bag. The original cost is but \$1.25 and an empty tube may be exchanged for a full one at a cost of 20 cents. They are used with a puncturing valve made by the same manufacturers and costing \$2. The total cost of the installation is therefore \$3.25; the cost of use is 20 cents for each time used.

To make the pencil of solidified carbon dioxid, remove the connecting tube from the valve proper, tie with string a piece of chamois, 3 inches square, around the mouth of the valve and close the end of the tube thus formed with a hemostat. Then screw the valve tightly into the tube of compressed gas and operate it as the label describes for inflating tires. Test

Apparatus for forming carbon dioxide pencils and method of making.

the contents of the chamois tube by feeling it, and when it feels solid you have a stick of solid carbon dioxid ready for use.

A CATHETER KNOTTED IN THE BLADDER

WILLIAM J. ANDERSON, M.D., CHICAGO
Night Warden, Cook County Hospital

The object in reporting this case is to point out the possible danger in the passing of a soft rubber catheter. This may apply more especially to the female, in whom several inches of tubing may be inserted into the bladder without any particular difficulty. According to the U. S. marine service

there are thirty classified knots, and a maritime expert who has examined the specimen in this case says that this knot cannot be classified.

Patient.—Max L., a Russian, married, aged 35, a baker, was admitted to Cook County Hospital March 18, 1912. Several months previously patient consulted a physician who advised him to use a soft rubber catheter on account of retention of urine due to a supposed enlarged prostate gland. He used this catheter several times and mislaid it.

On the morning of admittance the patient purchased a section of rubber tubing, cut one end obliquely and inserted it into the meatus through the penis and into the bladder. Urine was voided but patient was unable to withdraw the tube. Since then he had been able to pass a small amount of bloody urine around the tube but none through the tube.

Examination.—A medium-sized soft rubber tube, about the size of French No. 12 in urethra, protruded about 4 inches from the meatus. I was unable to remove it by traction. On rectal examination, the tube could be felt in urethra, anterior to the prostate which was slightly enlarged and firm. A radiograph was taken showing that the tube was knotted, this evidently being the reason it could not be withdrawn.

Treatment.—Suprapubic cystotomy. The catheter was stretched through anterior urethra and cut short. The loops within bladder were grasped with forceps and removed. French No. 32 sound passed through urethra into the bladder, and latter was washed out. The catheter was inserted through

Catheter knotted in the bladder.

the penis into the bladder and retained by stitch through glans penis. A rubber tube was retained in the bladder through the abdominal incision. Recovery followed.

TEN PELLAGRINS IN ONE FAMILY

J. E. KNIGHT, M.D., WAYCROSS, GA.

CASE 1.—In June, 1911, A. C., a man, aged about 40, came to the A. C. L. Hospital for something to cure his sunburned hands. Diagnosis was made of pellagra and the man put on treatment. When the patient first came to the hospital, a symmetrical dermatitis was to be seen on the back of both hands, extending half way up the forearms, and a slight dermatitis on both cheeks, on back of both ears and on both feet. The mucous membrane of mouth was entirely gone in most parts and that which remained was diseased. The patient gave a history of early morning diarrhea that was first noticed in the spring of 1909. His appetite was good, but his digestion poor. He complained a great deal of hands and stomach burning. He would wake up in the middle of the night with this; he said that he felt as if his hands were on fire and his abdomen full of hot coal. The patient seemed to be improving, when mental symptoms became marked and the man got up in the middle of the night and tried to kill his family; he declared that he had been poisoned. The next morning he was put in the county jail and then sent to the state asylum. Reports from there show his bodily health very good but mental condition practically unchanged.

CASE 2.—In April of this year, while at the home of this patient, I noticed several of his children with the dermatitis on the hands. On thorough investigation I found that Mrs. M. C., aged 38, wife of the patient just described, had noticed in September, 1911, that her hands were slightly sunburned and that she had a diarrhea at the same time. On careful examination I found only a slight trace of the dermatitis but the mouth was denuded of the mucous membrane in several places and some ulcers were present. Mrs. C. is the mother of nine children, ranging from 2 to 20 years of age. Three of these are by her former husband, who is now dead; the other six are by the present living husband.

CASE 3.—J. T., aged 20, oldest child by the first husband of Patient 2, showed a symmetrical dermatitis on both hands, denuded mucous membrane in mouth and history of diarrhea. He appeared well nourished, but suffered from insomnia. He first noticed the symptoms described in March, 1911, but all of these cleared up so he did not see any doctor. In February, 1912, the symptoms returned.

CASE 4.—R. T., aged 18, was very anemic and poorly nourished; the symptoms were the same as his brother's, except much more marked; they were noticed first in May, 1911, and then again in April, 1912.

CASE 5.—S. T., a girl, aged 17, showed no lesions on hands at this time, though mouth showed denuded areas; there was

Eight children, of one family, all suffering from pellagra. The parents, who also have the disease, objected to having their pictures taken.

a history of diarrhea. Patient says her hands were like her brother's, but they got well without any treatment. Slight diarrhea was still present.

CASE 6.—L. C., girl, oldest child by second husband, was examined next. She showed a marked dermatitis on both hands, both cheeks, diarrhea and diseased mucous membrane in mouth. Physical examination showed a very poorly nourished child with a mitral regurgitant lesion. She first noticed pellagra symptoms in April, 1912.

CASE 7.—M. C., a girl, aged 9, with dermatitis on hands and face, very marked, gave a history of diarrhea, and mouth showed a diseased mucous membrane. Symptoms were first noticed in April, 1912.

CASE 8.—Next, R. C., a boy, aged 8, showed dermatitis on both hands, mucous membrane of mouth diseased and history of diarrhea. Symptoms were first noticed in April, 1912.

CASE 9.—M. C., a boy, aged 6, showed same condition and same history as those of the previous patient.

CASE 10.—R. C., aged 4, showed marked dermatitis on both hands; he gave history of diarrhea, and mucous membrane of mouth was sore.

Baby C., aged 2, showed no symptoms as yet.

The three youngest children have recently had measles, the older ones having had it previously. Examination for hook-

worm showed all but the mother and baby infected, also showed L. C. infected with *Ascaris lumbricoides*.

Treatment.—A specimen of the corn-meal used was examined and found to be unfit for human consumption. The patients said that on several occasions the meal bought would be so moldy before it was used up that they fed it to the stock on the place. Corn in all forms was prohibited to these people, intestinal antiseptics were prescribed and at present (May, 1912), all are doing nicely. R. C., however, has run away from home and gone to Winoker, Ga.

I wish to thank Dr. T. F. Abercrombie, of Atlanta, and Dr. M. M. Johnson, of Waycross, Ga., for courtesies showed me with these patients. Both of these physicians went to see the patients with me and confirmed the diagnosis.

Gilmore Street.

A SIMPLE AND PRECISE METHOD OF DIFFERENTIAL LEUKOCYTE COUNTING WHERE THE WHITE CELLS ARE GREATLY INCREASED

PHILIP ATLEE SHEAFF, M.D., PHILADELPHIA

In a recent case of splenomyelogenous leukemia in which the leukocytes approached 350,000 per c.mm. the great abundance of white cells in the stained spread made an accurate differential count almost impossible. After some delay, however, the task was easily and accurately carried out by cutting a square from the end of a microscopic slide of just the exact size to fit within the eyepiece and rest on its diaphragm.

With a glazier's diamond, and by most delicate pressure, four lines were ruled parallel with each side of the square and forming a small square in its center. This, when placed in the eyepiece, the lines being down, gave the outline of a small square on the stained spread and within the usual round field and permitted the easy and accurate counting and classification of cells within its borders, the slide being moved to include a new lot in proximity to the first, and the operation repeated as often as necessary until the total number of cells required for the count has been made.

4008 Baring Street.

Special Article

TYPHOID FEVER IN ST. CHARLES

[By Our Special Commissioner]

St. Charles, Illinois, is a town with about 4,500 inhabitants (population 1910, 4,046) located 40 miles west of Chicago.

Sixty cases of typhoid were reported to the St. Charles health department during the eight months preceding May, 1912, or approximately one case for every seventy-five inhabitants.

Prior to the recent outbreak no cases had been reported to the health department since 1907, in which year six cases were recorded. On inquiry among the physicians in the city it was found that a few cases had been observed during the intervening years, but that they had attracted no particular attention and had not been reported to the health officer.

Geographically St. Charles is a compact town lying on both banks of the Fox River. The river divides the city into an eastern and a somewhat smaller western section. These two divisions constitute the main part of the town. A short distance west of the western section is a settlement of recent Belgian immigrants connected with the business district by a single road. In this isolated settlement, composed of about 150 people, the first case of typhoid appeared about Oct. 18, 1911. This case was