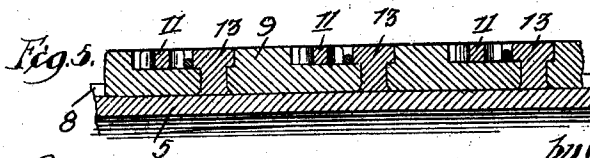
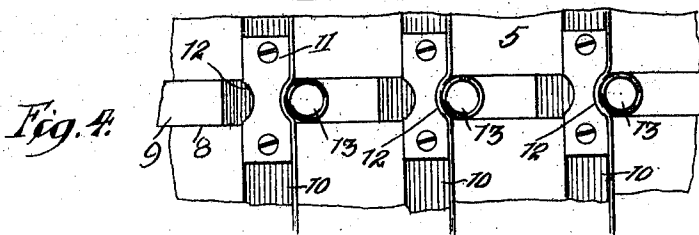
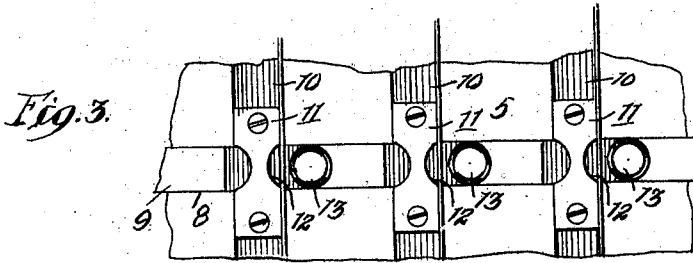
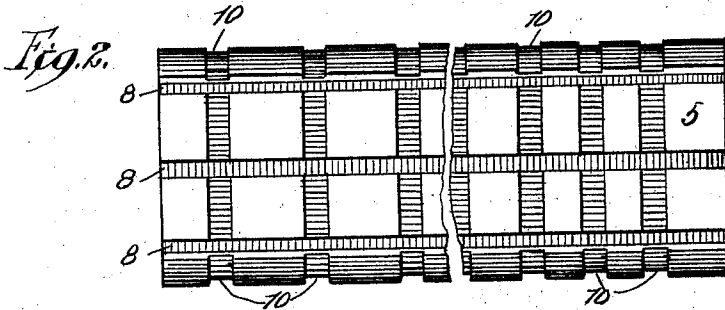
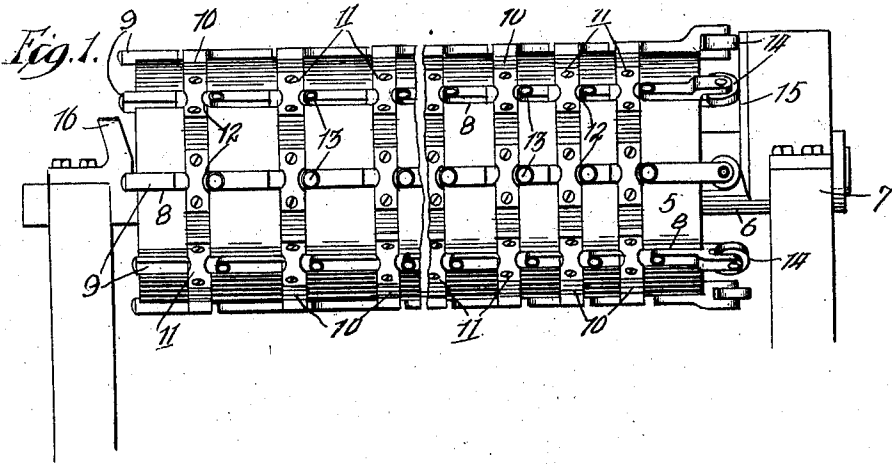


G. E. MIRFIELD.
CRIMPING DRUM.
APPLICATION FILED JUNE 24, 1909

963,616.

Patented July 5, 1910.



Witnesses:

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UNITED STATES PATENT OFFICE.

GEORGE E. MIRFIELD, OF YOUNGSTOWN, OHIO, ASSIGNOR TO YOUNGSTOWN SHEET & TUBE COMPANY, OF YOUNGSTOWN, OHIO, A CORPORATION OF OHIO.

CRIMPING-DRUM.

963,616.

Specification of Letters Patent.

Patented July 5, 1910.

Application filed June 24, 1909. Serial No. 504,054.

To all whom it may concern:

Be it known that I, GEORGE E. MIRFIELD, a citizen of the United States, residing at Youngstown, in the county of Mahoning and State of Ohio, have invented certain new and useful Improvements in Crimping-Drums, of which the following is a specification.

In the operation of machines for weaving wire mesh fence, it is customary, after the weaving of the fence, to pass the fence over a crimping drum, the function of which is to form a crimp in each of the strand wires, intermediate the adjacent stay wires, in order to compensate for the expansion and contraction of the fence when subjected to changes in temperature. If a sharp or abrupt crimp is imparted to the fence, there will be a tendency to break the galvanizing and permit the formation of rust, thereby quickly destroying the fence.

The object of the present invention is to provide a crimping drum which is adapted to form a rounded crimp, having easy lines, and no sharp corners which tend to break the galvanizing.

Further objects will appear from a detailed description of the invention, which consists in the features of construction and combination of parts hereinafter described and claimed.

In the drawings, Figure 1 is a side elevation of a crimping drum, broken out in the center, and embodying the features of the present invention; Fig. 2 a similar view, with the slide bars removed; Figs. 3 and 4 enlarged details, showing the die members of the crimpers; and Fig. 5 a sectional view of the same.

The drum, as a whole, comprises a cylindrical body wall 5 which is carried by a shaft 6 mounted in journal bearings 7. The body wall is provided, on its outer face, with a plurality of longitudinally extending grooves or channels 8, each of which serves as a guideway for the slide bars 9. The body wall is further provided, at suitable intervals, with circumferentially extending cross channels 10, which are provided, at the intersections of the longitudinal channels, with die plates 11 provided, on each side, with a rounded recess 12, which constitutes a female die in the crimping operation. The die plates bridge over the slide bars which have an unimpeded travel beneath

the die plates, and each of the slide bars is provided with a plurality of cylindrical crimping studs 13, so located that all of the studs will simultaneously register with the cooperating recesses in the die plates in simultaneously crimping all of the strand wires. The crimping studs and the die plates are preferably formed of tempered tool steel to prevent wearing of the parts during continued operation.

Each of the slide bars is provided, on one end, with a roller 14, adapted to cooperate with a cam track 15 located above the journal bearings 7, the function of which is to successively inwardly project the slide bars at the proper time to crimp the wire. The slide bars are adapted to be returned to normal position by the action of a cam 16, located at the opposite end of the drum and on the return side thereof, and is adapted to successively throw back the slide bars as they are brought into register therewith.

The operation of the device is as follows: The strand wires of the fence are laid in position to bear against the acting sides of the die blocks 11, after which the fence will be drawn forward over the crimping drum. As the drum is revolved, the rollers 14 will be brought successively into engagement with the cam track 15, and a continued movement of the drum will thereafter impart a crimping movement to each of the slide bars in succession. After the crimp has been formed, a continued movement of the drum will bring the opposite ends of the bars into register with the cam 16, which serves to impart a return movement to the bars. The formation is one which permits the slide bars to be firmly and positively guided in their crimping and return movements within the channel formed in the solid wall of the drum, and the die plates will be firmly held and positioned within the cross sections or channels, so that the parts will all be firmly positioned against movement or displacement.

It is seen that the use of die plates such as those herein described and illustrated, will enable one to make easy and quick changes in the crimping parts. It is seen that the individual die plates may be removed from the drum, and other new or different shaped die plates be inserted in their place, and if desired, new studs may be substituted for the old ones on the slide

bars. It is also seen that, as shown in the drawings, each die plate may be provided with a recess on each side, and said recesses may be alike or of different shapes and sizes. This interchangeability of the crimping parts will enable one to readily and quickly substitute new parts for worn ones, or to substitute crimping portions which will produce crimps of new shapes and sizes, and each crimping plate may be made to perform practically twice the amount of service which could otherwise be secured from it by reason of its reversibility.

I claim:

1. A crimping drum provided, in its surface, with a plurality of longitudinally extending guide grooves or channels, slide bars mounted in said grooves or channels and each provided with a plurality of removable die studs, removable fixed recessed die plates carried by the drum and adapted to cooperate with the die studs in crimping the wires, and means for imparting longitudinal crimping movements to the slide bars, substantially as described.

2. A crimping drum provided, in its surface, with a plurality of longitudinally extending guide grooves or channels, slide bars mounted in said grooves or channels and each provided with a plurality of removable die studs, removable fixed recessed die plates carried by the drum and adapted to cooperate with the die studs in crimping the wires, and a cam adapted to successively impart longitudinal crimping movements to the slide bars, substantially as described.

3. A crimping drum provided, in its surface, with a plurality of longitudinally extending guide grooves or channels, slide bars mounted in said grooves or channels and each provided with a plurality of removable die studs, removable fixed recessed die plates carried by the drum and adapted to cooperate with the die studs in crimping the wires, a cam adapted to successively impart longitudinal crimping movements to the slide bars, and a second cam adapted to return the slide bars to normal position, substantially as described.

4. A crimping drum provided, in its surface, with a plurality of longitudinally extending guide grooves or channels and a plurality of circumferentially extending cross grooves or channels, a plurality of slide bars longitudinally movable within the longitudinal grooves or channels, a plurality of die plates entered within the cir-

cumferential grooves or channels and bridging the slide bars, and each provided with a die recess, die studs on the slide bars adapted to cooperate with the die recesses, and means for imparting longitudinal crimping movements to the slide bars, substantially as described.

5. A crimping drum provided, in its surface, with a plurality of longitudinally extending guide grooves or channels and a plurality of circumferentially extending cross grooves or channels, a plurality of slide bars longitudinally movable within the longitudinal grooves or channels, a plurality of die plates entered within the circumferential grooves or channels and bridging the slide bars, and each provided with a die recess, die studs on the slide bars adapted to cooperate with the die recesses, and a cam adapted to successively impart longitudinal crimping movements to the slide bars, substantially as described.

6. A crimping drum provided, in its surface, with a plurality of longitudinally extending guide grooves or channels and a plurality of circumferentially extending cross grooves or channels, a plurality of slide bars longitudinally movable within the longitudinal grooves or channels, a plurality of die plates entered within the circumferential grooves or channels and bridging the slide bars, and each provided with a die recess, die studs on the slide bars adapted to cooperate with the die recesses, a cam adapted to successively impart longitudinal crimping movements to the slide bars, and a second cam adapted to return the slide bars to normal position, substantially as described.

7. A crimping drum provided in its surface with a plurality of longitudinally extending guide grooves or channels, and a plurality of circumferentially extending cross grooves or channels, a plurality of reversible die plates adapted to be located within the circumferential grooves or channels and adapted to bridge the slide bars, die studs on the slide bars and adapted to cooperate with the die recesses, and means for successively imparting longitudinal crimping movements to the slide bars, substantially as described.

GEORGE E. MIRFIELD.

Witnesses:

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