No. 737,052. PATENTED AUG. 25, 1903.

A. S. ALLEN.

TYMPAN FOR PRINTING PRESSES.

APPLICATION FILED APR. 1, 1901.

NO MODEL.

Fig. 11.

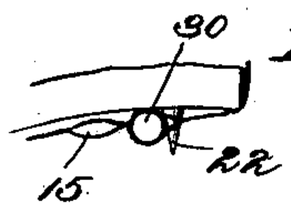


Fig. 1.

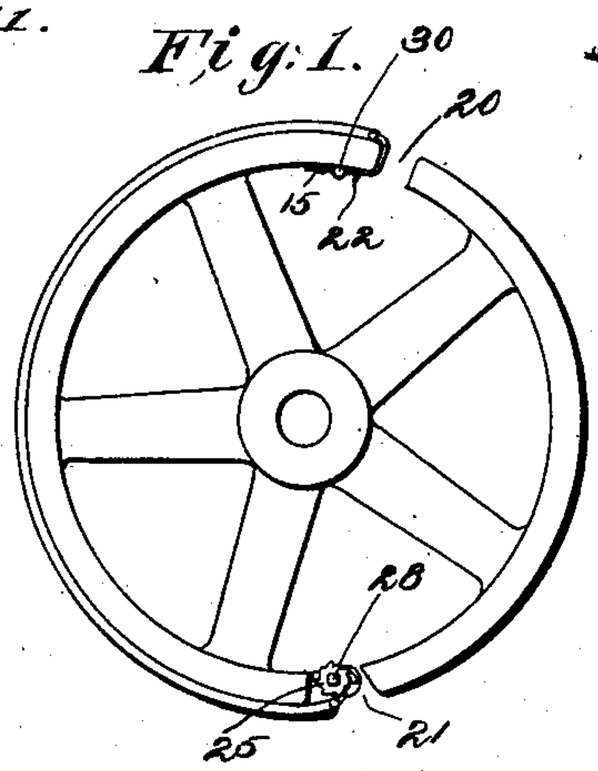


Fig. 10.

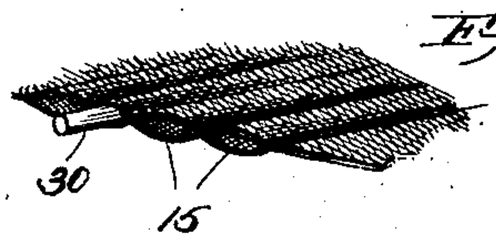


Fig. 8.

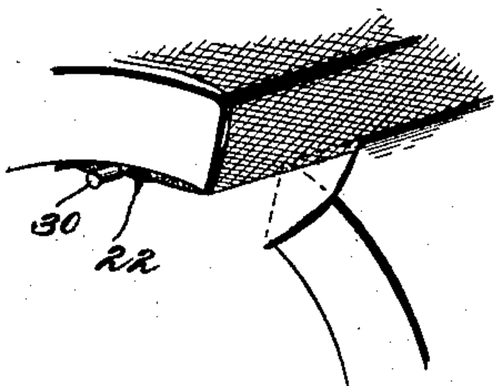


Fig. 9.

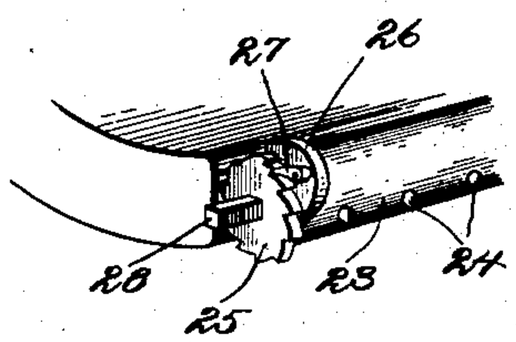


Fig. 2.

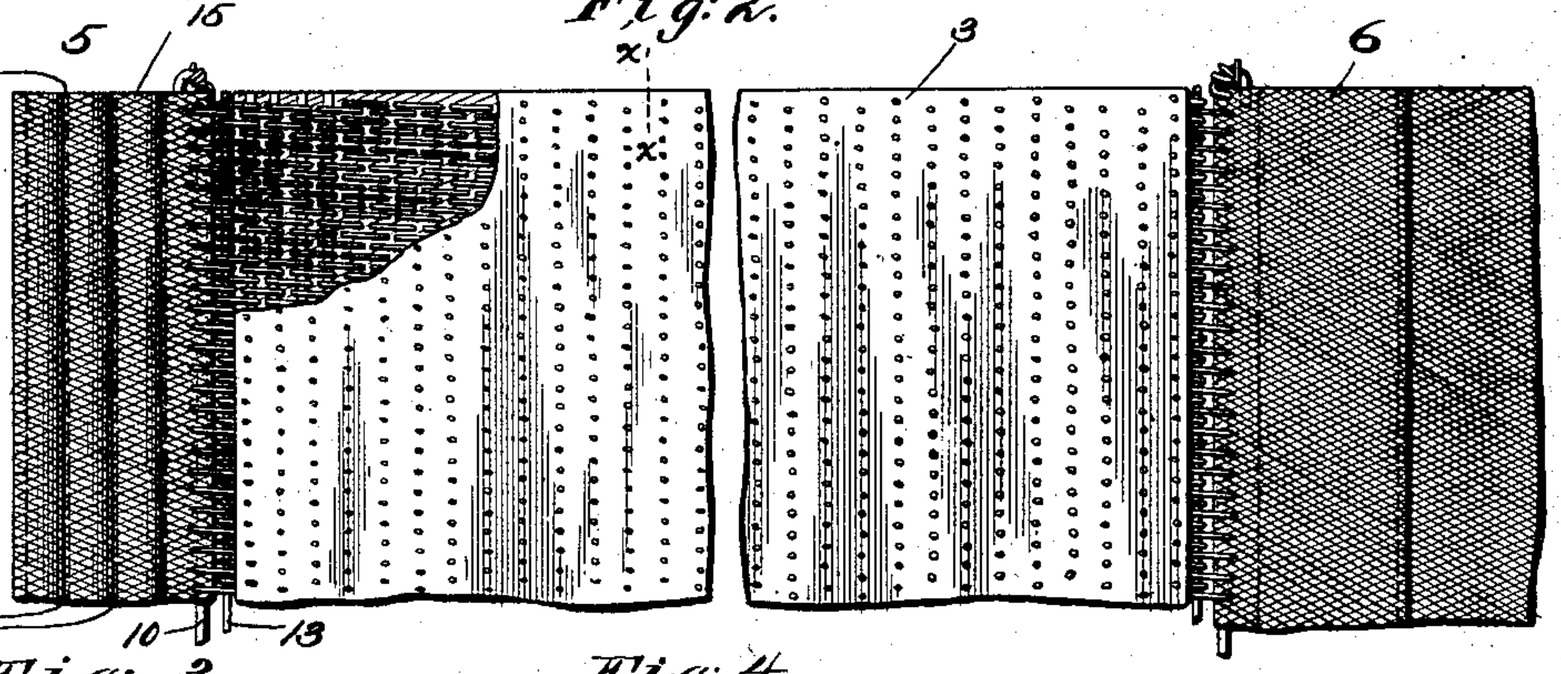
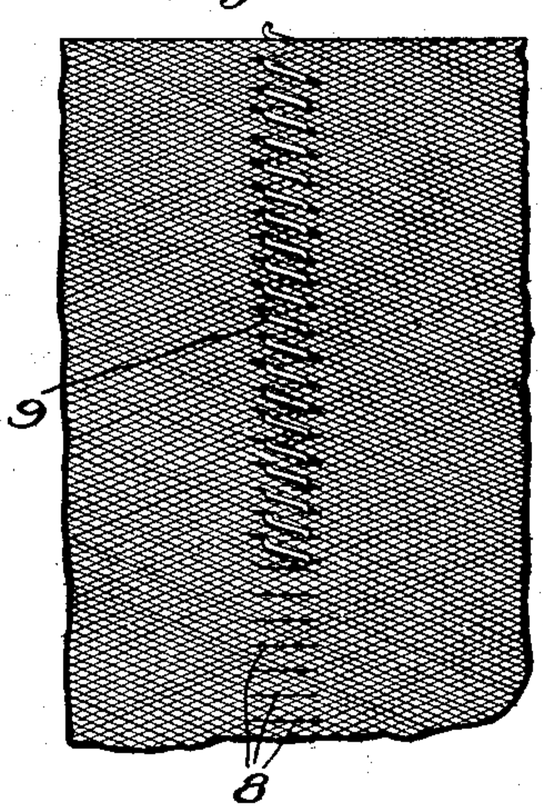


Fig. 3.

Fig. 4.



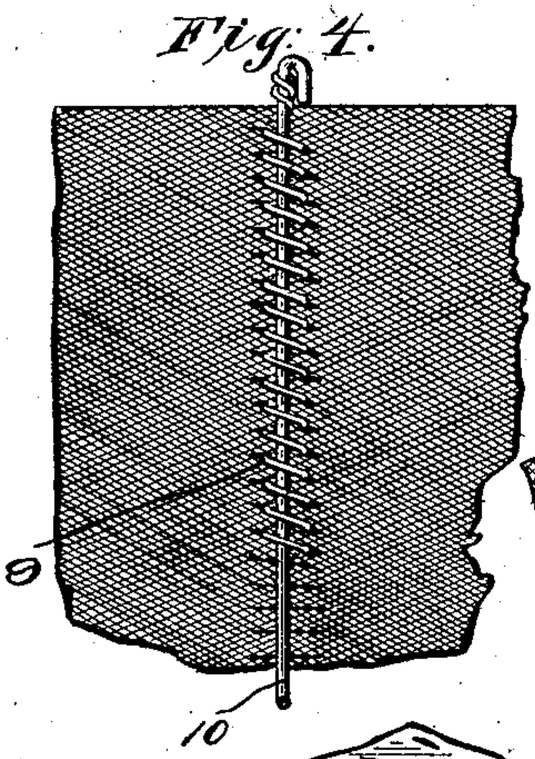


Fig. 12.

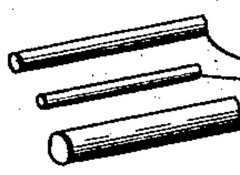


Fig. 5.

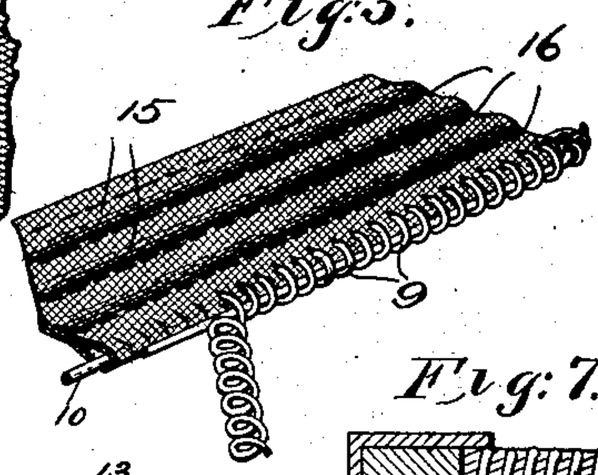
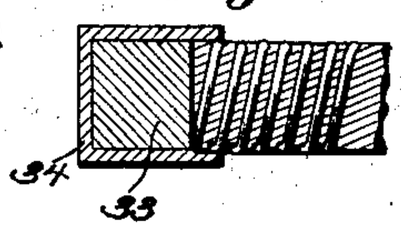


Fig. 7.



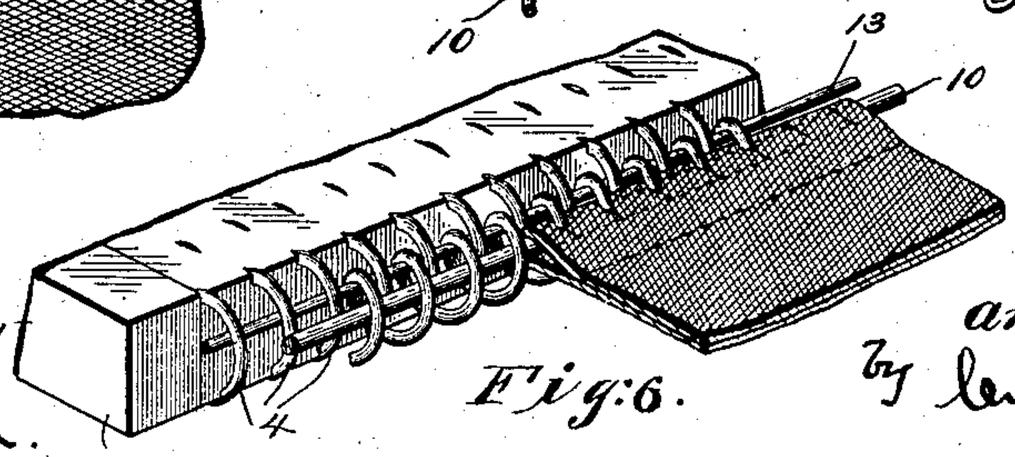


Fig. 6.

Witnesses

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by Crosby Gregory

attys.

No. 737,052. Patented August 25, 1903.

UNITED STATES PATENT OFFICE.

ARTHUR SAMUEL ALLEN, OF BOSTON, MASSACHUSETTS.

TYMPAN FOR PRINTING-PRESSES.

SPECIFICATION forming part of Letters Patent No. 737,052, dated August 25, 1903.

Application filed April 1, 1901. Serial No. 53,761. (No model.)

To all whom it may concern:

Be it known that I, ARTHUR SAMUEL ALLEN, a citizen of the United States, residing at Boston, county of Suffolk, State of Massachusetts, have invented an Improvement in Tympans for Printing-Presses, of which the following description, in connection with the accompanying drawings, is a specification, like figures on the drawings representing like parts.

This invention relates to a tympan for printing-presses, and particularly to a tympan the surface of which is composed of a series of yielding wire coils—such, for instance as illustrated in Patent No. 613,218, granted to me October 25, 1898; and it is the object of my invention to provide a novel means for attaching or securing a tympan of this character to the platen or the cylinder of the press whereby the same tympan may be connected to different-sized cylinders.

My invention comprises a tympan having at each end flexible woven attaching-strips, represented as composed of canvas or similar stout fabric, and the attaching-strip at one end or edge of the tympan is provided with a series of pockets, preferably parallel to the tympan edge, in one of which pockets is adapted to be inserted a stay-rod. The platen, if in the form of a cylinder, has slots cut through its shell and extending the length of the cylinder, and in one of said slots and below the surface of the shell is journaled a roll having points on its periphery, said roll being provided with a suitable pawl-and-ratchet device for locking it in adjusted position. The inner surface of the shell of the platen has extending inwardly therefrom and near the other slot a series of pins. In placing the tympan on the platen or cylinder the attaching-strip having the pockets therein is passed through the last-named slot and the said strip forced over the pins, the rod in one of the pockets engaging the back side of the pins. The tympan is then pulled over the surface of the platen, and the attaching-strip at the other end thereof is passed around the roll having points thereon and the roll turned, winding up the attaching-strip thereon and pulling the tympan taut on the surface of the platen. The pawl-and-ratchet mechanism operates to hold the tympan in this position. The attaching-strips are secured to the opposite edges of the tympan in a novel manner and as follows: The coils of wire of which the tympan is made and which lie along the opposite edges of the tympan have a portion of each turn thereof projecting beyond the edge of the tympan, and the attaching-strips have secured to their edges coöperating coils of wire. The turns of the coil in the edge of the attaching-strip are made to overlap the projecting portions of the turns of the coils in the body of the tympan, and thereafter the coils so overlapped are connected one with the other, as by a hinge-wire or connecting means threaded through both of said coils, thereby hinging the attaching-strip to the tympan in such a way that no portions of the attaching means project beyond the surface of the tympan.

Referring to the drawings, Figure 1 is an end view of a cylinder with a tympan secured to the face thereof in accordance with my invention. Fig. 2 is a plan view of a portion of a tympan with the attaching-strips secured to each end thereof. Figs. 3, 4, and 5 are details showing the attaching-strips in different stages of its manufacture. Fig. 6 is an enlarged detail showing the means for securing my attaching-strip to the edge of the tympan. Fig. 7 is a section on the line x, Fig. 2. Figs. 8 and 11 are enlarged detail views showing the manner of securing one of the attaching-strips to the platen or cylinder. Fig. 9 is a detail showing the mechanism for securing the other attaching-strip to the platen. Fig. 10 is an enlarged detail of one of the attaching-strips. Fig. 12 shows the different-sized stay-rods used.

The tympan is designated by 3, and it may comprise a series of coils of wire secured to a suitable backing and suitably braced, as illustrated in my patent above referred to. The coils of the wire which extend along opposite edges or the ends of the tympan are partially embedded in the body of the tympan, so that a portion of each turn of each of said coils projects beyond the edge or end of the tympan, as shown at 4 in Fig. 6. Suitable flexible attaching-strips 5 and 6 are secured to the opposite edges or the ends of the tympan, the said attaching-strips furnishing means for adjustably securing the tympan to the

platen or cylinder, as hereinafter described. These attaching-strips may be of any suitable flexible material; but preferably I will use canvas or similar stout fabric. One of the attaching-strips 5 is illustrated as having a series of pockets therein, which preferably run parallel with the edge of the tympan to which the said strip is attached, said pockets being adapted to support a stay-rod, as hereinafter described. The other strip 6 may be made in any suitable way. One convenient way of securing the attaching-strips to the tympan is to provide each attaching-strip with a coil of wire running along the edge of the said attaching-strip and pivotally connecting the turns of said coil of wire to the projecting turns of the coil of wire in the edge of the tympan. Figs. 3, 4, and 5 show one convenient way of thus securing the coil of wire to the edge of the attaching-strip, and, as illustrated, a strip of canvas or other suitable textile material is provided with a series of short parallel slits 8, and the turns of a coil of wire 9 are forced through the said slits, as illustrated in Fig. 3, one turn preferably passing through each slit. A wire or rod 10 is threaded through the turns of the coil 9, which project beyond the inner face of the fabric, and the said fabric is then folded about the rod 10, inclosing the same, as illustrated in Fig. 5, the turns of the coil 9 projecting beyond the folded edge 11 of the fabric or attaching-strip. The two plies of the fabric or attaching-strip are then sewed together in some suitable way, and the projecting turns of the coil 9 are made to overlap the projecting turns 4 of the coil of wire at the edge of the tympan 3, and a hinge rod or wire 13 is threaded through both the turns of the coil 9, secured to the attaching-strip, and the turns 4 of the coil secured to the edge of the tympan 3, as illustrated in Fig. 6. The projecting portion of the turns of the coil 9 are, in effect, portions of rings, so that the attaching-strip 5 may be described as having a series of rings secured to one edge thereof, the projecting portions of which ring overlap the projecting turns 4 of the coil of wire at the edge of the tympan. It will also be seen that the projecting turns 4 have the shape of portions of rings and are also, in effect, projecting portions or rings embedded in the tympan. It will thus be seen that the attaching-strips 5 and 6 are hinged to the opposite edges of the tympan, and inasmuch as the turns of the coil 9 in the attaching-strips pass around back of the rod 10 which is inclosed in the fold of the attaching-strip it will be evident that a very stout connection between the attaching-strip and tympan is made and a connection wherein there are no projections extending beyond the surface of the tympan.

One of the attaching-strips—for instance, that designated by 5—will be provided with a series of pockets 15, extending, preferably, parallel to the edge of the tympan, the said pockets preferably being formed by sewing together the two plies of the attaching-strip by a series of parallel lines of stitching 16.

Referring to Figs. 1, 8, and 9, wherein the platen is illustrated in the form of a cylinder, it will be seen that the shell of the cylinder is provided with the usual slots 20 21, said slots passing completely through the shell of said cylinder and running the length thereof. Near the slot 20 and projecting from the inner surface of the shell of the cylinder are a series of pins 22, as usual in this class of devices, which pins are adapted to engage one of the attaching-strips, as hereinafter described, while in the other slot and preferably journaled so as to lie beneath the surface of the slot is a roll 23, having on its periphery a series of points or spurs 24, which are adapted to engage the other attaching-strip, which will be presently described. The end of the roll has integral therewith a ratchet-wheel 25, and the bearing 26 of the roll supports a pawl 27, coöperating with the ratchet to prevent the roll from unwinding. The said roll may be provided with a square projection 28, if desired, for the purpose of winding the same up.

In applying my tympan, with its attaching-strips, to the platen or cylinder a stay-rod 30 or wire will be inserted in one of the pockets 15 in the attaching-strip 5, and the said attaching-strip will be passed through the slot 20 and forced over the pins 22, the stay-rod 30 engaging the back side of the pins 22, as seen in Figs. 1, 8, and 11. The tympan is then pulled over the surface of the cylinder or platen, and the attaching-strip 6 is passed around the roll 23. By turning the roll by means of a suitable handle or other device the attaching-strip 6 is wound thereon, the spurs 24 catching and engaging the said attaching-strip and causing the same to be wound upon the roll as it is turned, the pawl 27 preventing the roll 23 from unwinding when the tympan has been drawn sufficiently taut. When the tympan is in place on the cylinder, it is essential that the end of the tympan comes exactly to the edge of the slot 20, and by making the tympan with the attaching-strips and by providing one of the attaching-strips with a series of pockets to receive the stay-rod, as above described, it is possible to vary the effective length of the attaching-strip, so as to adapt the tympan for use on rolls or platens of different sizes and of different thicknesses and so adjust it on and secure it to any roll that the end of the tympan shall always be exactly at the edge of the slot 20. The manner of hinging the attaching-strip to the body of the tympan allows the said strip to make an abrupt bend about the edge of the slot. In placing the tympan on the platen the stay-rod will be inserted into the appropriate pocket, so that the hinge-joint between the attaching-strip and body of the tympan will come just at the edge of slot 20, as above specified, the series of pockets affording a considerable variation in the effective length of the

strip. In order to make a further variation in the effective length of the attaching-strip 5 between the stay-rod 30 and the edge of the tympan, I preferably use a series of different-sized rods, as shown in Fig. 12, for it will be obvious that by using the different-sized rods in the same pocket the distance between the front of said rods and the edge of the tympan will vary as the size of the rods varies. The sides of the tympan are preferably finished by securing along the edge thereof a strip of rubber 33 and folding about said strip a thin covering of rubber 34. The covering 34 is suitably secured to the strip 33 and the tympan passed through rolls to compress the rubber at the edges thereof to the thickness of the tympan, as seen at 35 in Fig. 6.

Various changes may be made in the structure of the device without departing from the spirit of my invention.

Having described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A tympan having at one edge a flexible attaching-strip, said strip having a series of pockets therein to receive a stay-rod.

2. A tympan having at one edge a flexible attaching-strip, said strip having a series of pockets therein parallel to the edge of the tympan, said pockets being adapted to receive a stay-rod.

3. A tympan having at one edge an attaching-strip composed of two plies of fabric united together at intervals to form pockets extending parallel to the edge of the said tympan, said pockets being adapted to receive a stay-rod.

4. A tympan having flexible attaching-strips secured to opposite edges thereof, one of said strips having a series of pockets therein extending parallel with the edge of the strip.

5. A tympan having connected to opposite edges thereof flexible attaching-strips, one of said attaching-strips being composed of plies of fabric united together at intervals to form a series of pockets parallel to the edge of the tympan.

6. A tympan having attached to opposite edges thereof flexible attaching-strips, said tympan having projecting from each of said opposite edges a portion of each turn of a wire coil, each of said attaching-strips having connected to one edge thereof a coil of wire, and means for hinging the coils of wire on the attaching-strips to the projecting turns of the coils in the edges of the tympan.

7. A tympan having projecting from one edge thereof a portion of some of the turns of a coil of wire, and an attaching-strip having secured to one edge thereof a coil of wire, the turns of the coil on the attaching-strip overlapping the turns of the coil on the edge of the tympan, and means extended through both said coils to unite the attaching-strip to the tympan.

8. A tympan having extending parallel to one edge thereof a coil of wire, the turns of which are partially embedded in the body of the tympan, and an attaching-strip having projecting from one edge thereof a portion of each turn of a coil of wire, the coil of wire on the attaching-strip overlapping the projecting portions of the turns of the coil on the edge of the tympan, and means threaded through both said coils to unite the attaching-strip to said tympan.

9. A tympan having projecting from one edge thereof a portion of each turn in a coil of wire, combined with an attaching-strip composed of a piece of fabric folded to form two plies, and having a series of slits in and perpendicular to the folded edge thereof, a wire coil having its turns inserted into the slits, a rod or wire threaded through the turns of said coil between the two plies of fabric, and means for connecting the turns of the coil of the attaching-strip to the turns of the coil on the edge of the tympan.

10. A tympan having projecting from each of its opposite edges a portion of each of the turns in a coil of wire, and attaching-strips, each having secured to one end thereof a coil of wire, the turns of the coil in each attaching-strip overlapping the turns of the coil on the adjacent edge of the tympan, and a hinge wire or rod threaded through the overlapping turns of the coils, one of said attaching-strips having a series of pockets therein adapted to receive a stay-rod.

11. A tympan having projecting from one edge thereof a portion of some of the turns of a coil of wire, and an attaching-strip having secured to one edge thereof a series of rings overlapping the turns of the coil on the edge of the tympan, and a hinge wire or rod uniting said ring and coils.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ARTHUR SAMUEL ALLEN.

Witnesses:
LOUIS C. SMITH,
GEO. W. GREGORY.