sating at a very low temperature only. Four large wrought-iron reservoirs of 7.416 cubic meters each hold large quantities of oil, and a steam engine of 12-horse power, with two boilers and a pressure of two atmospheres, give all the power and steam necessary for operation, transport, &c. The daily fabrication of 2,570 kilos. only requires the work of six men; and the careful analyses of MM. Birner of Regenwalde, and Karsten, of Kiel, could only find in the residue 2 per cent. of oil and 7 per cent. of water, whilst in the residue from the common method of pressing, 9 per cent. of oil and 15 per cent. of water were discovered.

The question has been much discussed as to whether colza oil-cake be a beneficial food for cattle; it depends on the object in view. The experience of M. Strengeld of Tharand prove that when cattle are young and have not attained their full growth, the colza oil-cake is advantageous, as the growth of animals requires food richer in nitrogen and phosphoric acid than in fatty matter; it is also beneficial to milch cows. For fattening cattle, aliments richer in fatty matter are preferable. These remarks will explain the contradictory opinions held by different agriculturists.—*Preussische Annalen der Landwirthschaft.*

On the Bleaching of Palm Oil.

BY M. ENGELHARDT.

M. Engelhardt, of Leipsic, effects in the following manner the blanching of palm oil by means of bichromate of potash and chlorhydric acid:—

A given quantity of palm oil is placed in an iron pot, heated to about 62° C., and allowed to stand all night. The next day it is poured into a clean vessel and cooled to 40° or 37° C. Meanwhile a certain quantity of water, say for instance 45 kilogrammes of water to 1,000 of palm oil, is set to boil; in it are dissolved 15 kilogrammes of bichromate of potash, and when the solution is cooled a little, 60 kilogrammes of chlorhydric acid are added. This mixture is then poured into the palm oil, which must be quickly stirred, and in about five minutes it will assume a sombre green colour from the reducing action of the combination of the chromate with the chlorhydric acid. By continuing to stir, the separation of the oxide of chromium is completed, and the oil gradually clarifies and becomes at last quite limpid. In order to render it quite white, it is now only necessary to wash it in warm water; if, however, it should not appear quite colourless, the operation must be repeated with 0.25 kilogrammes of red chromate and 1 kilogramme of chlorhydric acid. The method is quick, free from danger, and produces very good results. The author declares that the new methods in which either gaseous chlorine, chloride of lime, or a mixture of chlorhydric acid with peroxide of manganese are proposed, are much inferior to the above process.—*Dingler's Polytechnisches Journal.*

PRESERVATION OF WOOD.—M. Bouchere reports favorably of preserving wood by displacing the sap with a solution of sulphate of copper. When it is to be guarded against attacks of the toredo, he finds coal products, containing phenic acid, most successful.

Liquid Glue.

BY M. KNAPPL.

This useful article, which is employed for a variety of purposes, as mending porcelain, glass, mother-of-pearl, &c., is not nearly so good when prepared with vinegar and nitric acid as that obtained by the following process:—Three parts of glue broken into small pieces should be covered with eight parts of water, and left to stand for some hours; one-half of chlorhydric acid and three-fourths of sulphide of zinc must then be added, and the whole exposed to a temperature of from 81° to 89° C., during ten or twelve hours. The compound thus obtained does not gelatinise; it only needs to be allowed to settle, and will be found a most useful agent for joining purposes.—*Wochenschrift des Nieder-österreichischen Gewerbe-vereins.*

Percentage of Resin in Jalap.

Mr. H. S. EVANS, in a report laid before the British Pharmaceutical Conference, says:

Commercially speaking, there are at the present time only two varieties of Jalap—the Vera Cruz and the Tampico. The Pharmacopœia orders the tuberous root of the Exogonium purga, and therefore it only should be employed in pharmacy. Fair average samples of this Jalap yield in the laboratory, according to my experience, an average of 38 per cent. of extract, prepared according to the directions of the British Pharmacopœia, 42 per cent. being the maximum, and 35·1 per cent. the minimum result. Tampico Jalap, on the other hand, yields very uncertain results, and the extract obtained is very different in its constitution to that produced from the true Vera Cruz. A careful analysis of the two varieties gave the following results:—

	Vera Cruz. Per cent.	Tampico. Per cent
Resin insoluble in ether	15·2	6·0
" soluble	0 0	7.1
Glucose	9·0	26·9
Total, soluble in Alcohol.	24·2	40·0

from which we see, although the aggregate yield is much greater in the Tampico Jalap, the resinous contents are very much inferior, and in these figures, I take it, is found a decided answer to the query, which root possesses the greatest medicinal value, and we can have no doubt that the Tampico Jalap should not be substituted for the Vera Cruz.

ANALYSIS OF SAMPLES OF JALAP POWDER.

Source.	Soluble in Ether	Soluble in Alcohol.		Aqueous Extractive.
		Resin.	Sucrose.	
Authenticated Vera Cruz.	4·00	14·30	14·70	22·16
Authenticated Tampico	13·66	1·50	11·16	18·33
G. per Hon. Sec. Brit. Ph. Conference	9·50	2·83	8·65	20·16
D. retail unknown.	8·26	3·22	10·1	17·26
E. " from the North	5·36	12·60	10 25	21·8
F. & C. V. C.	1·20	15·0	9·66	15·26
H. assumed Tampico.	7 1	6·0	17·20	8·60
I. E. S. & Co.	trace	15 2	9·00	19·50

The large imports which take place of Tampico Jalap prove that it is becoming extensively used as a substitute for the more expensive officinal root; and although the small yield of resin may cause it to be abandoned for the preparation of extract, still it is very probable it may be used for grinding, either to substitute entirely or in part with the Vera Cruz varieties.

In alluding to the above statements, the President of the Conference said:

Messrs. T. and H. Smith assert that, in many trials, they have never obtained of the resin more than 15 per cent., while our colleague, Mr. Umney, has recently obtained 21·5 per cent. from the Vera Cruz drug. Dr. Squibb considers that powdered jalap, which does not yield over 12 per cent. of dry resin, should be rejected as unfit for use, an opinion which I cannot endorse, for I have found Vera Cruz jalap of undoubted goodness which yielded but 11 per cent., and a similar result was obtained by my friend Mr. Broughton.

The Dread of an Examination.

Let us try, whilst on the eve of an opening session, to rob this ordeal of its terrors. During the past two months the secretary of this society and certain others have been overwhelmed with letters desiring information as to the exact limit of qualification required in order to enjoy the privileges accorded by the Amended Act of Pharmacy. Most of the questions asked might have been spared by an attentive reading of the September number of the *Journal*, our present duty, however, is not to enter on a review of laws and schedules, but to say a few kind, though serious, words to assistants of long standing and undoubted capability, whose inquiries have formed a minimum portion of the late correspondence. They have our most cordial sympathy and strongest wishes for their future welfare. It is perfectly intelligible, that those who are conscious of being skilled dispensers, competent to conduct the entire routine of a druggist's business, and superintending others less experienced than themselves, and to some extent advanced both in years and station, should hesitate to be exposed to the smallest chance of failure.

That men so well fitted to do credit to themselves and reflect honour on the society to which they might belong, should not have availed themselves of the position which the formality of an examination would have conferred cannot be otherwise than a subject of regret; and if it be stated that familarity with practical detail is one thing, while technical knowledge is another, it may be answered fearlessly that the daily devotion of the work of one morning or evening hour, for no longer period than three months, would enable such a student to satisfy the most rigid examiner.

Let us, in this quiet autumn month, quietly talk the matter over. What is the nature of this proposed Modified Examination, which has caused such a flutter of consternation? Strip it of technicalities, and this is the result. Candidates must know how to read prescriptions, write a label, and be on their guard against dispensing a drachm of arsenic if ordered for a dose; they should be thoroughly clear in their own minds that rhubarb is not jalap, nor ought to confuse senna leaves with chamomile;