

OUR SPECIAL CORRESPONDENCE.

A Comprehensive Glance at Texas—The Matchless Beauty of the Country—Great Agricultural Resources—Splendid "Opening" for Mechanics—Drouth, Yellow Fever, &c.—Dr. Kellum, the most Enterprising Man in the State.

KELLUM SPRINGS, TEXAS, June 10, 1860.

MESSRS. EDITORS:—Notwithstanding my delays of two whole days on the route, in just a week and a day from the time of leaving New York, I landed in Madisonville, Texas, 165 miles N.N.W. of Galveston, and 2,268 miles from your city. I have now been here more than a week, traveling about in all directions, making inquiries of all sorts of persons; and though most assuredly entirely unqualified to give a full and minute account of the condition and resources of Texas, it is possible that the very *newness* of my observations may impress me more powerfully with its salient features than a longer residence, and enable me to present more vividly those leading characteristics which all the readers of the SCIENTIFIC AMERICAN would like to know in regard to this largest member of our confederacy.

Texas is a beautiful State. The land about Anderson (the county seat of Grimes county) reminds me very much of that about Worcester in Massachusetts, or of Roxbury, near Boston. The hills are not as high, but they have the same rounded and grassy summits, and the wild post-oaks with which they are adorned, though less beautiful when closely examined, can hardly be distinguished at a short distance from the apple orchards of New England. I am told that west of the Bazos, and north of Madison, a large portion of the State is quite as beautiful as the land about Anderson. The railroad running northward from Houston, passes through the largest and most level prairie (with the single exception of the valley of the Sacramento in California) that I have ever seen; it is mostly uncultivated. We passed a number of deer—some within rifle shot; and they stood and gazed at us in bewildered astonishment as we rattled by them. I have walked over fifty miles within the last week, and have seen either deer or wild turkeys every day. This country—beyond any other country I have ever been in—abounds with animal life. Innumerable swarms of insects fill the air with their constant buzzing; nimble lizards—brown, green and blue—dart across your path at every step; serpents in endless variety, including the deadly moccasin and rattle-snake, crawl in all the creek bottoms; and the woods are incessantly vocal with the songs of birds. This is not the case in all warm countries; the thing that most surprised me in the tropics was the strange stillness of the forests.

Cotton and cattle are the leading products of Texas. Cattle are able to subsist throughout the winter without feeding, and cotton bears much better than corn the extreme drought to which the State is very liable. In the northern part, wheat does remarkably well; and as this grain grows early in the season, it usually gets sufficiently advanced to be safe before the dry weather of summer commences. The raising of stock and cotton is profitable, and the State is rapidly advancing in wealth and prosperity.

Though the agricultural resources of Texas are doubtless greater than those of any other State, in manufactures it is behind all others, with the possible exception of Arkansas and Florida. In the wheat regions there are plenty of steam flouring mills, and in the pine regions plenty of steam sawmills, but beyond this the mechanics and manufactures are very few. At Houston there is a foundry and machine-shop, where even small steam engines are made, and there are two or three similar establishments at Galveston. But what would the northern machinists say to heavy castings at 6 cents per pound, and \$8 per day for finishing-up! At the State Penitentiary at Huntsville, the manufacture of cotton and woolen cloth, of furniture and other articles, is carried on, and I am told that this brief summary embraces about all the manufacturing interests of this great State.

This comparative dearth of manufactures is to be attributed, in part at least, to the extreme heat of the climate. The temperature of the waters of the Gulf of Mexico is 86°; this is six degrees higher than that of the Atlantic under the equator, and the prevailing south-east winds waft their sickly and enervating influence up to the very foot of the mountains, almost un-

fitting all the inhabitants for labor, except the negroes. These sable salamanders can be taught to hoe and pick cotton, but they are generally wanting in the capacity to perform the operations of skilled and trained mechanics. The statement that the climate is sickly must in truth be qualified. It is true that the coast is subject to the yellow fever, which extends to Houston and 70 miles farther along the railroad to Navasota, and there is some little amount of chills and fever in most parts of the State; but, generally, the faces that I have seen wear a very healthy look—far better than will generally be found throughout the valley of the Mississippi.

Though the climate is enervating, there is a vast amount of energy in this young State. Houston and the other places along the railroad are doing an enormous business, and growing with great rapidity. I presume, however, the most enterprising man in the State is Dr. Kellum, who owns the establishment called "Kellum Springs." A cool, copious spring of strong sulphur water bubbles up at the foot of the hill; and Dr. Kellum has fitted it up with a beautiful marble curb, built a large hotel and a number of cottages, and made it the leading summer watering place of the State—the Saratoga of Texas. Four or five hundred guests assemble here at one time in the heat of the season, and it is said that there is more dancing done here, more flirtations carried on, and more matches made than in any other place in the whole country! The doctor regularly takes the SCIENTIFIC AMERICAN; he has established a brick-yard, built a steam sawmill, erected a dozen cottages for summer tenants, has 4,000 acres of land, a splendid flock of full-blooded merino sheep, is building a wind-mill to irrigate his fields, and is altogether a regular hard-headed, active, energetic, impatient, enterprising, go-ahead, full-blooded native American. B.

OUR WASHINGTON CORRESPONDENCE.

WASHINGTON, D. C., June 25, 1860.

MESSRS. EDITORS:—The session of Congress has come to a close, and though much has been done, many important measures have failed for want of time or a disposition to consider them. Such was particularly the case in regard to the bill to amend the patent laws. For six years the Commissioner and others interested in the patent business have urged such changes as experience dictated would be of advantage to all concerned, but their exertions have proved failures; and now, after a bill had been matured and passed the Senate, it was strangled in the House as soon as it could be reached, and postponed until the second Wednesday in December next, for an alleged want of time, and when that period arrives some other dilatory plea will probably prevail to defeat it again.

A large number of copies of the Patent Office Report on Arts and Manufactures for 1859, have been ordered to be printed for distribution, including one copy to each patentee. Of the Agricultural Report over 200,000 copies are to be printed. An appropriation of \$60,000 has been made for seeds, cuttings, and agricultural statistics for the current year.

The following are the principal heads of appropriations relative to the District of Columbia, made at the present session:—For the exterior of the Treasury Building, \$350,000; for payment for labor and materials furnished for the Capitol Extension, \$204,822; for the prosecution of the work on the Capitol Extension until June 30, 1861, the sum of \$300,000; for the completion of the Washington Aqueduct, according to the plan and estimates of Capt. Meigs, and to be expended under his direction, the sum of \$500,000; for the extension of the General Post-office, \$70,000; for the Botanic Garden and payment of wages, \$8,421; for converting the old Senate Chamber into a court-room, the old court-room into a law library, and for fitting-up the adjacent rooms for the use of the Supreme Court, \$25,000; for fitting-up rooms in the center of the Capitol Building for the use of the Court of Claims, \$3,000; for the support, clothing, and medical treatment of the insane of the District of Columbia, and members of the army and navy at the Insane Asylum, \$30,000.

The District Attorney has been directed to report to Congress at its next session, the value and nature of the title to the property proposed to be purchased for extending the Capitol grounds. The large appropriations now made will add much to the business and prosperity

of the city, and tend in a measure to its permanency as the federal capital of the Union.

An act was passed to-day, authorizing the Secretary of the Treasury to effect a loan of \$21,000,000, redeemable in ten years, at a rate of interest not exceeding six per cent; this measure was adopted because such a change in the tariff as would meet the wants of the Treasury could not be agreed upon.

Congress has done an act of justice to the Assistant-examiners, and Second Assistant-examiners in the Patent Office, who have for some years been performing the duties of Examiners-in-chief, and First Assistant-examiners, by paying them the salaries of the respective grades in which they have so faithfully discharged the duties.

The Postmaster-general announces that, hereafter, the single rate of letter-postage between the United States and Switzerland, by the Hamburg mail, will be 19 instead of 20 cents, pre-payment optional; the reduced rate of 19 cents being identical with that charged by the Bremen mail.

SCRIBE.

THE FIRING OF FURNACES.

MESSRS. EDITORS:—While the theme of the day is the economy of fuel for boiler furnaces, and steam jackets and superheating are topics of almost hourly discussion, it appears to me that one important point is neglected—that of properly *managing the fire*.

My experience has led me to believe that there is more fuel wasted by bare grates and irregular fires than any other cause. The common plan of firing with stationary boilers is to govern the amount of steam wanted by the amount of fuel kept in the furnace. This does very well where the amount of heating surface is small in proportion to the amount of steam wanted, such as in high pressure steamboats, &c., when the furnace can be kept full and all of the steam worked that can be generated; but for stationary purposes, where there is generally a greater capacity in the boiler in proportion to the amount of steam wanted, we must have some way of controlling the fire. Suppose, for illustration, that a furnace and boiler is so arranged that the necessary amount of steam can be made by using green wood for fuel, with all of the draft on, and that it should become necessary to use dry wood mixed with coal. The common plan would be to keep the furnace but partly full, leaving bare grate surface to counteract the effects of the better fuel; or else to fill the furnace full, when the steam will rise 10 or 15 lbs., and then let it burn entirely out and cool enough through the grates to stand another filling-up, thus making a waste of at least one-third of the fuel. Now, my plan of remedying this is to make a large furnace with a good proportion of grate surface, and to keep the furnace full, regardless of the nature of the fuel, and then control the effects of the fire by means of an airtight slide damper in the stack, worked by a lever placed within convenient reach of the fireman, the damper rod to be marked with a scale of inches to show how much draft is on. By this means the steam can be kept at a uniform pressure all the time; and with a good draft, the fireman is prepared, in case of an emergency, to increase the pressure to any degree wanted in a few minutes, while, in filling up, the draft can be shut off to prevent cooling.

Let some of the legionary readers of the SCIENTIFIC AMERICAN try the plan, and they will be astonished to find that a fire which usually burns out in 15 minutes will last for 30 minutes, with an effect equally as great throughout that time. It may be argued that, with the draft shut partly off, the flame will not reach so far, nor do so much good; but admitting there is some effect lost in this way, the gain in other respects is two-fold.

JNO. RICHARDS.

Columbus, Ohio, June 30, 1860.

[We can endorse the utility and economy of the plan described by our correspondent, having seen it carried out successfully thirty years ago. The plan was to have the damper self-acting by controlling it with the pressure of steam, so as to throttle the draft.—EDS.]

ILLUMINATION OF MINES.—The theory of the "safety lamp" for mines is that flame will not pass through the meshes of the wire gauze to ignite the gas in the mine, because the great extent of surface in the gauze exerts a very cooling power by radiation. The safety of the lamp is solely dependent upon the shield of gauze.