

**Recent Foreign Inventions.**

**WEAVING LOOMS**—James Bullough, of Ac-  
rington, Lancaster, Eng., has taken out a pat-  
ent for preventing broken warp threads becom-  
ing entangled in the shed of a loom. He em-  
ploys an extra leaf of *healds* placed behind the  
ordinary harness, and gives to this leaf a mo-  
tion backwards and forwards between the yarn,  
making them act like a comb, to throw back  
any ends of broken yarn from being carried  
forwards to obstruct the proper shedding of  
the warp. The improvement is a good one.

**GALVANIZING IRON**—Iron is covered with a  
coating of zinc (usually called galvanizing) by  
first removing all the oxyd from the iron, then  
dipping it into a solution of salammoniac, and  
from thence into a pot of molten zinc. Instead  
of using salammoniac for preparing the iron to  
take up the zinc, Wm. Hunt, of Tipton, Eng.,  
has taken out a patent for the use of the  
chloride of zinc as a substitute. The chloride  
of zinc is formed by dissolving zinc in hydro-  
chloric acid. This is used in a diluted state as  
the *mordant* of the iron to be galvanized.

**SMOKE-CONSUMING FURNACES**—John W.  
Slaughgrove and J. H. Wheatly, engineers,  
London, have obtained a patent for a new fur-  
nace to consume the smoke of bituminous coal.  
The furnace is fitted with two sets of grate  
bars slightly inclining upwards towards the  
back end. Between the front and back set of  
bars a hollow perforated movable bridge or  
partition is fitted, and connected with a lever,  
by which the fireman can move it up or down.  
When this bridge is depressed, access may be  
readily had to the back bars from the front  
ones. A bright glowing fire is kept in the back  
bars or grate by pushing back the incandescent  
fuel from the front one. After the back grate  
is supplied with glowing coals, the central  
bridge is raised, and all communication be-  
tween the two fires is cut off, except through  
holes or perforations in the bridge. When  
fresh fuel is thrown on the front grate, a large  
quantity of unconsumed gases are immediately  
evolved, which, in passing through the perfor-  
ations in the movable central bridge, are there  
mingled with a current of warm air coming  
from below the furnace through the hollow  
part of the bridge, and then pass in streams  
over the back fire, ignite and are consumed—in  
other words, converted entirely into carbonic  
acid gas, with a great development of heat. A  
door is placed behind the furthest set of bars  
for the purpose of cleaning out the back fur-  
nace. The construction of this smoke consum-  
ing furnace will be clearly understood by every  
engineer. The improvement appears to be a  
good one, and will, no doubt, effect the object  
contemplated.

**ENLARGING AND REDUCING MAPS AND DESIGNS**  
—James Murdock, of London, has taken out a  
patent for the purposes above-named. The in-  
vention consists in transferring a map or a de-  
sign to a sheet of india rubber in an unstretch-  
ed state; then stretching the material equally  
in all directions, by having it secured in an ex-  
panding screw frame. This process enlarges  
the map or design. To make a design or a  
map smaller, it is transferred to the india rub-  
ber sheet when it is in a stretched state, and it  
is afterwards allowed to contract equally on  
all sides. The inventor is a French artist;  
many beautiful samples of his invention were  
on exhibition at the Paris Industrial Fair.

**GLOBES**—Alex. Clark, of London, has ob-  
tained a patent for making terrestrial and  
celestial globes of hollow glass, having the pa-  
per segments, representing the earth's surface,  
or of celestial bodies, pasted on the inside.

**BLEACHING OILS, RESINS, &c.**—A patent has  
been secured by Wm. Score, of Bristol, for  
causing oils, fats, and resins, when in a heated  
state, to be thrown by centrifugal force through  
fine wire gauze into an enclosed chamber con-  
taining chlorine. The apparatus is like a cen-  
trifugal sugar pan surrounded with a metal  
chamber containing the bleaching gas. A slide  
is employed to shut off communication, (when  
required) between the revolving pan and the  
bleaching chamber.

**Barlow's Planing Machine.—Erratum.**

The date of the patent for the above named  
machine, illustrated in the SCIENTIFIC AMER-  
ICAN of last week, is stated to be the first of  
July last; it should have been *thirty-first*.

**The Yellow Fever.**

At a recent meeting of the New York Acad-  
emy of Medicine, Dr. Stowe, a distinguished  
surgeon of New Orleans, was introduced, who  
gave some valuable information respecting the  
above terrible disease.

In his opinion, yellow fever is a specific dis-  
ease, the same every where, unmodified by top-  
ographical causes or changes of climate, but  
under all circumstances the same, identical and  
unchanged. When the fever is epidemic anything  
which disturbs the system develops it; at such  
seasons it is impossible to have any other dis-  
ease. At such times many have the disease in  
a light manner—known to be such by the  
symptoms peculiar to its convalescence—yet  
such never have it again. Even accidents and  
injuries occurring at such times are sure to be  
followed by yellow fever in from twenty-four  
to thirty-six hours.

Many attempts have been made by statistics  
to discover its cause, but, like cholera, it es-  
capes observation. Warm climate is an essen-  
tial. A continued heat at a certain high de-  
gree was once supposed to be essential, but  
this is now disbelieved, for in 1847 it com-  
menced early; in 1853 earlier—say in the latter  
part of May and June, when there was no  
steady heat. Moisture seemed not essential,  
for it raged equally in the high lands as the low,  
where the dry trade-winds blow, or where the  
air was damp. New Orleans has daily show-  
ers at certain seasons, and yet without any dis-  
ease. This year it was very dry, and the sug-  
ar cane died for want of moisture, and all were  
suffocated by dust when the disease first ap-  
peared. It is not produced or augmented by  
filth or unwholesome air; it is a deterioration  
of the vital powers from some unknown cause.  
Frost does not check the disease. As a gener-  
al rule, when the epidemic came early it left  
early, and when late it left late. The disease  
has never renewed after it has ceased, by the  
return of people from their summer retreats,  
as it would if contagious.

Some believe in its contagion, but it is in-  
capable of generating its own poison under any  
circumstances, were it so, being such a specific,  
marked, and formidable disease, it could not  
but be evident. It is all around us, and we  
cannot so well observe as in smaller districts,  
where this fact is plainly to be proved. A ves-  
sel from Bremen, bound to New Orleans with  
emigrants, which came from the south side of  
Cuba, and when a hundred miles from land  
took the fever, and many died. On landing,  
some thirty were sent to the hospital, and many  
died—no one else took the fever. When the  
Charity Hospital was moved, the house was  
crowded, and beds were laid on the floors and  
in the entries, &c. Many died of yellow fever,  
the beds covered with excrements laid in the  
passage, but there was no epidemic in that  
neighborhood, and those lying around—the un-  
acclimated—did not take the disease.

Its epidemic character is almost undisputed.  
It would sometimes seem to be contagious  
where it was not—as, for instance, the moral  
effect of one case occurring in a family is suf-  
ficient to cause all the other members to take  
it—but only in the yellow fever region. Any  
excitement at such times was sufficient to cre-  
ate or develop it. It was noticeable among the  
unacclimated—the northerners and others who  
united together for self-protection, the nurses  
and assistants were the last to take it, while the  
timid, who shunned infected localities, who  
sneaked off to bed, who feared the night air,  
who deprived themselves of exercise by their  
seclusion, were by these mental cares the first  
to receive it. In Norfolk, recently, it was be-  
lieved at first not to be personally contagious,  
but all felt that they were shut up, obliged to  
stay and perish, and the moral effect was dis-  
advantageous. They did, however, in some in-  
stances, attend to their own relatives, but oth-  
ers were un nursed and neglected.

This disease has literally no anatomical char-  
acter—it is a blood poison. In yellow fever  
proper there are no traces left to account for  
sickness or death. Occasionally there are en-  
gorgements from the *sequalae*—but none to ac-  
count for the black vomit, &c. There was, in  
fact, no irritability or tenderness of the stom-  
ach, but simply heightened nervous sensibility.

Yellow fever is a self-limited disease; it is  
not to be treated—it is to be managed. All

that is to be done is to keep the patient alive  
for a certain time, and he will get well.

The disease is ushered in with a chill or  
slight rigor, often scarcely noticeable, followed  
by heat in forehead, pain in head, limbs, and  
back. If carefully treated, these symptoms  
will quietly terminate gradually in two or three  
days, but if they get hot and dry, in from five  
to seven days, collapse, black vomit, and death  
result.

Among those who may be said to understand  
the disease, there are two methods of treat-  
ment; the expectant—cups to temples to re-  
lieve cephalalgia, slight laxatives to open the  
bowels, hot baths under the bed. Others give  
quinine, a remedy which Dr. Stowe regards as  
the best. His method is to give a full dose of  
fifteen or twenty grains, according to the cir-  
cumstances at the outset, perhaps ten grains  
more 12 hours after, but none unless on the first  
day; and the second day it is entirely useless,  
and after that actually injurious, although they  
bear it better than any other remedy. It causes  
vomiting when given late, and is not necessary,  
for its effects last several hours after its admin-  
istration. Dr. S. thinks that the use of calomel  
should by all means be avoided. He knew  
this, for he had followed the patients of the  
calomelites to the dead house in plenty.

There are some peculiarities in the disease  
that might not at first strike one—the disturbed  
nervous system, and especially delirium, is one  
of the worst symptoms. This may appear at  
first but not usually. Its first evidence is rest-  
lessness and want of sleep; objects are seen  
as in *mania-a-potu*. Narcotics produce stu-  
por and death, for the patients with this disease  
are peculiarly susceptible to morphine; stimu-  
lants are much better. You must watch to  
give the stimulants as early as possible; they  
then sweat off, and are relieved in 24 to 36  
hours; but even then they must not be dis-  
turbed; if raised up they faint away. Perfect  
and absolute rest, body and mind, are indis-  
pensable. If patients become excited, the heat  
returns, and they die. Watch for sleeplessness,  
and give minute anodynes and stimulants. Give  
those agreeable to the palate. As they ap-  
proach the black vomit period with previous  
restlessness and acid secretions, give some al-  
kali, with minute doses (say a 20th or a 30th  
of a grain) of morphine, with champagne, ale,  
beef essence, &c. Impart to the patient a feel-  
ing of safety and security. The patient is to  
be managed, not treated.

Foot-baths under the clothes will often pro-  
duce favorable sweats. When in dry heat,  
forced perspiration is bad; sponging with  
tepid water is then better. The douche is but  
of temporary benefit, and the subsequent reac-  
tion leaves the patient worse. Sponging with  
lemon juice, sweet oil, and salt are used, but  
pure water is better. Careful covering of the  
entire body and limbs is absolutely requisite,  
but not to swelter under too much covering.  
If the hands were but exposed sometimes, the  
heat would return and a relapse ensue. Some  
mild diaphoretics may be given; such drinks  
as the patients desire, one year all want brandy  
and water, other years malt liquors. Give that  
which is desired, and carefully avoid even the  
nervous shock caused by a bitter or disagree-  
able medicine. Sponging the body under the  
clothes, ice water to head, generally was fol-  
lowed by reaction and more pain. Dr. Cart-  
wright had pursued the opposite plan of envel-  
oping the head in warm fermentations.

The recent Norfolk epidemic was the identi-  
cal yellow fever seen the same in every local-  
ity, but in a severer form than ordinary. It  
first commenced at Rio in 1851, thence spread  
throughout Brazil, Para, northern part of South  
America, going into the country and the small  
villages; into the plantations heretofore un-  
known to be ever affected, attacking negroes  
(generally enjoying immunity,) into the pine  
woods of Alabama and the heights between this  
State and Georgia, the next year throughout  
Georgia and South Carolina, this year in Mem-  
phis, (where never was before epidemic,) and  
Norfolk. It is creeping over the country, and  
there is some reason to fear (why, cannot be  
said) that next year it may reach New York.

Dr. Stone is a man of close observation and  
great experience in the treatment of the yellow  
fever, having practiced in New Orleans for over  
twenty years. His opinions are entitled to  
careful consideration.

Alas! how terrible is the very thought that  
a great and populous city like New York is  
perhaps standing in the pathway of this fear-  
ful king of terrors.

Inoculation for the yellow fever is reported  
to have been tried in more than one thousand  
cases at New Orleans, during the past summer,  
with perfect success.

**New England Industrial Exhibition.**

DEAR SCI. AM.—The above exhibition, under  
the patronage of our Mechanics Association,  
was opened to the public on Monday, last  
week—the 22nd—but the machinery was not  
properly arranged until Thursday. The dis-  
play, however, has made amends for the de-  
lay; as it is no doubt the best ever witnessed  
at any Fair in venerable Boston. The display  
of tools, of every description, was never  
equalled, and I have always noticed that the  
quality of tools used by mechanics is a very  
good index of their skill. It is impossible for  
me to pay a tribute of respect to all the ma-  
chines exhibited. I can only state in a gener-  
al way, that they were very good, and that  
quite a number of them had been illustrated  
in the SCIENTIFIC AMERICAN, and on that ac-  
count were more conspicuous. This was es-  
pecially the case with Gallahue's boot and  
shoe pegging machine, which was illustrated  
on page 25, Vol. 9, SCIENTIFIC AMERICAN; it  
was a special object of attention by the sturdy  
shoemaker's of Lynn, who have visited the  
Fair in great numbers.

Distinguished as the New England mechan-  
ics have long been for all kinds of manufac-  
tures, and for mechanical skill, this Industrial  
Exhibition affords abundant and pleasing evi-  
dence that they are not content with the repu-  
tation they have acquired, but are determined  
to aim at higher and nobler results. The ma-  
chinery from the famous machine shops of  
Lowell, Taunton, Worcester, &c., display many  
improvements in finish and construction. The  
exhibition will continue open for one or two  
weeks longer, and I may be more minute in a  
future letter. R. R.

Boston, Oct. 27, 1855.

**National Agricultural Exhibition.**

The National or United States Agricultural  
Society, composed of members belonging to all  
parts of the Union, held its Annual Fair at  
Boston last week, and was the greatest ever  
witnessed in our country—60,000 persons being  
on the ground at one time. There was a cav-  
alcade of 517 cart horses in a single line; and  
never before was there seen such a dis-  
play of live stock. The oxen and cows, Ayr-  
shires, Durhams, Devons, &c., were the admi-  
ration of all the beholders. A New York horse  
named "Genesse" gained the first prize, \$200,  
for speed. These exhibitions are intended to  
excite our farmers to improve their stock and  
everything connected with farming. They de-  
serve to be well patronized, for their objects  
are good.

**Mechanics Institute.**

The opening lecture of the course to be given  
under the auspices of this Institute was de-  
livered on Thursday evening last, at the Acad-  
emy of Music, by the eloquent Thomas Francis  
Meagher. The large room was filled, and the  
audience seemed highly pleased with the orator  
and his lecture.

Some of the most eminent men of the country  
are engaged to continue this course of lectures,  
and we hope the public will yield to them a  
hearty support. The Mechanics Institute is one  
of the most noble in our city, and deserves to  
be patronized by all our mechanics.

**California Minerals.**

The *Citizen* says: "Recently in El Dorado  
County an immense bed of arsenical ore is said  
to have been discovered. Beautiful variegated  
marble has also been found in the same County,  
and in Yuba, a mine of genuine coal has been  
found, and preparations are now being made to  
work it. That silver exists in considerable  
quantities throughout the State is well known,  
and platinum has been found in various por-  
tions of it. The quicksilver mines of New Al-  
maden are the richest in the world, and fine  
specimens of cinnabar have recently been found  
in Mariposa County, and doubtless exist in  
other portions of the State."