(No Model.) 2 Sheets—Sheet 1.

E. F. GUESS.

MACHINE FOR MAKING SLAT AND WIRE FABRIC.

No. 525,102. Patented Aug. 28, 1894.

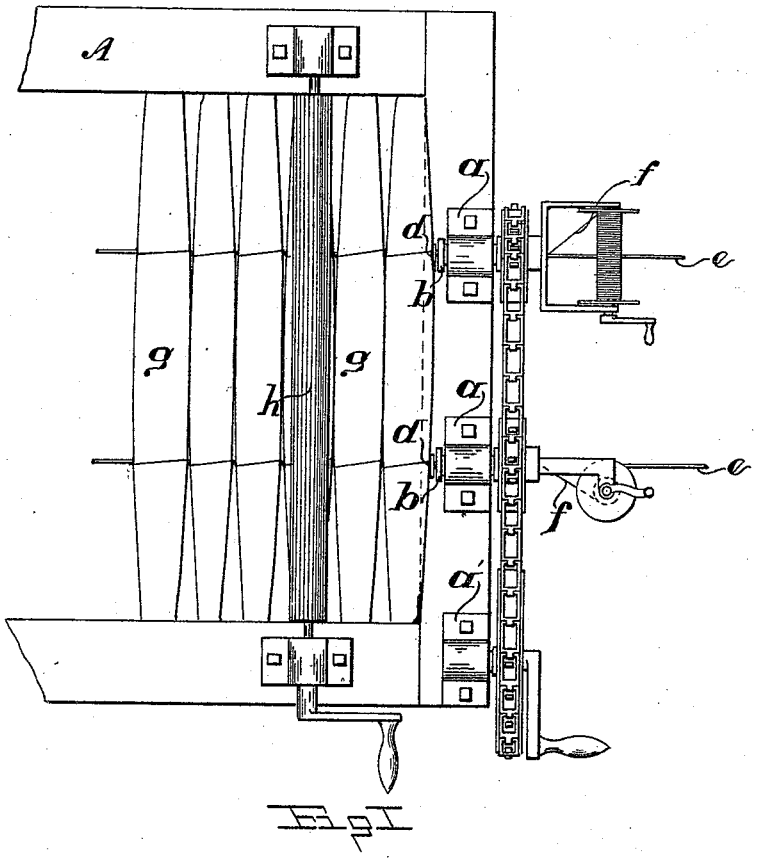

Fig. 1.

WITNESSES:

B. C. Brandee.

A. J. Rockwood

Emil F. Guess INVENTOR

BY

William Macomber

ATTORNEY.

(No Model.) 2 Sheets—Sheet 2.

E. F. GUESS.

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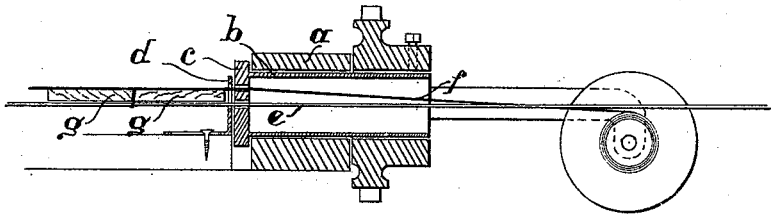

Fig. II

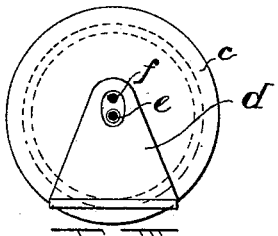

Fig. III

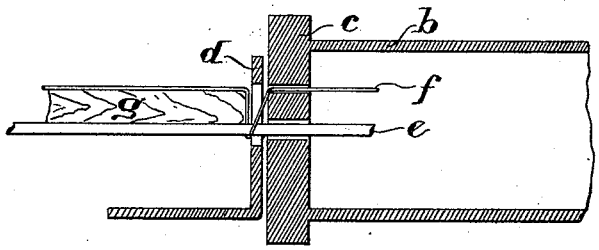

Fig. IV

WITNESSES:

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UNITED STATES PATENT OFFICE.

EMIL F. GUESS, OF BUFFALO, NEW YORK.

MACHINE FOR MAKING SLAT-AND-WIRE FABRIC.

SPECIFICATION forming part of Letters Patent No. 525,102, dated August 28, 1894.

Application filed January 15, 1894. Serial No. 496,912. (No model.)

To all whom it may concern:

Be it known that I, EMIL F. GUESS, a citizen of the United States, residing at Buffalo, in the county of Erie and State of New York, have invented a new and useful Machine for Making Slat and-Wire Fabric, of which the following is a specification.

My invention relates to a new and improved machine for making wood-and-wire fabric which can be readily employed in knock-down barrels, packing crates or cases of various forms, baskets, hampers, and the like, and suitably constructed so that the same may be set up for use without a great degree of skill or the use of many tools; and more particularly a knock-down barrel or case which will have a bilge when set up, and which may be set up by a common workingman. By reference to the patent issued to Marvin S. Cadwell, No. 479,487, the method of weaving and the machinery employed with which I began may be seen. In the use of this invention and in its insufficiency to produce the desired results, I came to invent the improvements which I shall now describe.

Referring to the drawings herewith, consisting of two sheets, Figure I is a top plan view of my machine. Fig. II is a vertical cross section of the same upon the line of the wire weave. Fig. III is an elevation of the head carrying the heavy wire and the weaving wire and my adjustable eye for forming and regulating the proper loops. Fig. IV is an enlarged view of the wire twisting head and the adjustable eye or loop former, a portion of the same shown in cross section, and also an enlarged view of the two wires and a cross section of a slat or stave showing the formation of the loop or weave.

Like letters refer to like parts throughout the drawings.

A is the frame of the machine upon which are mounted the bearings, *a*, *a'*. The bearings, *a*, *a'*, carry cylindrical twisters or barrels, *b*, which upon their outer ends carry sprocket wheels by which they are rotated, and spools for holding the pliable wire. These cylinders are hollow to permit of the passage of the wires within them. The sprocket wheels are engaged with a chain which passes over another sprocket journaled in the bearing, *a'*, and which is driven by a crank. Upon the inner ends of these cylinders, or cast with them, are hubs, *c*, *c*, which are provided with central openings through which the heavy and stiff wire passes, and with openings to one side of the center and parallel to the axis of the hub through which the flexible or pliable wire passes.

d, *d*, are L shaped iron brackets which are adjustably connected to the frame of the machine, and which are provided upon the vertical portions with eyes or openings which are elliptical in shape, having their greater diameter vertical and in length substantially equal to the thickness of the stave plus the diameter of the heavy wire, and having the lower axis coinciding with the axis of the opening for the heavy wire. The base of this L shaped bracket is provided with slotted openings, as shown in Fig. II, through which bolts or screws take to secure it to the frame of the machine, and by means of which the entire bracket may be adjusted toward or away from the twister-head and upon the line of the axis of the twister-head.

e is the heavy, stiff wire, and *f* is the flexible or loop wire, and *g*, *g*, are the staves or slats.

h is a corrugated roller mounted in bearings on the frame of the machine and provided with a crank handle. This roller engages its corrugated surface upon the upper surface of the wood-and-wire fabric, which slides upon the flat bed of the machine, and by turning the crank the section of fabric may be moved in the operation of weaving on new slats or staves. The mode of operation and much of the construction is substantially the same as disclosed by the said Cadwell patent; and I do not in any way claim anything covered by said patent; and in view of said patent I need not further explain the construction or operation. But by reference to this patent and by special reference to the device used, it will be seen that the flexible wire is brought up closely over the edge of the slat or stave, turned closely about the stiff wire one or more times so as to bring the stiff wire down closely to the surface of the slat or stave, and then is carried back to pass over the next succeeding slat or stave. This method is satisfactory when a perfectly rigid fabric—one in which the wires are tightly

clamped about the stave and when the flexible wire is wound rigidly about the stiff wire—is desired; but when a fabric is desired which, woven flat with jointed staves, may be bent into cylindrical shape and given a bilge like a barrel, the loop of the flexible wire about the other wire must permit of a sliding action of the stiff wire, else a proper bilge could not be secured; and besides, the heavy wire must not be so tightly drawn down to the stave as to bind at the loop, else it will be sprung up and stand out from the surface of the stave. The eye or loop former shown is my invention to cover this desired requirement. In the first place this eye serves to guide the flexible wire in making the turn about the heavy wire; and in the second place, by its adjustment toward or away from the face of the twister-head the degree of closeness of the loop is regulated and in this way I am able to form a single loop or to make any number of turns about the heavy wire which will be tight or loose as I regulate the position of the eye. In the second place, in order to form these loops about the body wire snug up against the edge of the stave and at the same time without drawing the two wires down so as to bind, it is necessary that the device for shifting the fabric should be positive in action and easy of operation. To accomplish this end I have provided the corrugated roll, *h*, which is placed transversely over the bed of the machine and journaled in proper bearings and provided with a crank handle by which it may be turned in either direction. The corrugated surface engages readily upon the surface of the woven fabric and moves the same in either direction with equal positiveness.

The faces of the L shaped brackets, *d*, *d*, in connection with the corrugated roll, serve the further purpose of acting as stops against which the edge of the stave or slat strikes when the fabric is forced toward the twister-heads by the action of the corrugated roll; so that the last stave and next to the last stave are forced up together and the loop of the flexible wire thereby forced up and slightly loosened about the body wire.

In the operation of the machine with these improvements, it will be seen that the flexible wire, instead of being brought over the edge of the stave and turned closely about the body wire, is given a turn not unlike that of a spiral spring. After the turn is made, the fabric is carried forward, a new slat is inserted, and the fabric is forced up by the powerful grasp of the corrugated roll. The loop about the body wire is thus brought up against the edge of the stave, and in the action its grasp about the body wire is loosened so that the body wire is free to slip within the loop when the barrel is set up and the diameter is reduced by the trussing in of the ends and giving a bilge to the barrel.

Having thus described my invention, I claim—

1. The combination of a twister-head having a hollow axis to receive the body wire and an opening parallel to the axis to receive the flexible wire, with an adjustable eye, adjustable upon the line of the axis of the twister-head, substantially as shown.

2. The combination of a twister-head carrying the body wire and the flexible wire, with an eye consisting of an adjustable L-shaped bracket with an elliptical opening having its greater diameter vertical and having its lower axis coincident with the axis of the twister-head, substantially as shown.

3. The combination of a twister-head as described, and an adjustable eye, with a corrugated roll engaging upon the surface of the fabric and capable of rotation in either direction by means of a crank handle, substantially as described.

4. In a machine for making slat-and-wire fabric, the combination of a twister head as described, with an adjustable eye, consisting of an adjustable bracket with an elliptical opening to regulate the loop about the body wire, and the face of the bracket to receive the thrust of the stave or slat when forced up by the corrugated roll, substantially as described.

In testimony that I claim the invention above set forth I affix my signature in presence of two witnesses.

EMIL F. GUESS.

Witnesses:
HARRISON OSBORNE,
JOHN S. GEORGE.