## FOREST FIRES.

ACAMPER'S fitful fire burns low, Then starts afresh with lurid glow. Cnwatched, unchained, whh fucl nigh
The fames grow wide, and broad and high ! Wi:t rush and roar, and swoop and crash, O'er field and forest, fires now dash. They're here and there, and everywhereThe sk'j grows thick with pall and glare. The tall trees fall, and house and field To all-consuming fends must yield. The men like demons fight the blaze-Back-fire and chop-and structures raze. Repulsed somenhat, but remforced,
From ruthless ruin, death, despairOn wings of red they ride the air.
Through choppings dry, o'er town and lea,
There surge the waves of a burning sea.
Will they never ccase to onvard sweep? -
The heavens now in sorrow weep !
First gentle rain-then torrents fall,
To drench the wood, the ficld and all.
The firey march at last is staid-
The boon for which men hoped and prayed. But, count the lost and find the deadGaze on the ruin 'round us spread;
Then on the camper's work reflect-
The careless one who nothing recked ;
The man who thoughtless left the fire
That grew and spread destruction dire,
One heedless act to forethought turned,
And never a forest fire had burned

## BACKWOODS LUMIBERING IN FLORIDA.

## by Jines f. homart.

THERE are many fine mills in Florida, but these are to be found near seaports, ot other good shipping facilities, and cut lumber chiefly for Northern shipment, leaving local demands to be supplied with lumber by innumerable light saw-mills which are scattered everywhere through the state.
Along the line of the Florida Southern Railway are scores of chese mills, and a description of one will answer for nearly all of them. A very few of these mills rival in construction and appearance the larger concerns, but as a rule they are inrown together in a very rough manner, and operated equally as rude.
These little mills are built with an aim to get out as great an amount of lumber with as little first cost or running expense as possible. Ample power is at hand in these mills, and they are never troubled by boiler in. spectors. In fact, a boiler is never inspected here until after it has blown up.

One mill is bu:lt near the North branch of the Florida Southerm Railway. It is but four years old, but from its weather-beaten appearance would easily pass for one hundred and four.

The first noticeable feature is the $\log$ truck, with its big wheels, eight feet in diameter, and tires six inches wide, which are not welded, but are lapped two or three feet and then rivited. A pole sixteen fect long admits of carrying a forty foot log, without its interfering with the mules.

At the extreme front end of this long pole is the "drag wheel," a unique apparatus, which skates over the sand and to a measure guides the long pole. The drag wheel also serves to prevent excessive sidewise jerks of the pole, and saves the mules froin unnecessary labor.

A windlass is mounted on the axle of the wheels, and is worked by means of a long lever and rope. The 'log dog'" is dropped over a log which it firmly grasps upon the ice tongs e rinciple, then both log and dog are raised by the lever and windlass, and are ready for the journey.
Into the forest for miles these $\log$ trucks penetrate, going further and furtiner as the choice logs get scarce, forming a picturesque sight, and each double span of
mules, with its mounted driter, pace sedately along the sandy trail.
"All teams off to the forest," sajs the foreman, is the teams all unload before the mill, and anay they bo, a ponderous procession, to fech the mughty yellow-pine logs.
With a five pound axe, fixed to a long straight handle, the Florida woodsmen cut down the huge trees with a vigor and tim unknown to the Northern chopper. It is seldom that a crooked ane helie is seen here, and the crooked Canadian axe handle is unknown it is a singular fact that the latitude in which an axe belongs ain be almost invariabls determined by the amount of curvature in the handle or helse.

There is a nice calculation needed by the Florida axe. man to fell timber to an inch in any yiven direction to escape rocks, or to allow of easier loading. It is unnecessary here, and vigorous blows throw out huge chips until the tree falls in any direction thenooses upon the level sandy plain.

The interior of the Florida saw-mill plainly shows that tasty design has never even been thought of, and combines in a ludicrous manner ingenious makeshifts, and slovenly negligence. The shafting is very much too small for the work it is required to do, and it is not uncommon to see a one and orie-half inch shaft driting a double surfacer with beader and matcher heads, the small shaft driving from a forty inch pulley and only running two hundred revolutions per minute.
A bar of railroad iron held the furnace front in place, and two three-fourth inch bolts prevented the whole boiler front from tumbling down. Semi-poriable boulers of the locomolice type are in seneral use. They are run for all they are worth and last untul they burst or burn out.

The circular saws in these mills are pecuhar, they must be very strong, especially at the roots of the teeth in order to stand the strain of cutung the terrible hard knots "hich are constantly being met with in yellow pine. The hemlock and spruce knots bear no comparison with the yellow pine knots, and even a guod axe will be spoiled unless great care is taken when cutung a knot.

As lumber salls from the saw, it is recerved by a line of dead rolls, and pushed under a swing saw, when it is cut to the desired lengths. Logs thirty to forty feet long are mostly cut, making two or three bounds from each length cut off by the saw.
A gang jointer stands near the swing saw, and upon it the boards can be cut the desired width of square edge lumber, and, at the sanr time, a picket cut from either side, should any part of the round edge board be of sufficient width to make it.

From the edges the boards naturally pass to the surfacer, and odd corners about the mill are occupied by a lath machine, shingle mill and a superannuated jig saw. Upon this machine, and held in place by wire, is a board bearing a notice which flavors decidedly of the true Florida "cracker."
The homely ingenulty dispiayed by the "repair men" of these mills is well worthy of sudy. The throttle valve got to leaking, the stuffing box bolt threads stripped, and in trying to remove the studs they broke short off, leaving a very bad leak of steam.
The valve stem was repacked very full, the gland put in place a.d held by two pine wedges driven in, one on each side of the value stem.
A boiler tube got to leaking and was promptly suppressed by topping a thread in etther end, then common pine plugs were screwed therem, stopping the leak with only the loss of the tube's heating surface.
The saw dust conveyors around these mills contain the very essence of mingled ingenuity and laziness.

They are usuall) made out of a worn out rubber belt, or perhaps a new one of canvas, and run from a hop. per beneath the salw to some place outside the mill, where, instead of runnolag 100 feet further and delwer. $\mathrm{on}_{\mathrm{g}}$ the waste upon a heap, the belt stops short and is supplemented by a negro and two whelbarrows, one of which is filling white he empties ts mate. The fireman also is kept busy by wheeling his dust and shavings entirely around one end of the mill, together with a dozen piles of lumber.
About once an hour the salw dust convey gets too slack to he driven by frictional contact "th tis drive pulleys. This is quickly cured, however, by two quarts of water, which is dashed upon the belt, forming an eficient but short-lived tightener.

The output of these mulls is often used green, as it comes from the sinv, but it often lies in shiftess piles exposed to sun, air and wind, until it is twisted out of half its resemblance to lumber. Finuda lumbermg has. many "points well worth imitating, also many which should be imploved."

## TREE OIL AND TALLOW.

BRITISH Consul Hosie, in his report on the trade of Wenchow, China, for the year 1890 , gives the following information relating to vegetable tallow and oul derised from the tallow tree, "Stulingia sebifera." which is largely culwated near Wenchow, and still more widely withn the Chiu-chou perfecture to the west : "It is not generally known that the frut of this tree produces oil as well as tallow. The berries which resemble coffee beans in appearance and size, are first steamed and then pounded in an ordinary rice trough. By pounding, the soft mealy mesocarp is partailly sep. arated from the kernels. The mass is then placed in a bamboo steve, the meshes of which are just large enough to allow the mealy matter to be scrubbed through, and small enough to keep back the kernels. which ate hard, black and about the size of peas. From the mealy matter the tallow is expressed in prunitive wooden presses. The oil is derived from the kernels in the following manner. They are dried and passed between two millstones held at such a distance apart by means of a bamboo proot as to crush the hard shells of the kernels without injuring the white interiors. The mass is then passed through a winnower, which separates the broken shells from the sold matter. The latter is then placed in a deep iron pan and roasted until it begins to assume a brownish color. The crushed shells make an excellent fuel for the purpose. It is then ground by a huge steam roller in a circular stone well, stcamed, made into circular cakes with bamboo and straw casings, and passed through the wooden press. A good lighting oil called'ch'ing yu,' of a brownishyellow color, is thus obtaned. The tallow is ' p 'i yu,' that is skin, or external oil."

## WHERE THE LUMBER GOES.

WHERE does all the lumber go that is cut each year: Hundreds of millions of feet go into the thousands of houses built each year in city, town and country The agricultural implement makers consume $100,000,000$ feet yearly, mostly oak, ash, maple and hickory. The furniture manufacturers use 300,000,000 yearly, nearly all hardwood The waggon, carriage and buggy makers consume more than $100,000,0 \infty$ feet annually. These are a few of the places where it goes.

A man's chances for life are good and his glory magnified when he enters the forlorn hope for a charge on the enciny's works. He has no chances for life, and is written down a fool, when he engages to set a screw on a revolving shaft.

