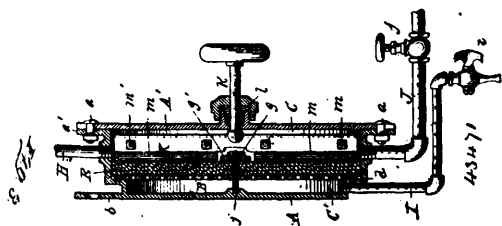


combination, with a draw head, having its front face provided with a pair of transversely opposite openings, a coupling head having a tenon perforated and mounted in one of the said openings, a pin extending through said openings of the tenon, a rib at the front end, and at one side of the coupling head a pivoted spring pressed hook, having a front bevelled face located at the opposite side of the draw-head, means for retracting the hook, and a recess in the front end of the coupling head, said recess being provided with a pin hole, of a link having long and short perforated terminals, the same engaging removably with the recess in the draw-head and that in the coupling head, and pins passing through said recess and terminals, substantially as specified. 6th. The combination, with a jaw coupler, provided at one side with a T-shaped stud, of recesses formed in the jaw coupler and a link having long and short terminals adapted to engage the recesses and be secured therein in a removable manner, and to engage with the T-shaped studs and be supported thereby, substantially as specified.

**No. 43,471. Filter. (Filtre.)**

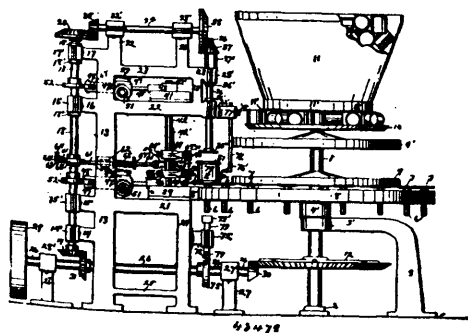


Virgil Harvey McConnell, Buffalo, New York, U.S.A., 4th July, 1893; 6 years.

**Claim.**—1st. The combination, with the enclosing case of the filter, of a perforated supporting plate arranged within the case, and a porous filtering disc also arranged in the case and resting against said supporting plate, substantially as set forth. 2nd. The combination, with the enclosing case of the filter and the porous filtering disc arranged therein, of a perforated supporting plate arranged in the case parallel with the filtering disc, and a bolt or screw whereby the filtering disc is clamped against said supporting plate, substantially as set forth. 3rd. The combination, with the enclosing case of the filter having an internal shoulder, of a perforated supporting plate or diaphragm secured to said shoulder and dividing the case into inlet and discharge chambers, and a porous filtering disc arranged within the plate, substantially as set forth. 4th. The combination, with the enclosing case of the filter and the flat filtering disc arranged therein, of a rotary scraper arranged in the case and bearing against the face of the filtering disc, substantially as set forth. 5th. The combination, with the enclosing case of the filter and the flat filtering disc arranged therein, of a rotary scraper bearing against the filtering disc and provided with a handle extending through the case of the filter, substantially as set forth. 6th. The combination, with the enclosing case of the filter and the flat filtering disc whereby the case is divided into inlet and discharge chambers, of inlet and cleaning pipes connected with said inlet chamber, and a rotary scraper arranged in said inlet chamber, bearing against the face of the filtering disc, and provided with a handle extending through the case of the filter, substantially as set forth.

**No. 43,472. Can Crimping Machine.**

(Machine à cambrer les boîtes métalliques.)



The Roberts Tinware Company, assignee of John Wesley Roberts, all of Cleveland, Ohio, U.S.A., 4th July, 1893; 6 years.

**Claim.**—1st. The combination, in a can crimping machine, of a vertical shaft, having an intermittent rotary movement, a carrier frame fixed upon the shaft, a series of discs, having spindles journaled around the carrier frame, a friction face around the carrier frame, and a friction bearing for the friction face, substantially as shown and described. 2nd. The combination, in a can

crimping machine, of a carrier frame, having an intermittent rotary movement, spindles having discs on their tops, said spindles projecting through journals around the carrier frame, a rotating disc above the orbit of the spindles, having discs, a plunger below the orbit of the spindles, and a cam adapted to raise the plunger vertically, as the spindles successively come over the plunger to grip a can between the disc on the spindle and the rotating disc above the orbit of the spindles, substantially as shown and described. 3rd. In a can crimping machine, a sliding block, a cam to reciprocate the sliding block, adjustable connection between the cam and sliding block, and a yielding bearing between said adjustable connection and sliding block, substantially as illustrated and described. 4th. In a can crimping machine, a sliding block, having a bore therein, a rod to enter said bore and having its opposite end threaded, a yielding bearing back of said rod within the bore of the sliding block, a bar having a bore, into which the threaded end of the rod enters, a cross opening in the bar, and a wheel in said cross opening, the wheel being bored axially and threaded to screw upon said rod, substantially as illustrated and described. 5th. The combination, in a can crimping machine, of sliding blocks, cams to reciprocate the sliding blocks, adjustable connections between the cams and sliding blocks, and yielding bearings between the adjustable connections and sliding blocks, with means for gripping and revolving cans while being crimped, substantially as illustrated and described. 6th. The combination, in a can crimping machine, of a shaft carrying crimping discs, sliding blocks to which said shaft is attached, cams to reciprocate the sliding blocks, adjustable connections between the cams and sliding blocks, and yielding bearings between the adjustable connections and sliding blocks, with means for gripping and revolving cans while being crimped, substantially as illustrated and described. 7th. The combination, in a can crimping machine, of a vertical shaft, having secured thereto brackets carrying crimping discs, one of the brackets having vertical adjustment upon said shaft, sliding blocks, to which said vertical shaft is attached, cams to reciprocate the sliding blocks and shaft, adjustable connections between the cams and sliding blocks, substantially as illustrated and described. 8th. The combination, in a can crimping machine, of a vertical shaft, carrying brackets having arms, to which are pivoted crimping discs, one of the brackets having vertical adjustment upon said shaft, substantially as illustrated and described. 9th. The combination, in a can crimping machine, of a vertical shaft having fixed thereon brackets with arms to which are pivoted crimping discs, cams to reciprocate said vertical shaft, and suitable connections between said cams and vertical shaft, substantially as illustrated and described. 10th. In a can crimping machine, a bracket having pivoted thereto a crimping disk and carrying a smoothing disk to follow the crimping disk, substantially as shown and described. 11th. In a can crimping machine, a vertical shaft carrying two brackets, one of the brackets having pivoted thereto a crimping disk and carrying a smoothing disk to follow the crimping disk and the other bracket having pivoted thereto a crimping disk, one of the said brackets having vertical adjustment upon said shaft, substantially as illustrated and described. 12th. The combination, in a can crimping machine, of a vertical shaft carrying two brackets to one of which is pivoted a crimping disk and carrying a smoothing disk to follow the crimping disk, the other bracket carrying a crimping disk, one of said brackets being adjustable vertically upon said shaft, sliding blocks to which said vertical shaft is attached, and means to reciprocate said sliding blocks and vertical shaft, substantially as illustrated and described. 13th. The combination, in a can crimping machine, of a vertical shaft having attached thereto two brackets, one of the brackets having pivoted thereto a crimping disk and carrying a smoothing disk to follow the crimping disk, the other bracket carrying a crimping disk having vertical adjustment on said shaft, cams to operate said vertical shaft, and adjustable connections between said cams and said vertical shaft, substantially as illustrated and described. 14th. The combination, in a can crimping machine, of a vertical shaft having fixed thereon two brackets, one of the brackets having pivoted thereto a crimping disk and carrying a smoothing disk to follow crimping disk, the other bracket carrying a smoothing disk, one of the said brackets being adjustable vertically upon said shaft, cams to reciprocate said shaft, adjustable connections between said cams and vertical shaft, and yielding bearings between said adjustable connections and vertical shaft, substantially as illustrated and described. 15th. The combination, in a can crimping machine, of a crimping disk, a cam to reciprocate the crimping disk, a smoothing disk to follow the crimping disk, and means for throwing the smoothing disk into contact with a can being operated upon after the crimping disk shall have been thrown into contact with the can, substantially as illustrated and described. 16th. The combination, in a can crimping machine, of a bracket carrying a crimping disk, a link centrally pivoted upon the bracket, a reciprocating rod having one end pivotally connected with one end of said centrally pivoted link and carrying at its opposite end a smoothing disk, a cam and intermediate connection between said cam and centrally pivoted link, substantially as illustrated and described. 17th. The combination, in a can crimping machine, of a bracket carrying a crimping disk, a link pivoted upon said bracket, a reciprocating rod having one end pivoted to said pivoted link and the opposite end carrying a smoothing disk, a bar attached to said pivoted link, a cam, and an arm adjustably fixed to said bar and