc., cannot be sent, models, drawings, and photographs will be ad-

mitted. In certain cases apparatus may be arranged in such successive order that the steps of scientific investigation may be readily followed. A valuable provision will be that of, as far as found practicable, systematically explaining and illustrating the use of the apparatus, etc. The committee appeal to those institutions or individuals who possess instruments, etc., of historic interest to lend them. The entire exhibition will consist of eighteen sections, embracing arithmetic, geometry, measurement, kinematics, statics, dynamics, molecular physics, sound, light, heat, magnetism, electricity, astronomy, applied mechanics, chemistry, meteorology, geography, geology and mining, mineralogy, crystallography, etc., and biology. Instruments representing each of these subjects will be shown. The committee selected to carry out the object of the exhibition embraces some of the most eminent men in each department above named, the engineering branch being specially well represented.

fair probability of their being undertaken) the attention of engineers will ere long be directed to the determination of the simplest and strongest methods of erecting such structures. Iron, in most cases, will be the material employed for the supports of the raised track, so that we may expect that all the various modes of building hollow columns of that metal, now in existence, will be subject to careful scrutiny, and perhaps to actual tests for strength, etc. The invention which we illustrate, in the annexed engravings, belongs to the above category, and therefore possesses a timely interest. It is a new segmental metallic column which is both simple and strong, and offers exceptional facilities for splicing. A perspective view is given in Fig. 1, and transverse sections in Figs. 2 and 3. The sides of the column consist of four or more rolled platesegments, A, having a flange on these outer edges. These flanges, as shown in Fig. 3, are thicker at their outer portions than at their bases. Their inner sides are straight and outer sides beveled. When two of the segments are brought together to form a column, wedge-shaped blocks, B, are placed between the beveled sides of the flanges, so as to hold the segments a suitable distance apart. Headed screw bolts, C, are then passed outward through the blocks, between the flanges, and through clamps, D, Fig. 2, which fit over and entirely cover the flanges on the outside. By screwing up the nuts, the wedges, B, are drawn in between the segments so as to force them apart and thus cause the clamps, D, to grasp the sides of the flanges, holding them very firmly together. In order to save the material, the wedges may be made as short as possible, while the clamps may either be constructed the full length of the column, or in short sections like the wedges. By properly clamping over the main body of the column, one of the segments may be removed, when the structure is in position in a bridge or building, so that the interior of the column may be painted as often as is necessary.

Splices may very easily be made by allowing the clamps to extend from ten to twelve inches beyond one set of segments in order to grasp the flanges of another set. The clamps are rolled, and the wedges are castings. In putting a column together, the wedges are all attached to the clamps with nuts slack, then slipped lengthwise over the flanges, when the nuts are finally tightened.

Patented August 31, 1875. For further particulars address the inventor, Mr. Charles H. Leidy, Norristown, Pa.

THE GRANGE FARM MILL.

To save one tenth of all the grain used on a farm or in a



stable is no small economy; but the inventor of the device illustrated herewith believes that such saving may be effected through the use of a simple and well made mill (properly actuated by horse, wind, water, or some other cheap power that is everywhere available) for grinding the corn, oats, barley, and other cereals fed to the cattle and horses. Such a mill, suitable for all such purposes, he claims to have produced. Its form and construction will readily be comprehended from the illustration, rendering detailed description unnecessary. It is strong and compact, and is provided with a conveniently located driving pulley, to which the power is applied. The grinding plates are self-sharpening and will last a long time, costing but little to replace when worn out.

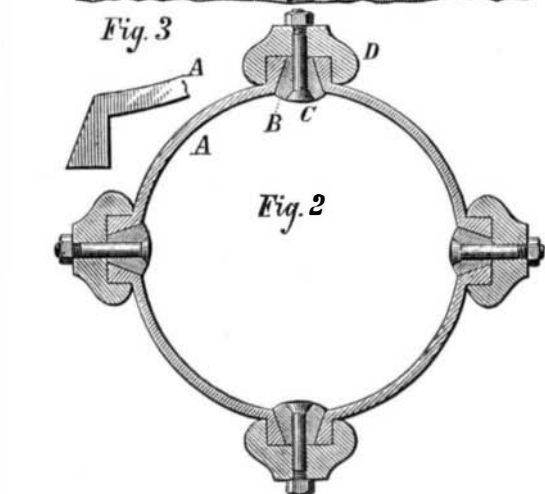
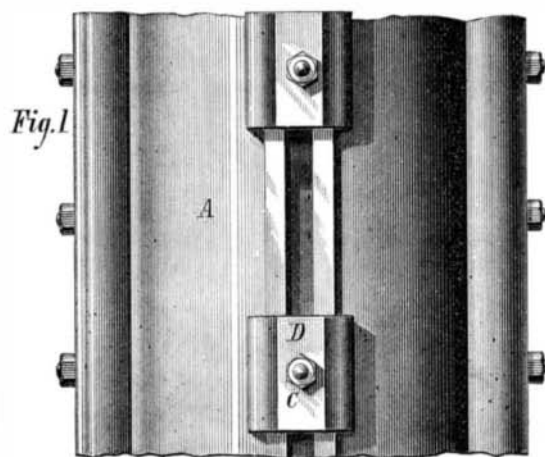
The inventor adds that any one having any kind of power at his command will find the mill a good source of income, if the machine be used for grinding wheat for others. Any one owning a horse which is idle a portion of the time might thus utilize the animal for light and profitable labor.

Patented through the Scientific American Patent Agency For further information and for mills, address Mr. H. H. Swift, Millbrook, N. Y.

mitted. In certain cases apparatus may be arranged in such successive order that the steps of scientific investigation may be readily followed. A valuable provision will be that of, as far as found practicable, systematically explaining and illustrating the use of the apparatus, etc. The committee appeal to those institutions or individuals who possess instruments, etc., of historic interest to lend them. The entire exhibition will consist of eighteen sections, embracing arithmetic, geometry, measurement, kinematics, statics, dynamics, molecular physics, sound, light, heat, magnetism, electricity, astronomy, applied mechanics, chemistry, meteorology, geography, geology and mining, mineralogy, crystallography, etc., and biology. Instruments representing each of these subjects will be shown. The committee selected to carry out the object of the exhibition embraces some of the most eminent men in each department above named, the engineering branch being specially well represented.

IMPROVED METALLIC COLUMN.

What with the extension of one elevated railway already



in existence, and the construction of new ones in New York city (these projects being most favored just now as the solutions of the rapid transit problem, and hence there being a