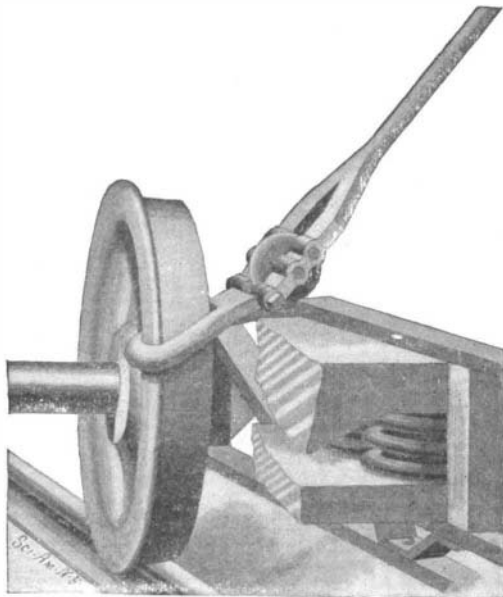


**A SIMPLE CAR MOVER.**

When a car is to be moved a short distance and it is not convenient to use a locomotive, special hand devices are used. A simple, highly efficient device of this kind has been invented by Samuel E. Kurtz, of Sac City, Iowa.

As our illustration shows, the car-mover comprises a lever in which a fulcrum-roller is adjustably held and with which a swinging grip-hook is connected.

**KURTZ'S CAR-MOVER.**

A knife-edge on the grip-hook serves to grip the car-wheel when the lever is operated.

With the fulcrum-roller bearing on the truck-frame, powerful pressure can be brought to bear to turn the wheel. The roller moves toward or from the end of the lever to change the leverage power.

The device applies its power in the direct course of the revolution of the wheel, and every pound applied is utilized. Its construction is simple and durable. Its weight is but 20 pounds.

**COMBINATION METAL AND WOOD-WORKING MACHINE.**

An ingenious and inexpensive combination metal and wood-working machine has been invented by G. W. Hoadley, of Garden Grove, Iowa, which machine fills the want for some portable device by which threads can be cut on large rods or pipe. Any screw plate can be used; for no dies are required. It is one of the main features of the device that the rod or pipe and not the thread-cutting tool revolves. The machine can be used for boring metal or wood, sharpening disks or tenoning spokes.

On a bed a headstock is carried, having a bearing for a hollow shaft carrying on its inner end an adjustable pinion which is adapted to mesh with one of a number of bevel gear wheels arranged concentrically on the inner face of a multiple gear wheel (Fig. 3). The multiple gear is transversely journaled in the headstock. Collars on opposite sides of its bearing hold the hollow shaft in position but permit its longitudinal adjustment to bring the pinion in mesh with any of the bevel gears on the multiple gear. To permit this adjustment the multiple gear can be shifted outwardly. A setscrew on the outer end of the hub of the multiple gear secures a pipe or other article to be threaded and causes the pipe to rotate with the gear wheel, when a crank on the end of the hollow shaft is turned. In threading smaller pipes or rods, a collar having a setscrew is secured in the hub of the multiple gear and the pipe is secured in the collar by the setscrew. The thread-cutter is of any approved type and is provided on its stock with handles to start the thread by hand. Sockets in the cutter stock receive long handles which rest on bars or arms (Fig. 1). Thus in threading a pipe, the cutter is held rigidly in place, while the pipe is turned with the multiple gear by the rotation of the crank on the hollow shaft. If it be desired to sharpen a harrow disk, a sharpening tool carried on one of the bars of the head-stock is used. The harrow disk is mounted on the squared end of a rod secured in the hub of the multiple gear, so that the disk is rotated with the multiple gear and the disk-edge sharpened (Fig. 2).

When it is desired to use the machine in boring holes in wood or metal, or in forming tenons on spokes, as shown in Fig. 4, then the crank-arm is removed from the hollow shaft and placed on a rod or pipe secured in the hub of the multiple gear, and the end of the hollow shaft is fitted with a boring tool. Upon turning the crank-arm secured to the

multiple gear, the hollow shaft and the tool will be turned. In order to feed the tool into the wood, the wheel or other work is carried on a slide, spring-pressed into engagement with the tool.

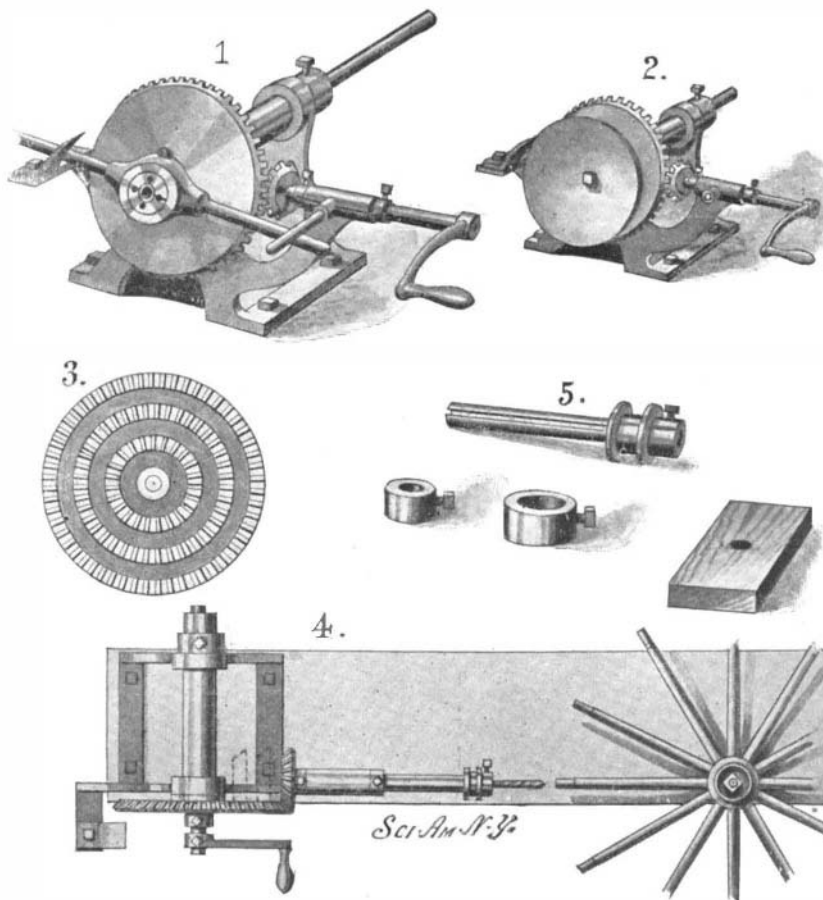
In a shop the gearing can be permanently mounted on a bench if it be so desired, but the construction is so simple that the operative mechanism can be readily removed. The gearing can be bolted to the bottom of a pump wagon or to any convenient bed.

**Manufacture of Coconut Butter in Mannheim.**

The manufacture of coconut butter is an industry of some importance in Mannheim. This factory is said to be the only one of any considerable size in Germany. It has an output of about 10 tons of butter per day. The business was started in 1886, and, the proprietors say, shows a steady increase. The product is sold under the name of "Palmin"—a registered trade name—or coconut butter (German, "Kokosnussbutter"). It is manufactured from the kernels of coconuts and is used as a substitute for butter and lard in cooking. As sold, it is generally white in color, almost tasteless, melts at about 80° F., and is of about the consistency of mutton or beef tallow. When desired by consumers, as bakers, confectioners, etc., the product is colored to resemble ordinary butter. When furnished to dealers, it is unlawful to color it. The proprietors claim an analysis of their product shows it to contain more than 99 per cent of vegetable fat, with but a slight trace of water, while ordinary butter contains about 85 per cent of fat and nearly 15 per cent of water. It is stated that the substance does not become rancid easily, that it will keep for three or four months in a cool room, and that it is much more wholesome and easily digested than the ordinary fats used for baking and cooking. For this reason the product has met with considerable favor in German hospitals and other institutions, and for use in army camps.

Coconut butter is generally put up in square packages wrapped in parchment paper, a small percentage being sold in tin cans. The latter are hermetically sealed for shipment during hot weather. The product is sold at one price throughout Germany, namely, about 16 cents per pound, or about half the price of ordinary butter. It is handled in somewhat limited quantities by about fifty grocers in Mannheim.

The processes of manufacture are, for the most part, secret, and, it is claimed, are protected by patents. The kernel of the coconut is imported in thoroughly dried strips, forming the "copra" of commerce. It is subjected to various refining processes by which all the free acids and other substances are separated, leaving only the vegetable fat. In the latter stages

**COMBINATION METAL AND WOOD-WORKING MACHINE.**

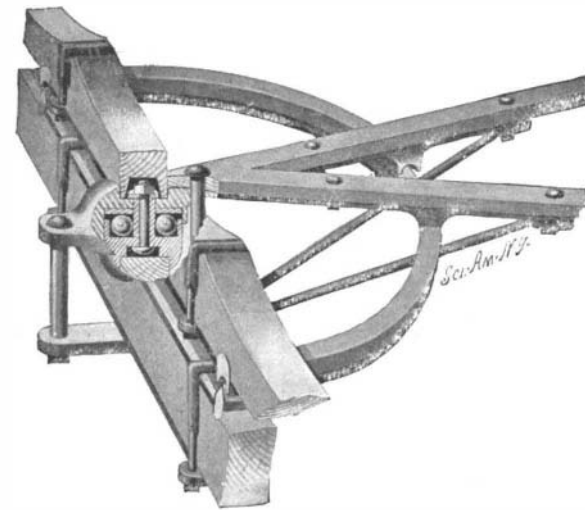
of the manufacture the product resembles ordinary butter recently churned. It is placed in machines similar to the separators used in creameries, in which the water and other foreign substances are separated by centrifugal force. In the manufacture of coconut butter a by-product, consisting of free acids and other substances, is obtained and sold to soap manufacturers.

A very bright comet was discovered by Halls at Queenstown April 23. It was observed at Cape Town by Gill April 24.

**A NOVEL FIFTH-WHEEL.**

A wagon and carriage fifth-wheel which has a central ball-bearing and interlocking strain-relieving segmental braces forming a portion of the bearing is a recent-patented novelty, invented by Christopher G. Burdick, of Antigo, Wis.

The central ball-bearing in question comprises two cups, one arranged to enter the other. One cup has a hollow post which passes through an aperture in the opposing cup; and through the hollow post a king-bolt extends, which is provided with a washer having bearing against the cup through which the bolt is

**THE BURDICK FIFTH-WHEEL FOR WAGONS AND CARRIAGES.**

passed. Within the cups around the post balls are placed.

Extending rearwardly from the cups are segmental guards or braces, the under face of one guard having a half-round groove and the upper face of the opposing being triangular in cross-section. The two guards or braces are normally held out of contact with each other.

Should the weight be greater on one side than on the other or should the vehicle be cramped at any time, the braces or guards will be brought together in such relation that they will sustain the greater portion of the unevenly-distributed weight and will therefore prevent the ball-bearing of the fifth-wheel from being subjected to extra friction or from being cramped or locked.

The construction of the fifth-wheel is furthermore such that the main king-bolt is concealed and protected. Auxiliary king-bolts located at front and rear of the main king-bolt act in conjunction with the braces or guards to overcome the severe strain which the main king-bolt would otherwise be called upon to sustain.

Under date of February 23, 1901, Consul-General Guenther, of Frankfort, says it is reported that the Russian government, in order to facilitate the telegraphic business between Odessa and Berlin, will construct a direct line between these two cities. Work on the new line will be commenced in the spring.

**The Current Supplement.**

The current SUPPLEMENT, No. 1322, has many interesting and valuable articles. "How Art Is Applied to Industrial Training in Philadelphia" is by J. A. Stewart and is accompanied by a number of engravings made from photographs taken especially for the SUPPLEMENT. "Screw Barges" describes a new system in use in England. "Induction Coils and Interrupters" is accompanied by three engravings. "High Potential Phenomena" is by A. P. Carman. "Military Bridges" illustrates some interesting portable bridges, or bridges which can be constructed at short notice. "European and Asiatic Faunas and Their Relations Past and Present to that of Africa" is by Prof. H. Pilsbry. "A General Survey of Foreign Trade" is concluded in this issue and is accompanied by two maps showing the entire world and where the United States manufactured goods are sold.

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