

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 calo-
mel 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."