RECENTLY PATENTED INVENTIONS.
Agricuitural Implements.
MACHINE FOR TOPPING BEETS.-Julius H. Luhrs, Fruita. Col. This machine for top ping beets is so constructed that the cutters
will remove the same amount of crown from the beets, whether the crowns be just above the surface of the ground or extend some dis tance above the surface. The machine is light and strong and is provided with means whereby the cutting section will automatically华帾 in its path, so that the crowns will be cut at a uniform depth.

## Engineering Improvements.

steam-holler.-Charles Edgerton, fidelity Building, Philadelphia, Pa. Above th eceptacle is place for catching and retainin scale, the receptacle being of less diamete than the shell of the boiler. All the tube pass through this receptacle so closely tha
no water-circulating opening is provided. no water-circulating opening is provided. hand hole and cover are arranged within the
shell of the boiler at or near the level of the receptacle Upturned edges of the receptacle prevent the discharge of the scale over the edges into the water-leg. The upward cir-
culation is confined entirely to the annular culation is confined entirely to the annular
space surrounding the pan, which insures the precipitation of the sedimentary matter toward the center. By reason of this construction the rown-sheet of the ver
rendered more durable.

## Mechanical Devices.

Colinterbalance. - Rebert E. Foud asadena, Cal. The invention relates to maespecially such machines in which reciprocating is to be converted into rotary motion, or rice versa. The principal feature of the in vention consists in counterbalancing both the horizontal and vertical forces of the machin bodies, arranged to move in unison, to coun erbalance one another in a vertical direction, and to revolve in unison with the revolvin parts of the machine. The bodies have an ag gregate mass and center-of-gravity radius such hat the product shall be equal to the produc of the mass of the reciprocating parts and the iroifleling viessels.-John g. Pink. mit, IIamburg, Germany. A new and improved
motor has been devised by the inventor, oper ted by the explosion of combustible materia or the propulsion of all kinds of vessels. In this motor the gaseous products of combustion are made to act directly upon the water or ther medium to drive the vessel forward by reaction without any other propelling means The motor has a working-cylinder open at one on the medium through which the vessel is raveling. A piston is moved within the cylinder. Mechanism controlled by the piston ad its propelling charges to the cylinder
DEVICE FOR OPERATING THEATRICAL cenery.-Richard Hype, Brooklyn, New ork city. The main purpose of the invention s to obviate the difficulty experienced in ad justing scenery when operated by ropes an and contraction of the separate hanging ropes In the present invention only the expansion or ntraction of a central rope need be consid red. By this arrangement scenes can be ad usted by pulling down one corner of the cene itself, the other cornel going up corres pondingly. The invention further provides sap-cates for the paliey block with which a red without the use of a counterweight.
magazinf-pistol. - Walter J. Turn struction provided by this inventor the cart dges are fed accurately by the same devic which operates the hammer. The device also effects a positive lock for the feed mechanism just before and during the time the hammer acts upon a cartridge. A portion of this gagement and in controlling contact with the feed mechanism.

Railway Appliances.
1'NidMATIC PACKAGE-HOLDER.-Geergr II. Wall, Cadillac, Mich. The invention is a
drop-platform for railway-cars and other veicles employ to cary feight parcels, mai matter, and the like. The platform can b raised and locked, but is free to drop when re-
leased by the locking device, either by its own wight or by the weight of material placed thereon. The means employed for raising the platform permit the handling of a heavy load The devices for raising the platform are neumatic and operate with the least possibl friction

Miscellaneous Inventions. junction-bon. - George L. Holshum Brooklyn, New York city. The invention is an improvement in junction-boxes for electric wir ng in buildings and provides a ceiling jun
tion-box with a simple device for locking it a gas-pipe, the device being conveniently ope ated by a tool inserted through an opening in the lower side of the box. harness attacimment. - Orange A.
Iman and Charies II. Anbeav. Toulon, II!.
The attachment is designed to hold a check-
rein in engagement with the gig-saddle and to
hold the pad in place. The gig-saddle is hold the pad in place. The gig-saddle is pro
vided with a check-hook. Under the gig-saddle flexible strap lies, comprising a shank provided at one end with a loop capable of bein bent upward to receive the checkrein and a the other end with an eye capable of being ent upward to engage the back-strap.
CUSPIDOR.-John C. Blair, $4 \bullet$ Chestnut Street Louisville, Ky. A water-pipe is arrange within the cuspidor and is passed centrall through a disk. A flanged spreader is con
nected with the pipe and has lateral orifices opening below the flange and above the disk pening below the flange and above the disk.
a central screw-valve is arranged in the preader, its head being accessible at the top
of the spreader. The sanitary merits of this rangement need no comment.
STEAM AND heat consibrvator. barden W. Taylor, Manhattan, New Yor ity. One object of the invention is to con dense the exhaust-steam and utilize its hea
or reheating and superheating the water o or reheating and superheating the water of in the firebox. Still another object of the in and form feed-water free from all foreign ma er, liable to produce scale in the boiler.
METHOD OF TREATMENT OF AMALGA, CONTAINING COPPER OR PRIDCIOI METALS.-Joachim M. Burfeind. Salt Lak
City, Utah. The method of treating amalgam Chit, Utah. The method of treating amalgam ists in adding sulfur to the amalgam at ists in adding sulfur to the amalgam at
temperature not exceeding the boiling-point water and separating from the amalgam the copper sulfid formed.
THEATRICAL DEVICE. - SANTEL W Combs, Manhattan, New York city. The pur-
pose of the invention is to provide a stage effect in which water apparently rises gradually to certain level on the stage, but without wet is used in connection with a tarpaulin whic proof cloth to produce the illusion that the stage is being gradually covered with water These tanks are so placed upon the stage that the sides toward the audience being trans parent, cannot be seen, the horizon lines bein properly concealed by stage fittings or setting of any kind. Any action that may take plac front.
gage-Arthur J. Lucy, Meadoweraft, Penn Road, Croydon, Surrey. England. The age is a workshop instrument for marking o and the like, gaging and testing bevels, setting
and adjusting tools. The instrument consists a stock, a sector circularly adjustable in th plane of the stock and designed to act as arrier for a rule slidably fitted therein, whic
by the circular adjustment of the sector can rought into any desired angular relation to the base or other datum edge of the stock. The sector and stock are provided with scales
whereon this angular relation may be read hitciling device-parker m. Bragun er, Denver, Colo. The hitching device fo to the cross-bar of vehicle-shafts. The single connected sections, so that when potally ein is secured to the hitching device, and th sections of the single or double tree are free o move forward at their outer ends, the traces will be slackened and the draft of the vehicle check the animal should he endeavor to run
metal ceiling.-Frederick h. S. Haw nvention so simplifies and cheapens the wor erecting metal ceilings that the plates or panel can be quickly and systematically laid upon oundation consisting of two series of furring trips, one series being at angles to the othe eries and the upper series resting upon th upper surfaces of the furring strips of the to recess and interlock the strips.
dog-muzzle.-William mcmanus and charles N. Dilatush, Hagerman, Idaho. The og-muzal has a body, the front part of whic dog to prevent the dog's taking food. The body is held in position by a strap which passes over the head and is fastened to a neck-strap.
The device is particularly intended for use on sheep dogs in the West, in which districts the heep ran
coyotes.

Designs.
Belt.-Loulis Sanders, Brooklyn, New Yor ity. The leading feature of the design be found in diverging points extending above
and below the longitudinal edges of the body section of the belt at the back, producing bodice effect at the rear central portion of the

BUTTON.-Moses B. Shantz. Rocheste N. Y. The obverse of the button has a spher al center with connected apertures and is su ounded by a circular rim arched in cross se The outer portion of the rim is rounded to the reverse of the button. At its middle por tion this reverse is convex and is slightly dished to the rounded edge of the rim.
Note.-Copies of any of these patents will he Please state the name of the patenten. title Please state the name of the putent
the invention, and date of this paper.

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 Machinery designed and constructed. Gear cuttin.
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can koods. any and all. A pply to o. P. Jespersen and
 The celeorated "Hornsoy-Akrogd" Patent Sarety oi Gupine is built by the De Lat Vergne Refrigerating Ma-
Chine Company. Foot of East $188 t h$ Street. New York. Inquiry No. 5\%3.-For machine for carding bair The best book for electricians and begmers in elec.


Sheet Metal Novelties. Articles and Stumpings of a dress Standard Stampink Co. Cor. 7th \& Hudson St
 Fon SALE.-Patent of Saw.-Mitering Device, a com
bination fodiny tool Bisects all ankles automatically Miters plain. circular. sermental and radial work
James Lumsden, P. O. Box 72 , North Tarry
Town, N. $\mathbf{Y}$ Inquiry No. Dipe. - For manufacturers of the osciMoistener and Sealer. For moistening and sefling opalty. Excellent chance for manutacturer wit acilities for introducing a useful device. Addres Inauir No. 527 . - For manufacturers $\bullet$ I Monareh WANTED,-An experienced specifcation writer and
patent expert havink a theroukh knowledpe of the patent practice and preferably one competent to hande electrical cases. Munn \& Co., vilicitors. offoe
Scientric Ambmican, 361 Breadmas, New York Inquiry No. .j.28.-For the makers of the "Beck HELP WANTED.-By a manufacturer in Central New
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ondling of a larve number of men. State experience, ave and give reference. Address Foreman, P. ©. Box

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hints to correspondents.



letter or in this departwenl, each
his turi.




(8172) L. W. says: 1. If heat under being maintained, would its steaming power be increased, and if so what is the proportion of the pressure to the heating power? A. Yes.
The heat would be imparted to the boiler if its The heat would be imparted to the boiler if it
temperature should be greater than the temtemperature should be greater than the ten-
perature of the boiler. The pressure depends upon the kind of material used to convey the heat. 2 . What is the proportion of the in prase in volume of air under increase tem of the absol,ute temperature. The absolute emperature below zero Fahr. is $460^{\circ}$, to which add the higher temperature and divide by the
initial temperature, plus $460^{\circ}$. Thus the absoute temperature of $50^{\circ}$ is $510^{\circ}$, and if the ai is heated to $200^{\circ}$ the absolute temperature will
be $660^{\circ}$, and $660 / 510=1.294$ the new volume. 3. Could hot, or expanded, air be practically mployed as a motive power? A. Air expande by heat is used as a motive power in hot-air engines. 4. What is the temperature about
of a briskly burning hard coal fire? A. Tema briskly burning hard coal fire? A. Tem
$2,500^{\circ}$ Fahr. 5. What is the greatest tem perature obtainable from the flame of a kero
sene lamp! A. Temperature of a kerosen lamp is from $1,600^{\circ}$ to $1,800^{\circ}$ Fah
(8173) C. C. S. asks: How is it possible for the different phonograph companies to
nake such loud records? I have experimented with all kinds of machines, but cannot make ne anywhere near as electricity is ase to buy. I waves. It is not at all strange that man whose trade it is to make records can make louder ones than an amateur can. We re not informed as to the secret process e ecords than their competitors.
(8174) J. H. White writes: I have seen an account of a supposed suck-hole in a gation creek in Kentucky, which upon investi fifty yards long and six inches wide, from wimming, and which held dogs with such power that they never came up. If this is cally different from electro-magnetism? Can you explain the phenomenon? Will you please inform me where I A. If this is true, it is indeed unlike anything
hitherto known on earth. No lodestone ever

