WATER POWER DEVELOPMENT.

By David R. Cooper.

The prime requisite to the creation of a water power is the existence of falling or flowing water. The amount of power which may be available varies; first, with the amount of water flowing, and second, with the amount of fall. It requires about one cubic foot of water per second, falling through a height of ten feet, to make available one theoretical horsepower. The fall may be either naturally concentrated at one point in a cascade or it may be artificially concentrated, for the purpose of development, by combining the fall of several cascades or a series of rapids. This may be accomplished by either of two methods; first, by building a dam at the downstream end of the rapids to impound the waters so that the entire fall is concentrated at the dam, or second, by building a dam at the upstream end of the rapids and conducting the water through a closed pipe to the lower end of the rapids, where the resulting water pressure will be exactly the same as in the first instance. A variation of the latter method consists of diverting the water from the natural channel at the head of the rapids and carrying it in a canal, on a slight down grade, along the side of a hill to a suitable point at which the water is turned into penstocks which run directly down the slope to the stream, where the power development may be made. The latter method, involving the construction of a canal, is open to the objection that considerable trouble is usually experienced from the accumulation of ice in the winter time. The first two methods described are the most common.

The amount of water which flows in a stream, in New York State, whether large or small, is subject to remarkable variation. Only one who has observed very carefully and continuously, by actual measurement, the extremes of fluctuation to which a flowing stream is subject, is in a position to fully appreciate this. Some of the larger rivers of New York State are subject to such fluctuations of flow that the amount of water discharged during the flood periods is several hundred times as much as the amount that flows in the extreme dry period. Also in many instances from one-half to three-fourths of the total runoff of the stream during the year occurs during a period of a few weeks in the spring months, when the accumulated snow and ice is melted and runs off in conjunction with the warm spring rains. Unfortunately, reliable data relating to the fluctuations of small It is, however, a matter of record that the smaller streams for which records streams in this State are very meager. are available are subject to greater fluctuations per unit of tributary watershed area than are the larger streams. It seems logical, therefore, to assume that the very small creeks and brooks are subject to fluctuations relatively greater than those recorded for streams of only relatively small size. This fact must be borne in mind by any one who proposes to develop the power on a stream, for if it is overlooked the project is not so assured of success. For most purposes power is required in about the same amount for all seasons of the year, while, as previously stated, the streams run off most of their waters in the spring. Therefore, in developing the power of any particular stream, if the power is required to be fairly constant at all seasons of the year as is usually the case, there are two considerations which must not be overlooked:

First: Will the minimum flow of the stream—that is, the flow which occurs in the driest season of a dry year—be sufficient to furnish the amount of power required?

Second: If the minimum flow is not sufficient, what means are available for storing the surplus water from the wet season until the dry season?

The subject of equalizing stream flow throughout the year by means of storage reservoirs has been so thoroughly discussed in the reports of the Commission that further discussion in this connection does not seem warranted.

Taking a general average throughout the State of New York, large streams may be depended upon to produce from one-twentieth to one-quarter of a cubic foot of water per second per square mile of tributary drainage area, during the driest period. Streams having only one or two square miles of drainage frequently dry up entirely in the dry seasons. If a power development is proposed of such a character that some considerable sacrifice of power might be made in the dry seasons with no serious loss, most small streams may be developed to provide for as much as one-quarter to one-half of a cubic foot per second per square mile. On the other hand it is often found practicable to provide a small auxiliary power plant, such as gasoline or kerosene, to fall back upon in dry weather, or to supply extra power occasionally in which case the water-power development need not be limited to the minimum flow of the stream.

The power of falling water may be applied to practical purposes in several ways. One of the simplest ways, should it be desired to use the power of the stream to pump water, is by means of what is known as a hydraulic ram. This is a device which operates on the principle of the impact due to the sudden stoppage of flow of a column of water. By means of this device, or engine, water falling through a very small height may be used to raise a portion of the same, or a comparatively small amount of other water, to an elevation considerably higher than the supply. The mechanical efficiency of the hydraulic ram is comparatively high under certain conditions but generally is very low, useful work which manufacturers claim may be realized varying from thirty-eight per cent to eighty per cent. The minimum fall under which a ram will effectively elevate water is about two feet. This fall will elevate about one-thirteenth of the supply to a height of twenty feet. Under the most favorable conditions and a fair amount of fall, a ram may elevate water as high as 120 feet. The proportion of water which may be elevated varies from one-twentieth to two-sevenths of the total supplied; and, accordingly, the proportion of water which must be wasted at the impetus valve of the ram varies from five-sevenths to nineteen-twentieths. These proportions both depend upon the ratio of the amount of supply to the amount to be elevated, that is, a small proportion may be elevated to a considerable height and vice versa. In cases where a small brook of suitable quality is available for domestic water supply, it is often entirely practicable to install a hydraulic ram which will pump a sufficient proportion of the amount of supply to furnish a household with all the water necessary for ordinary domestic purposes, in spite of the fact that the brook may be on a lower level than the house. Owing to the fact that a hydraulic ram may be applied only to the purposes of elevating water, it is not generally considered as a means of developing water power, although in the broadest sense it does constitute such a development.

On the other hand the purposes for which power is usually required are not only for the elevation of water for a water supply, but for many other and varied requirements. In such cases the power must be developed in such manner that it may be utilized to operate machinery near the site of the development, or transmitted for some distance, and there used to operate machinery or for lighting or heating. To develop water power in this manner requires some kind of a waterwheel.

There are several types of waterwheels, the principal ones being known as "undershot," "overshot," "breastwheel," "turbine" and "impulse." The overshot wheel is a type very familiar to most readers, being usually of home manufacture. It consists, usually, of a wooden wheel with water compartments arranged at regular intervals around the periphery. The water is fed into the wheel at the top, just off the center. It flows into the compartment at the top and the weight being exerted on one side of the supporting axle causes the wheel to revolve, the water spilling out when the compartment, or water pocket reaches the bottom. This type of wheel depends entirely for its power upon the weight of the water which causes the wheel to revolve.

The undershot wheel is very similar in construction to the overshot type but depends more for its power on the velocity of the flowing water which strikes the blades, or buckets, on the under side of the wheel.

The breastwheel is also similar in construction but is in reality an improvement upon the overshot and undershot types. It depends for its power on a combination of the action of gravity and the impulse of the water striking the blades, or buckets. The water is fed into the wheel a little below the height of the axle and usually enters with considerable velocity, a part of which is transformed into useful work by the wheel.

The turbine is a type of wheel which is very extensively used. It is usually constructed of metal and consists primarily of a series of curved vanes, or runners, whose arrangement is similar to a screw. The action of the water flowing through these curved vanes causes the vanes and shaft to revolve, the vanes being solidly connected to the shaft, which may be either horizontal or vertical.

The fundamental working principle of an impulse waterwheel is the turning into useful work of the impulse due to the velocity of a jet of water issuing from a contracted orifice. This is accomplished usually by conveying the water from the dam or other source of supply to the watershed in a pipe of comparatively large size and then gradually reducing the size of the pipe immediately in front of the wheel to a comparatively small size by means of a reducer section, which is fitted with a nozzle, the opening of which may or may not be regulated in size. This contraction of the stream of flowing water causes a spouting of the water under pressure, and the water issues in a jet with very high velocity. The jet thus issuing from the nozzle strikes the cups of the impulse wheel, which are arranged at regular intervals around the circumference of a metallic disc, which is centered on an axle. The cups transfer the velocity of the jet to the wheel, and the water drops from them with very little velocity left in it.

In general the turbine type of wheel is best adapted to low heads, or falls, and the use of comparatively large volumes of water, and the impulse wheel is best adapted to the use of a comparatively high head, or fall, and a comparatively small amount of water. There are certain intermediate conditions for which the manufacturers of each type claim their wheel is best suited and in such instance a study of local conditions is always necessary to determine which type of wheel is best adapted.

The development of a water power by means of any kind of a waterwheel results in the conversion of the energy of the falling water into mechanical power which is exerted in a more or less rapidly revolving shaft. In order to apply this power of the revolving shaft to some useful purpose, there are several methods which may be used. The shaft may be directly connected to the shaft of an electric generator, or dynamo, to generate electric current, or it may be directly connected to a machine which it is desired to operate, provided the machine, or dynamo, is required to operate at the same speed as that of the wheel shaft. This is frequently not the case, so that under ordinary conditions the shaft of the wheel is fitted with a pulley, which in turn is connected by belt to another pulley on the machine which is to be driven.

By using pulleys of different diameters on the shaft of the waterwheel and the shaft of the machinery to be driven the speed of the machine may be several times more or less than the speed of the waterwheel. For instance, if the waterwheel revolves 200 revolutions per minute and it is desired to operate a machine, connected by belt, at a speed of 1,000 revolutions per minute, a pulley of comparatively small size, say four inches in diameter, is placed on the shaft to be driven, and a pulley of five times the diameter, or twenty inches, is placed on the shaft of the waterwheel. This causes the shaft of the machine to revolve at a speed five times as great as the waterwheel. If the speed of the waterwheel is greater than that required for the machinery to be operated, then the reverse operation is followed out, placing a small pulley on the shaft of the waterwheel and a larger one on the shaft of the machinery to be driven. If the speed of the waterwheel is to be magnified more than about six times, it usually requires the installation of a countershaft and another series of pulleys in order to avoid the use of very large and very small pulleys. A pulley which has a very small diameter does not operate satisfactorily without considerable loss of power, and a very large pulley is objectionable on account of the space which it requires.

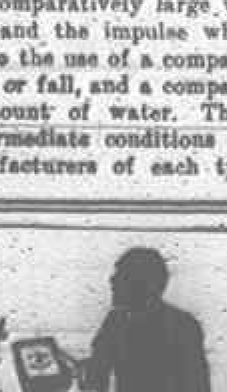
When a water power is once developed it may be applied to practical use either near the place of development or at a considerable distance. If it is to be used for power only, and not for lighting, and can be used where it is developed, there is no need of converting it into electricity. But if it is to be used for lighting or for power to be applied at a considerable distance from the water-power site, then it becomes necessary to convert the power into electricity, in which form it may be most conveniently transmitted from one place to another. This requires an electric generator, or dynamo, to be driven by the waterwheel, and a transmission line, preferably of copper or aluminum wire, to carry the current where it is to be used. In order to reconvert the current into power at the end of the transmission line, where the power is to be used, it is necessary to run the current into an electric motor, the shaft of which is made to revolve by the action of the electric current. This motor may then be connected directly or by belt, gears or chain drive, to the machine to be driven.

It should be borne in mind that in each of these steps of changing from water power to electric current, in transmitting the current over the wires, in reconverting it into power, and in transferring this power from a motor to a power-operated machine, there are losses of energy. These losses vary considerably in different instances. Assuming, for illustration, that a water power, whose theoretical power is ten horsepower, is required to drive a power machine at a distance, the efficiencies and losses will be somewhat as follows:

Waterwheel, efficiency 80 per cent, loss 20 per cent, generates 8.0 horsepower.
Connections, efficiency 95 per cent, loss 5 per cent, transfers 7.6 horsepower.
Dynamo, efficiency 90 per cent, loss 10 per cent, generates 6.8 horsepower.
Transmission, efficiency 90 per cent, loss 10 per cent transmits 6.2 horsepower.
Motor, efficiency 90 per cent, loss 10 per cent develops 5.5 horsepower.
Connections, efficiency 95 per cent, loss 5 per cent, delivers 5 horsepower.

Therefore, only five horsepower would be actually delivered to the machine to be driven. This amounts to only half of the theoretical power of the falling water which is actually realized in useful work of the machine being driven. If the power from the waterwheel is to be applied directly without generating electricity a much higher efficiency will be realized.

We Give Away Absolutely Free of Cost



The People's Common Sense Medical Adviser, in Plain English, or Medicine Simplified, by R. V. Pierce, M. D., Chief Consulting Physician to the Invalids' Hotel and Surgical Institute at Buffalo, a book of 1008 large pages and over 700 illustrations, in strong paper covers, to any one sending 21 one-cent stamps to cover cost of mailing only, or, in French Cloth binding for 31 stamps. Over 680,000 copies of this complete Family Doctor Book were sold in cloth binding at regular price of $1.50. Afterwards, one and a half million copies were given away as above. A new, up-to-date revised edition is now ready for mailing. Better send NOW, before all are gone. Address WORLD'S DISPENSARY MEDICAL ASSOCIATION, R. V. Pierce, M. D., President, Buffalo, N. Y.

DR. PIERCE'S FAVORITE PRESCRIPTION

THE ONE REMEDY for woman's peculiar ailments good enough that its makers are not afraid to print on its outside wrapper its every ingredient. No Secrets—No Deception.

THE ONE REMEDY for women which contains no alcohol and no habit-forming drugs. Made from native medicinal forest roots of well established curative value.

WEST BURLINGTON.

Pea pickers are very busy just now.

Wesley Fuller and Arthur West spent Sunday at Walnut Grove.

Edgar Slater and Mrs. Edna Manchester were married by the Rev. T. Smith Kilty of Burlington, July 14th. All their friends wish them a long and happy life.

Miss Ethel Slater, who has been visiting friends and relatives of this village, has returned to her home at Richmond Hill, New York.

Mrs. Libbie Atkins is a guest at Mrs. W. Burrett's.

Mrs. L. Brownell was in New Berlin one day last week.

Mrs. Albert Austin is on the sick list.

Thunderstorms were quite prevailing features last Sunday afternoon.

SPRAY THE ELMS.

"The past twenty years have witnessed serious injury by the elm tree beetle to thousands of both European and American elms in the Hudson valley a condition actuated by the drouth of the last few seasons and rendered still worse by the unusual abundance of the pest this year," says Dr. E. P. Felt, state entomologist.

Dr. Felt believes that the thorough and timely spraying of trees means holding the foliage practically intact throughout the summer even in localities where the insects are abundant, and he suggests that residents interest themselves in an endeavor to save the trees.

"Thousands of magnificent elms, many of them thirty to 100 years old, have been killed by insect pests, and in many localities the general public has been content to allow the work of destruction to proceed practically unhindered," says Dr. Felt.

"All unbiased persons must conclude that the present condition of the elms and other shade trees in the Hudson valley is deplorable."

THE ROADS AND THE FARMER.

The forced expressions of delight given publicity by those favored residents living on main highways which are to be progressed at the entire expense of the state in certain counties, out of the $50,000,000 bond issue, and to the detriment to the intelligent development of the state, are vociferous and indicative of greed. The plan of developing the main thoroughfares of the state so that no farm shall be more than five miles away from an improved highway, and that this system shall be of 10,000 miles, which shall be built at an approximate cost of $100,000,000, one-half to be paid by the state and the other half by the counties and towns, was a fair and equitable proposition, to which the supervisors of all of the towns in six annual conventions approved and gave their consent. In order to guarantee to these counties and towns who were poor or who did not have an annual pull in the Legislature at Albany, it was guaranteed in the constitution which was approved by the people that the highways to be improved should be equitably apportioned among the counties.

Now, by special bills, appropriating between $12,000,000 and $15,000,000, it is sought to construct 1,000 miles of highway in certain particular designated counties, which highways, with the roads now constructed and under contract will practically exhaust the $50,000,000 bond issue, and the entire construction which will be completed with this money will approximate about 4,000 miles of highways out of the 10,000-mile system, leaving 6,000 miles of main roads which were promised to be built in the less thickly settled sections of the state, unconstructed and with no money in the state treasury to do it. The dwellers along, and the users of, the 4,000 miles of highway so improved, will receive all of the improved mileage and all of the money, and the dwellers upon and users of the remaining 76,000 miles of highway, in the state can whistle and live in the mud as they have in the past unless the constitutional requirements of an equitable apportionment in each county is maintained throughout the state.

THE DEVIL'S PAINT BRUSH.

Last week a writer in the Delhi Express made a trip to Albany, going via Sidney and returning via Kingston and among other things he noted these:

Of course it was not possible to tell what sort of crop the fields that had been harvested had borne, but many of the adjacent fields were red with the new weed, "The Devil's Paint Brush," that seems to be fast running out the grass in our meadows and pastures.

So far no spray or means of cultivation has been found that would destroy this weed. It fears neither the plow or the cultivator, and the only spray which kills it is fatal also to the grass. In discussing the situation John T. McDonald of Elk Creek, Saturday, seemed to be of the opinion that fertilizing with barnyard manure would eventually kill the weed. He believes that it has been brought into this section in grass seed, and can account for its presence here in no other way.

The seed resembles that of the dandelion in that it is so light that it can be borne long distances by an ordinary breeze. Some farmers in the upper end of the county are already threatening to mow their fields and burn up the crop, grass, Paint Brush and all. This is rather heroic treatment when it is remembered that it may not be at all effective in ridding the field of the pest.

At the experiment station at Geneva they have been experimenting with a spray to kill wild mustard which infests the fields of Chenango, Madison, Oneida and Onondaga counties and it is reported that a mixture has been found that will kill a mustard and not harm the grass. The editor has already written to Dr. Jordan of the experiment station about the "Paint Brush" and as soon as a reply is received it will be published.

Hay Fever and Summer Colds

Must be relieved quickly and Foley's Honey and Tar Compound will do it. E. M. Stewart, 1034 Wolfram St., Chicago, writes: "I have been greatly troubled during the hot summer months with Hay Fever and find that by using Foley's Honey and Tar Compound I get great relief." Many others who suffer similarly will be glad to benefit by Mr. Stewart's experience.

The ladies of the Village Improvement society of Jefferson have voted to purchase eight 1,000 candle power gasoline street lamps. They will be suspended, each from two poles, across the village streets.

IN THE DISTRICT COURT OF THE UNITED STATES for the Northern District of New York.

In the matter of William L. Merrill, bankrupt. In bankruptcy, No. 4213.

On this 7th day of July, A. D., 1911, on reading the petition of the above named bankrupt praying for a discharge from his debts, it is

Ordered, by the Court, that a hearing be had upon the same on the 8th day of September, A. D., 1911, before said Court at Norwich, in said district at ten o'clock in the forenoon; and that notice thereof be published in the Otsego Republican, a newspaper printed in said district, at least once thirty days prior to said return day, and that all known creditors and other persons in interest may appear at the said time and place and show cause, if any they have, why the prayer of said petitioner should not be granted.

And it is further Ordered, by the Court, that the referee shall send by mail to all known creditors copies of this order, addressed to them at their places of residence as stated.

(Seal of the Court.) Witness, the Honorable George W. Ray, Judge of the said Court, and the seal thereof, at the City of Utica, in said district on the 7th day of July, A. D., 1911.

W. S. DOOLITTLE, Clerk.

Attest: W. S. DOOLITTLE, Clerk.

To the creditors of said bankrupt, and to all persons interested in the administration and settlement of his estate.

Take Notice, of an Order duly granted of which the foregoing is a copy.

Dated, July 15, 1911, at Oneonta, N. Y.
B. W. HOYE, Referee.

Sheldon H. Close, Attorney for Petitioner, Oneonta, N. Y.

PEOPLE SAY

"The Knickerbocker Press is the best newspaper published between New York and Chicago."

Send in Your Subscription To-day

The Knickerbocker Press

will be sent by mail, domestic postage prepaid (foreign postage extra) at the following rates:

	One year	Six months	Three months
Daily, with Sunday	$4 50	$2 25	$1 25
Daily, without Sunday	3 00	1 50	75
Sunday	2 50	1 25	65
Daily and Sunday, per week			10
Daily, per week			6

Address changed as often as desired.

Write in the issue desired: Daily or Daily and Sunday

Send me The Knickerbocker Press..........

for.......... months, from.......... 1911

Name..........

Address..........

Hand this form and the money to your newsdealer, or send it to The Knickerbocker Press, with the proper remittance.

Foreign postage: Two cents additional per day for each copy of The Knickerbocker Press. Five cents additional for each copy of the Sunday Knickerbocker Press.

PUBLICATION OFFICE.......... Albany, N. Y.
ALBANY OFFICE.......... 18, 20, 22 Beaver Street
TROY OFFICE.......... 322 River Street
SCHENECTADY OFFICE.......... 406 State Street

The Knickerbocker Press

If anyone desires a farm of any description, I have many with good buildings and well located. Will quote one of 175 acres, buildings good 225,000 feet of marketable hemlock, sold only with farm, good team, 20 cows, and within four miles of Borden condensary. A money maker. Price $5,000 including crops. W. H. Murdock, Flycreek, N. Y. 32w3

Sprains require careful treatment. Keep quiet and apply Chamberlain's Liniment freely. It will remove the soreness and quickly restore the parts to a healthy condition. For sale by H. L. Brazee.

Mrs. J. E. Mayott of South Cairo was arrested by L. J. Hubbard last week for cruelty to her horse. The case came before Justice Burnham, Saturday, and she was fined $30. Not having that amount handy she was paroled to the care of Sheriff Post, until the fine of $30 was paid.

VILLAGE ORDINANCE.

At a meeting of the Village Trustees, held Monday evening, July 10, the following ordinance was adopted:

DOGS.

Section 1. On and after July 1st, 1911, there shall be kept and maintained in the Village of Cooperstown, N. Y., a public pound in which shall be distrained all dogs found running at large in any street alley, park or public place within said village, unless such dog shall have been duly licensed, as provided herein and shall wear the tag herein mentioned.

Section 2. On and after July 1st, 1911, and upon a written and signed complaint with proof to any member of the Board of Trustees or to the Pound Keeper that a dog is vicious or dangerous to public welfare the clerk of the Board of Trustees or the Pound Keeper must immediately notify the owner of the said dog of the said complaint and order the said owner to immediately muzle the said dog at all times when running at large and in his failure so to do the Pound Keeper is to immediately seize and kill the said dog and the said owner shall be liable for misdemeanor under this ordinance also any person or persons owning or harboring a dog upon which a complaint has been made or otherwise not complying with this ordinance is guilty of a misdemeanor.

Section 3. Any dog unless licensed pursuant to this ordinance and wearing the tag herein provided for, found at large in any street, alley, park or public place within said village shall be impounded in the public pound and not released therefrom except as herein provided.

Section 4. Such license shall be procured from and signed by the village clerk, and continue in force during the fiscal year in which it was issued, every person receiving such license and tag shall pay to the village clerk, for the use and benefit of said village, the sum of one dollar for every dog so licensed; and all money so received shall be paid into the village treasury and the village treasurer shall keep a separate account of all such money, which shall be used for carrying out the provisions of this ordinance.

Section 5. Every dog so licensed must wear around its neck a collar to which shall be attached a metal tag, distinctly marked with the number designated by the clerk and stated in the license granted and such metal tag so marked shall be furnished by the village without charge. Every dog shall be licensed and wear the tag furnished in the same manner each year thereafter. The use of any other tag as a substitute for those furnished by the village is hereby forbidden.

Section 6. The clerk shall keep a record of each dog licensed pursuant to this ordinance; which shall show the name and residence of the person to whom said license was granted with the number designated upon the tag furnished therefor, and the breed, color and sex of the dog so licensed, which record shall be public.

Section 7. It shall be the duty of the pound keeper to capture, seize and deliver to the public pound any dog found running at large in any of the streets, alleys, parks or public places of said village without having a metal tag as herein provided in accordance with the provisions of this ordinance. Any dog so impounded may be redeemed by any person producing a license therefor with the metal tag provided for herein within twenty-four hours after capture upon payment to the pound keeper the sum of one dollar.

Whenever any dog seized shall not be redeemed within the period of ten hours after capture the pound keeper shall post at the pound and upon the front door of the Village Hall a notice containing a brief description of all dogs seized and unredeemed for ten hours previous to such posting and stating the time and place when and where the same will be destroyed if not redeemed, which notice shall be so posted at least ten hours previous to such destruction. All dogs not redeemed before the time named in said notice for their destruction shall be killed by the pound keeper at the time and place named in said notice.

Section 8. The pound keeper shall make a sworn report on the first day of each month, commencing with August 1st, 1911, and file the same with the village clerk on that day showing the number of dogs impounded during the month, the number redeemed and by whom, and the number of dogs killed.

Any person owning or harboring a dog violating the provisions of this ordinance shall be guilty of a misdemeanor and liable to a penalty of ten dollars.

Section 10. There shall be appointed by the Board of Trustees a pound keeper who shall serve during the pleasure of said board.

Section 11. It shall further be the duty of the pound keeper to notify the Board of Trustees at each regular meeting, giving names and residences of any person harboring a dog which shall not have been licensed as provided by this ordinance.

L. M. BARNUM, President.
[illegible] THAYER, Clerk. 32w3

Happiest Girl in Lincoln.

"A Lincoln, Neb., girl writes, "I had been ailing for some time with chronic constipation and stomach trouble. I began taking Chamberlain's Stomach and Liver Tablets and in three days I was able to be up and got better right along. I am the proudest girl in Lincoln to find such a good medicine." For sale by H. L. Brazee.

IN THE DISTRICT COURT OF THE UNITED STATES for the Northern District of New York.

In the matter of Stephen Carson and Frank Carson, composing the firm of Carson Brothers, bankrupts. In bankruptcy, No. 4169.

On this 3rd day of July A. D., 1911, on reading the petition of the above named bankrupts praying for a discharge from their debts, as members of the firm of Carson Brothers, it is

Ordered, by the Court, that a hearing be had upon the same on the 5th day of September A. D., 1911, before said Court at Norwich, in said district at ten o'clock in the forenoon; and that notice thereof be published in the Otsego Republican, a newspaper printed in said district, at least once thirty days prior to said return day, and that all known creditors and other persons in interest may appear at the said time and place and show cause, if any they have, why the prayer of said petitioners should not be granted.

And it is further Ordered, by the Court, that the referee shall send by mail to all known creditors copies of this order, addressed to them at their places of residence as stated.

(Seal of the Court.) Witness, the Honorable George W. Ray, Judge of the said Court, and the seal thereof, at the City of Utica, in said district on the 3rd day of July, A. D., 1911.

W. S. DOOLITTLE, Clerk.

Attest: W. S. DOOLITTLE, Clerk.

To the creditors of said bankrupts, and to all persons interested in the administration and settlement of their estates.

Take Notice, of an Order duly granted of which the foregoing is a copy.

Dated, July 15, 1911, at Oneonta, N. Y.
B. W. HOYE, Referee.

Sheldon H. Close, Attorney for Petitioners, Oneonta, N. Y.

The Wonder Five-Minute Ice-Cream Freezer Is the Thing Now

This Freezer works so easily and turns out such delicious cream that it is really a pleasure instead of a hard job to freeze cream these hot days. Any size you want, from

1 Pint to 8 Quarts

in stock. Freeze your own Ice Cream and use just the fruits and cream in just the quantities that you like best. It's best that way.

McEwan Hardware Co.
HARDWARE AND PLUMBING
COOPERSTOWN, . . N. Y.

SURROGATE'S COURT

OTSEGO COUNTY

TERMS FOR 1911

COOPERSTOWN

AT THE SURROGATE'S OFFICE

beginning every Monday except during the month of August

ONEONTA

At County Court Chambers

January 12	July 13
February 9	September
March 16	October
April 13	November
May 11	December
June 15	

NATHANIEL P. WILLIS, Surrogate.
ABIGAIL M. CLINTON, Clerk.

LEGAL

NOTICE TO CREDITORS.

Pursuant to an order of Nathaniel P. Willis, Surrogate of the County of Otsego, notice is hereby given, according to law, to all persons having claims against the estate of Newton A. Marcy, deceased, late of the town of Burlington in said County, that they are required to exhibit the same, with vouchers thereof, to the undersigned Executrix of the last Will and Testament of the said deceased, at her residence in the town of Burlington in said County, on or before the 18th day of September next.

Dated, March 11, 1911.
CARRIE MARCY LATHROP, Executrix
15w27

NOTICE TO CREDITORS—Pursuant to an order of Nathaniel P. Willis, Surrogate of the County of Otsego, notice is hereby given, according to law, to all persons having claims against the estate of Marcus A Becker, deceased, late of the town of Roseboom, in said County, that they are required to exhibit the same, with vouchers thereof, to the undersigned Administrators of the goods, chattels and credits of the said deceased, at the residence of John P. Becker, in the town of Roseboom, in said County, on or before the 9th day of October, next.

Dated, April 3, 1911.
JOHN P. BECKER,
EUGENE BECKER,
Administrators. 18w27

NOTICE TO CREDITORS.

Pursuant to an order of Nathaniel P. Willis, Surrogate of the County of Otsego, notice is hereby given, according to law, to all persons having claims against the estate of Eber P. Pearse, deceased, late of the town of Hartwick, in said County, that they are required to exhibit the same, with vouchers thereof, to the undersigned Executor of the last Will and Testament of the said deceased, at the Offices of Arnold & Cooke, 77 Main street, in the village of Cooperstown, in said County, on or before the 30th day of October, next.

Dated, April 24, 1911.
FRANK E. BRIDGES, Executor.
21m6

NOTICE TO CREDITORS.—Pursuant to an order of Nathaniel P. Willis, Surrogate of the County of Otsego, notice is hereby given, according to law, to all persons having claims against the estate of Catherine Slack, deceased, late of the town of Otsego, in said county, that they are required to exhibit the same, with vouchers thereof, to the undersigned executor of the last will and testament of the said deceased, at his residence in the village of Greene, Chenango County, on or before the 13th day of November next.

Dated, May 8, 1911.
EDGAR J. ARNOLD, Executor.
23m6

COUNTY COURT, County of Otsego—Waterman Willis, Plaintiff; against Horace D. Burtch, Angie Burtch, his wife, Albert P. Thompson and Eva Thompson, his wife, defendants.

In pursuance of a judgment of foreclosure and sale, duly granted in the above entitled action, and entered in the Otsego County Clerk's office, Otsego Co., N. Y., on the 6th day of July, 1911, I, James W. Tucker, the undersigned Referee, in said judgment named, will sell at public auction at the Otsego County Surrogate's Office in the Village of Cooperstown, County of Otsego, N. Y., on the 28th day of August, 1911, at 1 o'clock p. m., the premises described in said judgment, as follows, viz:

"All that Tract or Parcel of Land, situate in the Town of Middlefield, County of Otsego, and State of New York, known as the Pope Farm, and on which Seth Pope resided at the time of his death, and is bounded as follows: On the north by lands of Benjamin Gates and one Vunck, on the east by lands of Joseph Webb Jr., on the south by lands of Dan A. Vickers and McDaniels Brothers; and on the west by lands of McDaniels Brothers, and contains about one hundred and twenty-eight (128) acres, more or less, and being same lands willed to Levi Pope by one Seth Pope now deceased. It being the same property which is now occupied by first parties hereto and which property was deeded by Peter Barton, Referee to Lester Coates and David Low by deed dated March 7, 1876, and recorded in Otsego County Clerk's Office March 17, 1876, at 3 p. m., in Book 173 of Deeds at page 421, and being the same property deeded to the said Horace D. Burtch by Ralph Rudd by a deed dated March 30, 1883."

Dated at the Village of Cooperstown, Otsego Co., N. Y., this 6th day of July, 1911.
JAMES W. TUCKER, Referee.

Nath'l P. Willis, Plaintiff's Attorney, Office and Post Office Address, Cooperstown, Otsego Co., N. Y.
31w7

IN THE DISTRICT COURT OF THE UNITED STATES for the Northern District of New York.

In the matter of Edward F. King, bankrupt. No. 4322.

To the creditors of Edward F. King, of Cherry Valley, N. Y., and district aforesaid, Bankrupt.

Notice is hereby given that on the 9th day of June, 1911, the said Edward F. King was duly adjudged a Bankrupt, and the first meeting of his creditors will be held on the 8th day of August, 1911, at ten o'clock in the forenoon at the office of B. W. Hoye, Esq., Referee in bankruptcy, 101 Main St., in the city of Oneonta, N. Y., at which time the Creditors may attend, prove their claims, appoint a trustee, examine said Bankrupt, and transact such other business as may come before said meeting.

B. W. HOYE, Referee in Bankruptcy

Dated at Oneonta, N. Y. this 10th day of July A. D. 1911.

C. G. Tennant, Solicitor for Bankrupt, Office and Post Office address Cooperstown, N. Y.
33w3

NOTICE TO CREDITORS—Pursuant to an order of Nathaniel P. Willis, Surrogate of the County of Otsego, notice is hereby given, according to law, to all persons having claims against the estate of Thomas Smith, deceased, late of the town of Cherry Valley, in said County, that they are required to exhibit the same, with vouchers thereof, to the undersigned executors of the last will and testament of the said deceased, at their residence in the town of Cherry Valley, in said County, on or before the 15th day of January, next.

Dated, July 10, 1911.
ETTA M. SMITH,
WILLIAM SMITH,
Executors.

Barnum Bros., Attorneys for Executors, Cherry Valley, N. Y. 32m6

TIMOTHY and Clover Seed, Garden Seeds, in bulk and papers, Wire Fencing and Poultry Netting, Cambridge Plows, Planet, Jr., Cultivators, Paints, Oils and Varnishes, Garland Ranges, Alabastine and Calsom Finish,

—AT—

W. Cory's

COOPERSTOWN, N. Y.

SUPREME COURT, County of Otsego—Spencer Edwards, Plaintiff; against Adell Merville, Addison Merville, Madison Merville and Emma Merville, his wife, Arthur Bellinger and Amelia Bellinger, his wife, Helen Salmon and Silas W. Salmon, her husband, Elijah Bellinger and Harriet Bellinger, his wife, Henry Bellinger and Jennie Bellinger, his wife, Fred Bellinger and Sarah Bellinger, his wife, Jennie George and David George, her husband, Palmer Merville and Maud Merville, his wife, John Merville, Emery T. Merville and Eva Merville, his wife, Eliza Thomas and Corwin J. Thomas, her husband, Estelle Lane and Alonzo Lane, her husband, Lee Merville, Joseph Merville, Estelle Merville, Clarence J. Bean; Lila A. Elwell and Fred P. Elwell, her husband, Clayton W. Bean and Mabel W. Bean, his wife, Forest E. Bean and Helen M. Bean, his wife, Frank M. Bean and Lena J. Bean, his wife, Emerson H. Merville, Ellen J. Edwards, wife of Spencer Edwards, Cornelia Helmer and James L. Helmer, her husband, Frederick Edwards and Jessie Edwards, his wife, Blanche Edwards, Maud Edwards, Marietta Pearce and Dean Pearce, her husband, Harold R. Pearce, Henry E. Pearce, Fannie Baird, Will Baird, her husband, Howard Merville and Elizabeth Merville, his wife, Cora Armstrong and Waldo Armstrong, her husband, Flora Starkweather and Dwight Starkweather, her husband, Emily Ward and Elias L. Ward, her husband, Madison G. Merville, Elizabeth P. Merville, Beulah Spofford, and Charles Spofford, her husband, Sue M. Droppers and Herbert Droppers her husband, Hiram Merville and Emma J. Merville his wife, Milford Merville, Dwight S. Merville and Allie Merville, his wife, Harrison Merville and Kate Merville, his wife, Louis M. Proper and Sophia Proper, his wife Leigh C. Torry, John Proper, William H. Merville and Eva Merville, his wife, Alonzo B. Merville and Violet Merville, his wife, Ira E. Merville, Joseph E. Merville, Delila E. Merville, Edwin R. Merville and Minnie Merville, his wife, Ernest Merville and Marietta Merville, his wife, Alson C. Merville and Florence Merville, his wife, Marietta Merville and Ernest Merville, her husband, Allie Banks, and Clayton Banks, her husband, Angeline Pearce and Larkin Pearce, her husband, and Adell Merville and D. J. Webster as administrators of the goods, chattels and credits of Loria Merville, deceased, and Emma J. Merville as executrix of the Last Will and Testament of Hiram S. Merville deceased, Clifford Bellinger, Mary Bellinger, his wife, Ralph Bellinger, Evelyn Bellinger, his wife, Ethel Bellinger, Rudson Bellinger, Ellen Bellinger, Elva M. Latson Guy C. Merville, Orel E. Merville, his wife, Grace N. Guernsey and Mina B. Gorden, Defendants.

To the above named defendants:

You are hereby summoned to answer the complaint in this action, and to serve a copy of your answer on the plaintiff's attorney within twenty days after the service; and, in case of your failure to appear or answer, judgment will be taken against you by default for the relief demanded in the complaint.

Trial to be held in the County of Otsego. Dated this 5th day of June, 1911.

CHARLES L. EARL, Plaintiff's Attorney, Office & P. O. Address Herkimer, N. Y.

To Harriet Bellinger, Clifford Bellinger, Mary Bellinger, Ralph Bellinger, Evelyn Bellinger, Ethel Bellinger, Rudson Bellinger, Ralph Bellinger, Ellen Bellinger, Grace N. Guernsey, Mina B. Gordon, Joseph Merville, Lee Merville, Estelle Merville, Emerson H. Merville, Emma Merville, Blanche Edwards, Maud Edwards, Will Baird, Fannie Baird, Howard Merville, Elizabeth Merville, Flora Starkweather, Dwight Starkweather, Beulah Spofford, Charles Spofford, Sue M. Droppers, Herbert Droppers, Alonzo H. Merville, Violet Merville, William H. Merville, Eva Merville, Ira E. Merville, Joseph E. Merville, Delila E. Merville, Edwin R. Merville, Minnie Merville, Ernest B. Merville, Marietta Merville, Alson C. Merville, Forence Merville and Henry Pearce.

The foregoing summons is served upon you by publication without the State of New York, pursuant to an order of Hon. Irving R. Devendorf, one of the Justices of the Supreme Court of the State of New York, dated the 8th day of July, 1911, and filed in the office of the Clerk of the County of Otsego, N. Y., with a copy of the amended summons and complaint.

CHAS. L. EARL, Plaintiff's Attorney, Office & P. O. Address, Herkimer, N. Y.
33w7

SUPREME COURT, Otsego County—Spencer Edwards, Plaintiff; against Adell Merville, Addison Merville, Madison Merville and Emma Merville, his wife, Arthur Bellinger and Amelia Bellinger, his wife, Helen Salmon and Silas W. Salmon, her husband, Elijah Bellinger and Harriet Bellinger, his wife, Henry Bellinger and Jennie Bellinger, his wife, Fred Bellinger and Sarah Bellinger, his wife, Jennie George and David George, her husband, Palmer Merville and Maud Merville, his wife, John Merville, Emery T. Merville and Eva Merville, his wife, Eliza Thomas and Corwin J. Thomas, her husband, Estelle Lane and Alonzo Lane, her husband, Lee Merville, Joseph Merville, Estelle Merville, Clarence J. Bean, Lila A. Elwell and Fred P. Elwell, her husband, Clayton W. Bean and Mabel W. Bean, his wife, Forest E. Bean and Helen M. Bean, his wife, Frank M. Bean and Lena J. Bean, his wife, Emerson H. Merville, Ellen J. Edwards, wife of Spencer Edwards, Cornelia Helmer, her husband, Frederick Edwards and Jessie Edwards, his wife, Blanche Edwards, Maud Edwards, Marietta Pearce and Dean Pearce, her husband, Harold R. Pearce, Henry E. Pearce, Fannie Baird, Will Baird, her husband, Howard Merville and Elizabeth Merville, his wife, Cora Armstrong and Waldo Armstrong, her husband, Flora Starkweather and Dwight Starkweather, her husband, Emily Ward and Elias L. Ward, her husband, Madison G. Merville, Elizabeth P. Merville, Beulah Spofford and Charles Spofford, her husband, Sue M. Droppers and Herbert Droppers, her husband, Hiram Merville and Emma J. Merville, his wife, Milford Merville, Dwight S. Merville and Allie Merville, his wife, Harrison Merville and Kate Merville, his wife, Louis M. Proper, Sophia Proper his wife, Leigh C. Torry, John Proper, William H. Merville and Eva Merville, his wife, Alonzo B. Merville and Violet Merville, his wife, Ira E. Merville, Joseph Merville, Delila E. Merville, Edwin R. Merville and Minnie Merville, his wife, Ernest Merville and Marietta Merville, his wife, Alson C. Merville and Florence Merville, his wife, Marietta Merville and Ernest Merville, her husband, Allie Banks and Clayton Banks, her husband, Angeline Pearce and Larkin Pearce, her husband, and Adell Merville and D. J. Webster, as administrators of the goods, chattels and credits of Loria Merville, deceased, and Emma J. Merville as executrix of the Last Will and Testament of Hiram S. Merville, deceased, and Isaac Light, Alonzo Light and Helen Light, his wife, Angenette Heustis, Ora Light, Mary S. Light, his wife, Leila Flynn and Michael Flynn, her husband, Frank Burdick and Nora Burdick, his wife, William Burdick and Mary Burdick, his wife, Ida Chapin and Charles Chapin, her husband, Mary Chapin and Louis Chapin, her husband, Henry Light and Jane Light, his wife, Wesley Griffin and Mary Griffin, his wife, Sylvia Barnard and John Barnard, her husband, Gussie Light, Burton Light, Clifford Bellinger, Mary Bellinger, his wife, Ralph Bellinger, Evelyn Bellinger his wife, Ethel Bellinger, Rudson Bellinger, Ellen Bellinger, Elva M. Latson, Guy C. Merville, Ora E. Merville, his wife Grace N. Guernsey and Mina B. Gordon, Defendants.

To the above named defendants:

You are hereby summoned to answer the complaint in this action, and to serve a copy of your answer on the plaintiff's attorney within twenty days after the service; and, in case of your failure to appear or answer, judgment will be taken against you by default for the relief demanded in the complaint.

Trial to be held in the County of Otsego. Dated this 5th day of June, 1911.

CHARLES L. EARL, Plaintiff's Attorney, Office & P. O. Address Herkimer, N. Y.

To Harriet Bellinger, Clifford Bellinger, Ralph Bellinger, Evelyn Bellinger, Ethel Bellinger, Rudson Bellinger, Ellen Bellinger, Grace N. Guernsey, Mina B. Gordon, Joseph Merville, Lee Merville, Estelle Merville, Emerson H. Merville, Emma Merville, Blanche Edwards, Maud Edwards, Will Baird, Fannie Baird, Howard Merville, Elizabeth Merville, Flora Starkweather, Dwight Starkweather, Beulah Spofford, Charles Spofford, Sue M. Droppers, Herbert Droppers, Sylvia Barnard, John Barnard, Alonzo B. Merville, Violet Merville, William H. Merville, Eva Merville, Ira E. Merville, Joseph E. Merville, Delila E. Merville, Edwin R. Merville, Minnie Merville, Ernest B. Merville, Marietta Merville, Alson C. Merville, Florence Merville and Henry Pearce.

The foregoing summons is served upon you by publication without the State of New York, pursuant to an order of Hon. Irving R. Devendorf, one of the Justices of the Supreme Court of the State of New York, dated the 8th day of July, 1911, and filed in the office of the Clerk of the County of Otsego, N. Y., with a copy of the amended summons and complaint.

CHAS. L. EARL, Plaintiff's Attorney, Office & P. O. Address, Herkimer, N. Y.
33w7

G. E. MacArthur, who has conducted a five-and ten cent store in Sidney for some time past, has filed a voluntary petition in bankruptcy. His liabilities amount to $3,364.15 and assets $9.64.