

New Inventions.

Roving Tubes.

Moses Sargent, Jr., of Lake Village, N. H., has taken measures to secure a patent for an improvement in roving tubes, which cannot fail to engage the attention of woolen manufacturers. It combines economy and simplicity in construction, and efficiency in operation, accomplishing with facility, work that it is almost impossible to accomplish with the tubes now in use. It also does away entirely with the necessity of stopping the machine to mend broken roving. The invention has been thoroughly tested by Mr. Sargent, who is a practical manufacturer.

Machine for Cutting Irregular Forms.

In our list of patents last week, there was one granted to O. L. Reynolds, of Dover, N. H., respecting which more should be known than the mere claim. The machine is designed for cutting out a variety of articles, such as lasts, spokes of wheels, &c. The cutters are placed on a revolving horizontal wheel, and a number of carriages are employed, with a pattern on each, by which various articles are turned out at one continuous operation of the machine. We have been assured that this is an excellent and ingenious machine, entirely distinct and separate from Blanchard's, of famous reputation.

New Breech-Loading Cannon.

There can be no doubt but breech-loading fire arms are more advantageous for rapid shooting than those which are loaded from the muzzle. The great difficulty in constructing the breech-loaders has been in securing them from windage, and making them simple and durable in the movable breech parts, so as to fortify them against derangement in the hour when most required, that of danger. Owing to the great attention paid to breech-loading small arms during the past five years, and the many patents secured for improvements on them, it is believed that they have now been rendered faultless. To secure the same advantages to heavy arms, such as cannon of every calibre, much attention has also been devoted of late.

Among the number of those who have exercised their inventive faculties in this field, is Abner M. Newton of Richmond, Wayne County, Indiana, who has taken measures to secure the same. There is an arrangement whereby the charge can never explode until the loaded breech has entered the chamber. By the sliding movement of the breech, both the cocking and setting free of the hammer to ignite the charge, are effected. The loading breech itself is of an improved construction, and is retained in its place for discharging by a pair of peculiarly formed clamps, which are managed with great ease and facility. Part of the arrangements in connection with this breech-loading cannon can be applied to muskets and rifles. In a short time we shall have firearms doing all the fighting themselves, the soldiers only looking on.

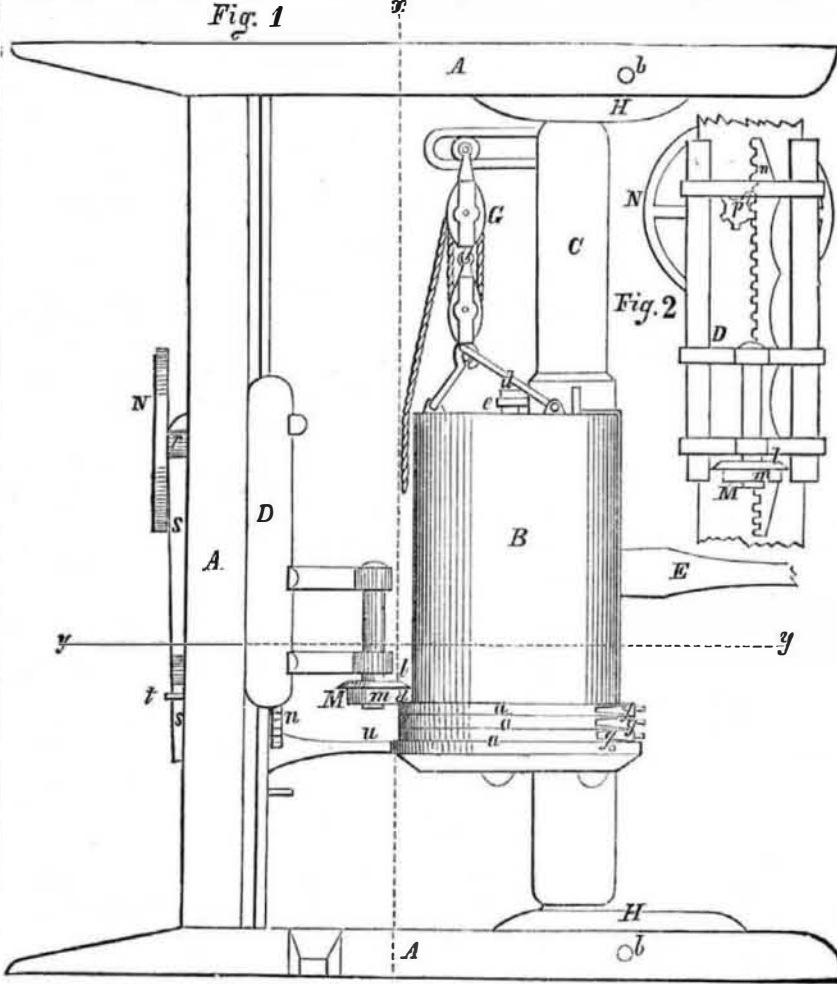
Condenser for Wool Carding Machines.

William H. Howard, of the city of Philadelphia, has taken measures to secure a patent for improvements in the above named class of machines, which embrace a certain means of keeping several slivers separate, and effectually preventing long staples becoming entangled when being conducted from the doffer to the condensing apparatus. The spools on which the slivers are wound, are so placed in guides that the full spools can be removed and the empty ones substituted without waste of material, or interruption of the work. The doffer roller is divided into sections by spaces, and the lower roll is divided into corresponding sections by disks, so that the long staple of several slivers is conducted forward without ever becoming entangled. The superior results of this machine are obtained by improved mechanical devices, constructed and arranged for the specific purposes mentioned, but would require engravings to render them more intelligible.

MACHINERY FOR BENDING FELLIES.

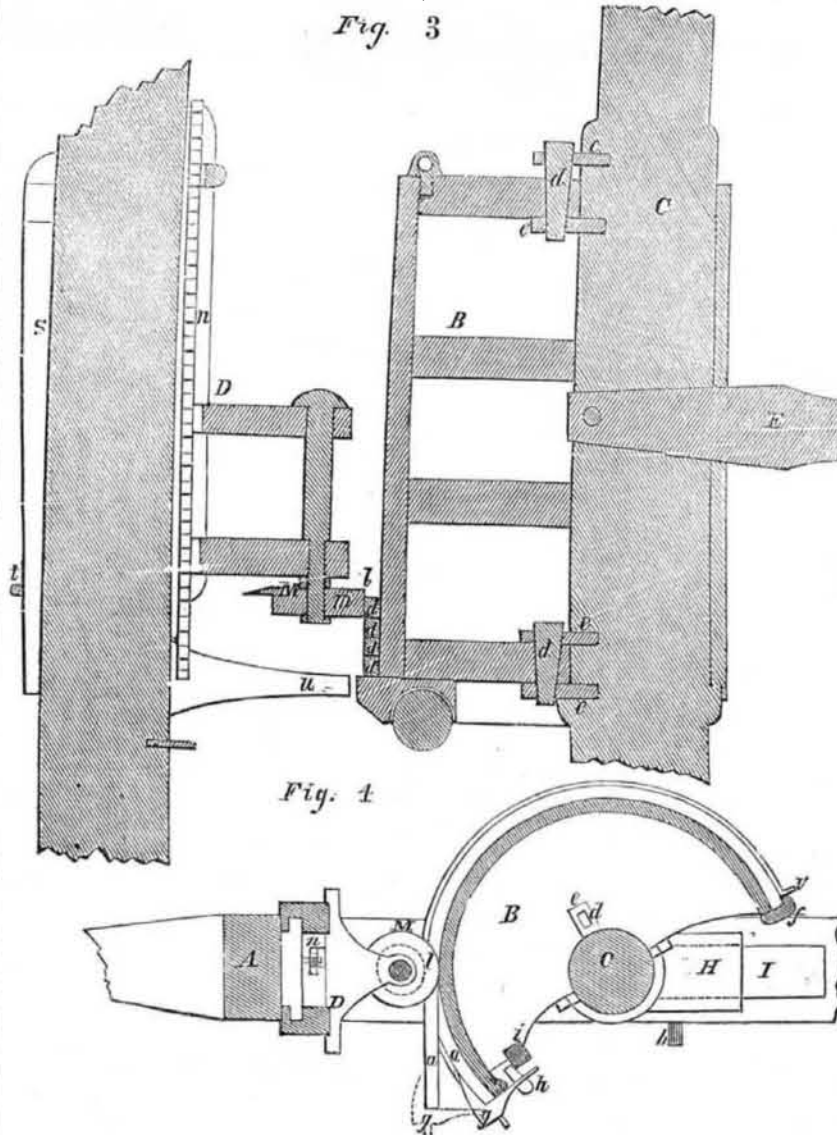
The annexed engravings represent an improvement in machinery for bending fellies, for which a patent was granted to Thomas Cox, of Lancaster, Pa., on the 4th of last July.

Figure 1 is a side elevation of the machine, in the position which it assumes when a felly is about to be bent. Fig. 2 is a transverse vertical section in the line, x x, fig. 1. Fig. 3 is a



longitudinal vertical section through the center, and fig. 4 is a horizontal section of the machine in the line y y, fig. 1, and in the position when the bending of a felly is nearly completed.

The same letters indicate similar parts on all the figures. The nature of the invention consists, first in the combination of the vibrating felly mold, B, with the flanged bending wheel,



M, arranged and operating as hereinafter described. Secondly, in the manner of perfectly bending the last end of each felly and securing it when completely bent upon the mold, viz., by the combined action of the bending wheel, M,

and of the wedge clamp, g, constructed and operating as will be described. A is the frame, consisting essentially of bottom and top horizontal beams connected by a vertical post. In the two horizontal beams are slots for the reception of sliding plumber blocks,

one on each side, which bear the shaft, C, of the felly mold, B. The plumber blocks are respectively provided with corresponding series of holes and through which pins, b, pass and also through holes in the frame, whereby the position of the shaft, may be changed so as to bring different sizes of molds always at the proper distance from the bending wheel, M.—The felly mold, B, is composed of a cylindrical case built upon suitable frame-work and extending in circumference as far as necessary to bend any portion of the whole felly desired.—Its diameter depends upon the size of wheel to be made, and its length on the thickness and number of fellies to be bent at one time. It is arranged so as to be readily attached to and removed from the shaft, C, by any convenient means, such as the keys, d d, passing through slots in the mold frame and through ears, e e, which project from said shaft, as represented in the engravings. A tackle, G, may be employed for raising and lowering the felly mold to and from its place on the shaft, as shown in fig. 1. It is operated by means of a lever, E, inserted in the shaft, C, and its movements in both directions are limited by projections, v v, upon its striking a stop, u, on the frame, A.

The bending wheel, M, consists of a cylindrical portion, m, of suitable thickness and diameter, and of a flange, l, projecting from the upper edge. This bending wheel is mounted on a vertical shaft, in a strong carriage, D, which slides in ways vertically upon the upright post of the frame, A, as shown. Said carriage is provided with a vertical rack, n, which plays into a pinion, p, fig. 2, on whose shaft, r, is secured a crank or hand-wheel, N, for the purpose of raising or lowering the bending wheel when and where desired. In order to retain said bending wheel in any position, a vibratory tightening lever, S, is arranged upon the back of the frame post, so that its upper end may be caused to bear against and bind the shaft, r, by pressing against its lower end, which can be conveniently done by means of a loop, t, and key to wedge it in.

To bend a felly, the mold, B, is brought round so that its starting edge may be opposite the bending wheel, M, and one end of the prepared material is inserted and held in a groove, f, in the edge of the mold. The bending wheel is then lowered till its cylindrical portion, m, bears against the side, and its flange, l, rests upon the top of the piece; and the carriage, D, is confined in that position by tightening the lever, S, if its own weight is not sufficient for the purpose. The mold is then turned so as to bring every part of its periphery successively opposite to the bending wheel, which consequently bends the felly piece closely upon said mold, in the manner indicated in fig. 4, where most of the felly piece is bent; and at the same time the flange, l, holds the felly down in its proper place. Then just before the bending wheel reaches the last end of the felly, a clamp, g, which consists essentially of a shank with a slot in it near one end for the insertion of a key, h, and a wedge-shaped prong projecting at right angles from the other end thereof, is held by the hand against the unbent end of the felly in the position shown in fig. 4. While thus situated its prong is pinched between the bending wheel, M, and the felly, and thus powerfully wedges the end of the felly against the mold and bends it perfectly thereon quite to the end. Finally, a key, h, is driven through the clamp between the case of the mold and a vertical bar, i, situated a little distance therefrom inside, and thereby secures the felly permanently upon the mold, which is then brought back to the first position and another felly bent upon it in the same manner as before. And this operation is repeated until the mold is filled with bent fellies, a a a, &c. It is then removed from the machine and laid aside till the fellies become perfectly set; other molds are substituted and filled in the same way.

This improvement in felly bending machinery speaks for itself. Fellies that are formed in this manner are allowed to be far superior in strength to those which are cut across the grain of the wood.

More information may be obtained by letter, addressed to the patentee, at Lancaster, Pa.