

New Inventions.

Henry Cort, the Inventor of Grooved Rollers and the Puddling of Iron.

On page 110, this volume SCIENTIFIC AMERICAN, we pointed out the benefits which had been conferred on England, and the whole world, by the inventor whose name stands at the head of this article; and we also pointed out the gross injustice which had been done to him, in depriving him of the benefits of his patent, by a violation of the compact on the part of the British Government, embraced in the law of patents. Since that time, David Mushet, Esq., a practical and scientific manufacturer of iron, and an able writer, has devoted much time, and has interested himself greatly in collecting information, and advocating the duty of government, and English iron manufacturers, regarding giving compensation to the heirs of "Cort," for the wrong done to their father.

We have lately received a pamphlet from Mr. Mushet on the subject, and a letter, through John Avery, Esq., from Richard Cort, the son of the inventor, thanking us for our spontaneous advocacy of his father's legal rights. We quote the following from his letter:—

"I should be an unworthy representative of my late father, if I did not avail myself of the first opportunity, through your kindness, of conveying to the Editor of the SCIENTIFIC AMERICAN, published in New York, some expression of the gratification which I derived in reading the article headed 'Gratitude to Inventors of Iron Manufactures;' and I feel grateful for the generous, able, and honorable testimony borne to the merits of one, who the Editor is pleased to raise to the high but no less deserved distinction of being the creditor of all nations of the earth, using or making puddled and rolled iron."

Mr. Mushet's pamphlet is an able exposition of the wrongs done to H. Cort, and an able argument in favor of the claims of his heirs. The London *Mining Journal* says of it, "It will be a matter of general congratulation that the cause of R. Cort is likely to prosper. The powerful appeal published in our journal, and the able advocacy of David Mushet, and others, seems likely to kindle a spark in the iron districts that will not be easily extinguished, but like the flames in the puddling furnace, which produced all the elements of prodigious wealth, coupled with grooved rollers, for the iron masters of Great Britain, will now begin at the end of more than half a century to do something for the four surviving descendants of their greatest benefactor—the late Henry Cort."

Mr. Roebuck is soon to bring the case before Parliament, and he will doubtless do it justice in spite of expected opposition of many engaged in the iron interests. We sincerely hope that Parliament will do justice to the heirs of Henry Cort, because there can be no doubt of the wrong done to their father during his life time, by the British Government, in wrongfully depriving him of the benefits of his patent, by laying an injunction upon it, because he happened to be in partnership with a person who became a defaulter to the government.

Steam Fire Engines.

The Cincinnati *Commercial* contains the report of a Committee of Engineers appointed by the City Council to enquire into the relative merits of the two kinds of steam engines made in that city—*Lattas* and *Shawks*—and also to enquire into the cause of the explosion of the *Joe Ross* fire engine. The conclusion of their investigation regarding the explosion is, that it was caused by the fire-box not being properly stayed.

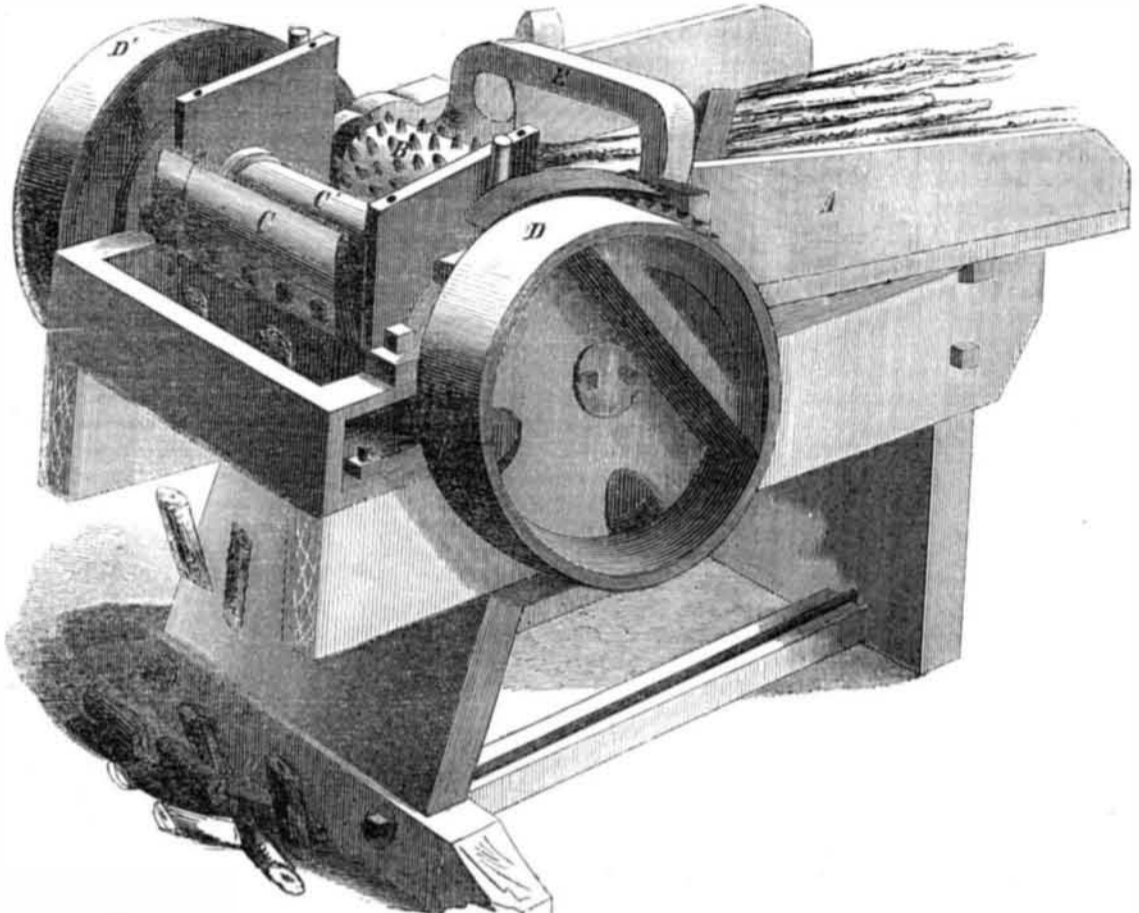
The report is favorable to *Shawk's* boiler, which is held to be superior, and is of peculiar construction. The sides of the fire are surrounded by a continuous series of pipes, arranged so as to form a square casing about it, which, after being built up to a sufficient height are then returned backward and forward over the fire, and piled in successive layers until a sufficient length is attained—the pipes gradually increasing in caliber as the total length increases. The water is injected into

the lower end of the coil, and takes up the heat from the pipes until it is converted into steam, and is delivered into a strong cylinder

being compelled to pass through water contained therein. This steam chamber communicates, by means of a pipe from its upper end,

with another and larger cylinder, which forms part of the frame-work or foundation of the pumping apparatus.

MACHINE FOR CUTTING FUEL.



Fuel Cutter.

Our engraving illustrates an invention for cutting up the smaller sticks of wood into short lengths, for fuel, being especially adapted for reducing kindling wood, such as is used in coal stoves of large towns and cities.

The machine possesses many of the characteristics of a hay or corn-stalk cutting machine, only it is constructed in a much stronger and more massive manner. The sticks are placed in the cutting box, A, and fed in by the feed roller, B, which is armed with strong

teeth, as seen. This roller drags the sticks along, when their ends are rapidly clipped off by the knife, C, and drop down, in small pieces, at one end of the machine. Knife C is bolted to shaft, C', and revolves with it. D D' are fly-wheel pulleys, weighted on one side, so as to gather the momentum necessary to carry the knife through the wood.

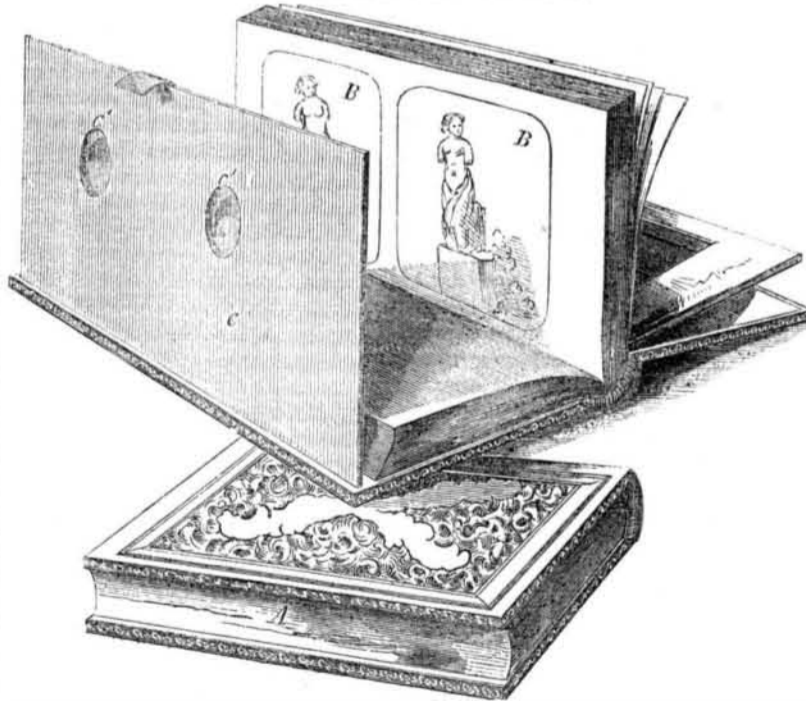
This machine cuts up the toughest hickory wood into small lengths, with a rapidity that is surprising. It is made, throughout, with great strength, and operates with unusual ef-

fectiveness. Gearing is employed to move the cutting shaft, and to prevent accidents, the knife is boxed in; but in the engraving; the box is removed in order to show the cutter more clearly. E is a strengthening brace.

Large quantities of kindling wood are required in every city.

The inventors of this improvement are Daniels & Raymond, Woodstock, Vt. Further information can be had on application to Webster & Co., Empire Kindling-Wood Co., foot of 25th street, East River, New York.

STEREOSCOPIC BOOKS.



Mascher's Stereoscopic Books.

Among the many improvements in the art of taking pictures by means of the action of light, one of the most interesting results is the Stereoscope. This consists of two representations of an object, taken at slightly different angles. In producing a stereoscope portrait, for example, two daguerreotypes are made, exactly alike in dimensions and all other respects, except that when one portrait is a view taken directly in front of the sitter, the other portrait must be taken at one side. If, now, the two portraits are placed side by side and looked at through a pair of magnifying spectacles or lenses, they will seem to have com-

bined and formed a statue, cut by the unerring hand of Nature, standing out in bold relief, vivid, and absolutely perfect.

Those who have never seen a Stereoscope would be surprised at the extraordinary magical result produced by the lenses. The effect is the same whether the representation be portraiture or landscape. The stereoscopic view of a city shows not a mere drawing; the real city itself seems presented to the sight. So, too, with the portrait: the flat outline disappears, and the living subject seems to stand before the eye.

The common stereoscopes are spy-glass-looking instruments, and withal rather large

and inconvenient. They were greatly improved upon by Mr. John F. Mascher, of Philadelphia, Pa., who, in 1853, patented the idea of placing a fly leaf or flap in the common daguerreotype miniature case, the flap being furnished with a pair of lenses. In this manner the stereoscope was reduced so as to occupy but little additional space.

Since Mr. Mascher's patent was granted the art of taking pictures upon paper and other substances has been much cheapened and simplified; a process has also been practiced whereby any number of duplicate copies may be printed from a photograph. The inventor takes advantage of these circumstances for the production of *Stereoscopic Books*, or volumes in which the views and illustrations are presented stereoscopically.

Our engraving shows a couple of these books, which, outwardly, are like any other volumes. In the open book seen in the cut, B are the photograph pictures, C the lens flap or leaf, and C' C' the lenses. The lens leaf, C, folds in when the book is closed, like any fly leaf, and the volume presents the appearance shown at A. One lens leaf, it will of course be understood, serves for the examination of all the photographs.

We cannot conceive of any single acquisition to a library or a parlor table of more interest and value than a book filled with these stereoscopic pictures. The range of subjects capable of being embraced is inexhaustible. Family portraits, views of favorite localities, towns, cities, objects of art, &c., may be thus preserved in a permanent and useful form.

Further information respecting this excellent invention can be had by addressing the inventor, J. F. Mascher, No. 408 Second street, Philadelphia, Pa. His patent bears date Feb. 19, 1856.

The Chinese scour silk with a thin paste made of bean flour and water.