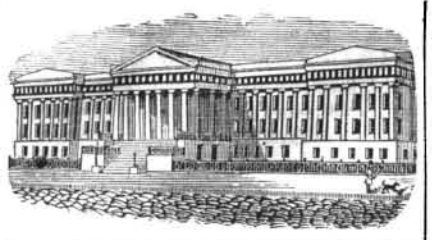

☞Reported expressly for the Scientific American, from the Patent Office Records.

## LIST OF PATENT CLAIMS
### Issued from the United States Patent Office.

FOR THE WEEK ENDING OCTOBER 15, 1850.

To John L. Allen, of New Haven, Conn., for improvement in Braces for Carriage Tops.

I claim the construction and arrangement of braces for carriage tops, so that one limb or part of the brace is turned upon a prop, fulcrum, or pivot, all the joints of such brace are simultaneously moved or operated, substantially as shown in the drawings.

I also claim the adaptation of a graduating strap, or similar device, so as to secure the top at any desired elevation, as herein set forth.

To Daniel Bartlett, Jr., of Boston, Mass., for improvement in Filtering Cocks.

I claim the combination of parts arranged, constructed, and made to operate together, substantially in the manner hereinbefore set forth, the said combination consisting of the box or case, the tubular passage way, having three discharging orifices; the turning or hollow plug, made with a discharging orifice; the central and two lateral chambers, the self-operating valves, and their stem, seats and valve-openings; the passages leading out of the bottom of the two lateral chambers, the central discharge pipe leading out of the chamber, the partitions, and the filtering medium, having wire gauze chambers, as above specified, or being used without them, as occasion may require.

To Amos H. Boyd, of Saco, Me., for improvement in Looms.

I claim the combination of the vibrating posts and springs applied to them, as arranged and adapted to the loom frame, and the operative parts with which they are connected, substantially in the manner and for the purpose of easing the web, without varying its horizontal position, as hereinbefore specified.

To Oliver R. Chase, of Boston, Mass., for improvement in machines for pulverizing sugar, (he having assigned his whole right, title and interest in said invention to Silas E. Chase, of Charlestown, Mass., & Oliver R. Chase, of Boston, aforesaid.)

I claim the combination of a rotative series of cells, a rotative series of stampers, suitable machinery for actuating the stampers, and a cylindrical mortar, when arranged and made to operate together, and to receive, pulverize and expel sugar, or other material, substantially in the manner as hereinbefore specified.

To W. B. Coates, of Big Lick, Va., for improvement in Hemp Harvesters.

I claim, first, the box which is a constant oil retainer.

Second, The combined sides and spring bottom for catching and laying the hemp, &c.

Third, I claim casting (or securing in any firm manner) choppers on a rock-shaft, with the edges chisel-shaped, and set so as to strike obliquely against the top and right edges of the teeth, where the part, N, moves by a lateral and semi-rotary motion. I employ a male and female screw-thread, as already fully described in the preceding part of these papers. I do not desire to be understood as confining myself to the screw in getting this motion, but will employ any other method most suitable to produce the desired result, and which shall be substantially the same.

To Isaac T. Grant & D. H. Viall, of Schaghticoke, N. Y., for improvement in Grain Cradles.

We claim the particular construction and arrangement of the brace rods, so as to fold down upon the fingers, each being bent in the proportionate angle, fitting their respective localities. the ends being thus bent pass through the fingers perpendicularly, and are secured by rivetting the same upon the upper side of the fingers, which shape and form given to the wire braces, forms and constructs a hinge joint and each may be turned or swayed in the direction desired, and when separated from the sneath, each wire brace is placed in the position as represented, permitting large numbers to be packed in a condensed form, in packages or braces, convenient and proper for removal, storage or transportation, substantially the same as herein set forth and described.

To Jacob Jenkins, of Andover, Mass., for improvement in Pegging Jacks.

I claim the combination of the two jaw blocks and the double spring connecting rod, as constructed and made to operate together and in connection with the other parts of the apparatus, substantially as herein above specified.

To G. K. Snow, of Boston, Mass., for improvement in machines for Folding Paper.

My combination consists of the following elements:—First, a slotted plate, table, or contrivance for receiving and supporting the sheet.

Second, Two parallel planes or plates extending at right angles from such support, and so arranged that there shall be one of the said plates on each side of the slot of the first element or support of the sheet.

Third, A striking and folding frame or plate so arranged and operated as to press the paper against the middle or other proper part of it, force it down through the slot, and between the two parallel plates; the said parallel plates operating to complete the fold, and to hold the sheet of paper during the return or retrograde movement of the striking frame or plate. And in combination therewith I claim a second striking and folding plate, arranged at right angles to the said two parallel plates, and made so to pass or operate through them or their slots, and directly after the said retrograde movement of the first one, as to press against the sheet of paper, and force it through one of the said slots, and thereby once more, or a second time, fold it.

And I claim in combination with such second combination of mechanism, a third striking and folding plate and slotted parallel folding plate, and friction rollers (two) or equivalent contrivances, the same being for supporting the twice folded sheet of paper, folding it a third time, and subsequently discharging it, which discharge taking place in consequence of the return or retrograde movement of the striking or doubling plate, as above described.

I also claim the combination of mechanism which is applied to the striking plate and its rollers or folding contrivances and used for packing the sheets; the said mechanism consisting of the stationary plan, and the spring plate or plate and its springs, or other proper equivalents, which permit the recession of the plate in proportion as the pack of sheets increases in size; the whole being arranged and made to operate together, substantially in the manner as hereinbefore specified.

To Erastus Stebbins, of Chicopee, Mass., for improvement in Molasses Gates.

I claim the arrangement of the springs, the turning shaft and their bearings at one end of the gate, and on the side of the screw or seat tube, substantially in the manner above specified, the same giving to my improved molasses faucet, several important advantages over that described in the said patent numbered 3,002.

To Wm. Watson, of Chicago, Ill., for Maize Harvesters.

I wish it to be understood that I do not limit myself merely to the various parts herein described, when combined together in a single machine, as some of these parts may be used without the others; neither do I limit myself to the precise combination of parts described in this specification, as portions of one machine may be used in connection with portions of the others, thus constituting new machines operating upon a common principle; but I claim the method substantially as herein described, of separating the ears of Indian corn from the standing stalk on which they grow.

I also claim, in combination with the gathering forks, apparatus for husking and shelling the corn, substantially as herein set forth, whereby the gathering, husking and shelling of corn are performed at a single operation.

[Will the Commissioner of Patents see to it that we get a correct list of claims every week? Was there not a patent for a re-issue and design granted, which should have accompanied *our* list?

For the Scientific American.

### Ocean Steam Ships.

As the character of the steamships Atlantic and Pacific for speed may now be considered established, and classed as first rate, and as the opinion seems to prevail (originating for the most part with newspaper editors, and others not particularly well versed in the subject) that something has now been accomplished which it is impossible for the English ever to equal, much less to surpass—it might be worth while for us to look closely into the facts and ascertain whether this superiority that we claim is real or assumed. We are interested in doing this in an unprejudiced manner, because if it be real, so much the better for us, but if it be assumed we are resting on a false security, to the consciousness of which we may some day be unexpectedly awakened. Enough, however, has been done to show that these ships are superior in speed to the America, Niagara and Canada, of the Cunard line; with the Europa and Asia it is a close run, and until some voyages have been made between Liverpool and New York, direct, it will hardly be possible to say, precisely, which has the advantage. It is well known that large steamships have a considerable advantage over small ones, in consequence of their requiring less power in proportion to their tonnage for equal speed, and as the amount of this advantage is easily reduced to calculation, it would seem that before we can truly estimate the respective merits of two ships, an allowance should be made for this difference. Let us see what this would amount to in the case of the Atlantic and the Asia, the former of which is represented to be 3,000 tons burthen, and the latter 2000. Now with vessels of precisely the same model (which for the sake of comparison we must suppose to be the case) the tonnage of course will be as the cube of the dimensions, and the power required to propel them for equal speed as the square, and since the cube root of 3000 is 14·5, and of 2000 is 12·6, nearly, and the squares of 14·5 and 12·6=210·25 and 158·76, respectively, it follows that the power required for equal speed will be in the proportion of those numbers,—viz., as 1,323 to 1,000; and since the amount of power, all other things being equal, depends upon the quantity of coal that each vessel can carry, and if we describe the amount of coal or power which can be employed by the ship of 2,000 tons by the number 1,000, it follows that 1,500 will equally describe the amount of power which may be employed by the ship of 3,000 tons. But the power required for the ship of 3,000 tons, to equal the ship of 2,000 tons in speed, is only 1,323, consequently it has an excess of power in the proportion of 1,323 to 1,500, and since the speed is as the cube root of the power—the speed of the two vessels would be as the cube root of 1,323 is to the cube root of 1,500, or as 11 is to 11½, nearly,—consequently in the time which the ship of 2,000 tons makes 11 miles, the ship of 3,000 tons ought to make 11½, or, which is the same thing, ought to make a passage from port to port in 11 days, to equal the performance of 11½ days on the part of the other. Now if the Asia makes a passage in only the same time as the Atlantic, it is evident that her performance is superior, and this superiority must consist either in the model or machinery—most likely in the model, for in some respects our engineering practice is superior to theirs, working as they do at so low a pressure and with little or no expansion, and if they only adhere to that system, we shall find but little trouble in going ahead of them.

Since the commencement of steam navigation very great improvements have been made in the model of the English ships, although the engines remain pretty much the same as they were, and there is room for very great improvement in that department, if the prejudice in favor of low steam could be removed. Almost every body knows that there is a great difference in the performance of steam engines as regards the consumption of fuel, some producing four times the amount of power from the same quantity of fuel that others do, and that this difference is principally owing to the more or less effectual working of the expansive principle. But to carry out this principle to a very considerable extent requires a higher pressure of steam in the boiler than would be considered admissible in a steamship, and would also require the dimensions of the cylinders to be increased to a size inconveniently large, it is evident it must be confined within limits somewhat narrow compared with what may be accomplished in stationary engines; but still, admitting of a much more extended application than it has hitherto undergone, and the attention of engineers should be earnestly directed towards such improvements in the engines and boilers as are necessary to carry out this principle. But even with our present boilers and the pressure of steam which is now carried in American ships, a considerable amount of expansion might be obtained, and instead of cutting off, as we now do, mostly at half stroke, we might just as well use double cylinder engines and expand the steam 4 or 5 times, or by increasing the pressure in the boilers to 40 or 50 lbs., 6 or 8 times.

By increasing the expansion from 2 to 4 times, nearly 40 per. cent more power may be obtained from the same quantity of fuel, and by carrying it still further, to 6 or 8 times, 80 and 100 per cent., thus doubling the amount of power which could be employed without increasing the consumption of fuel. Assuming it possible that, all practical difficulties being removed, such an amount of expansion could be employed, let us see what increase of speed could be calculated upon to result from it. The power being doubled—that is, increased from 1 to 2—the speed will be increased in the proportion of the cube root of those numbers, which will be as 1 to 1·26, and consequently a passage which occupies 10 days would be reduced to 8; and a passage of 12 days to about 9⅔, and if it were practicable to increase the size of the vessels, a still further advantage could be obtained from that source also. If the Asia, for instance, which now, under favorable circumstances, makes a passage in 10 days, could have her power increased so as to make it in 8, why, then, a vessel of exactly the same model, but of 4,000 tons burthen, ought to make the passage in 7⅓ days, so that we see a considerable increase of speed might be obtained without the discovery of any new principle by only making a proper use of the knowledge we are already in possession of. Still, it does not follow that what can be done will be done immediately, for after all, these questions resolve themselves into matters of dollars and cents, and ships as large as those which are now employed, could hardly have yielded a profit to the owners at the commencement of ocean navigation, before the public confidence in this mode of transit had become established.

As this confidence increases, we shall see the system of steam navigation extend with it, both in extent and efficiency, and the present large, magnificent and fast-sailing vessels will then be superseded by others superior to them. We shall find, too, that in process of time, by further improvements in the engineering practice, and approximating the models of merchant vessels more and more to those of the best steamers, it will be found to be cheaper to employ steam, if not altogether, at all events as an auxiliary for the transportation of merchandize in preference to sailing vessels, especially in such seas as the Pacific, where calms and light winds prevail.

ENGINEER.

Brooklyn, Oct., 1850.

[In respect to the newspaper paragraphs alluded to by our correspondent, he is perfectly correct; there are but few editors who know anything at all about that term of great latitude, the "horse power" of an engine. To scientific men the speed of one vessel over another is but of little importance—the causes of the superior speed is the main object. If regular tables were kept of the speed of the piston, the fuel consumed, the pressure, together with the form of the vessels and all connected with their management, the science of steam engineering would soon be greatly advanced.