

(No Model.)

3 Sheets—Sheet 1.

R. W. CHAPMAN.

PROCESS OF MANUFACTURING TRAVELING BAGS, SATCHELS, &c.

No. 311,059.

Patented Jan. 20, 1885.

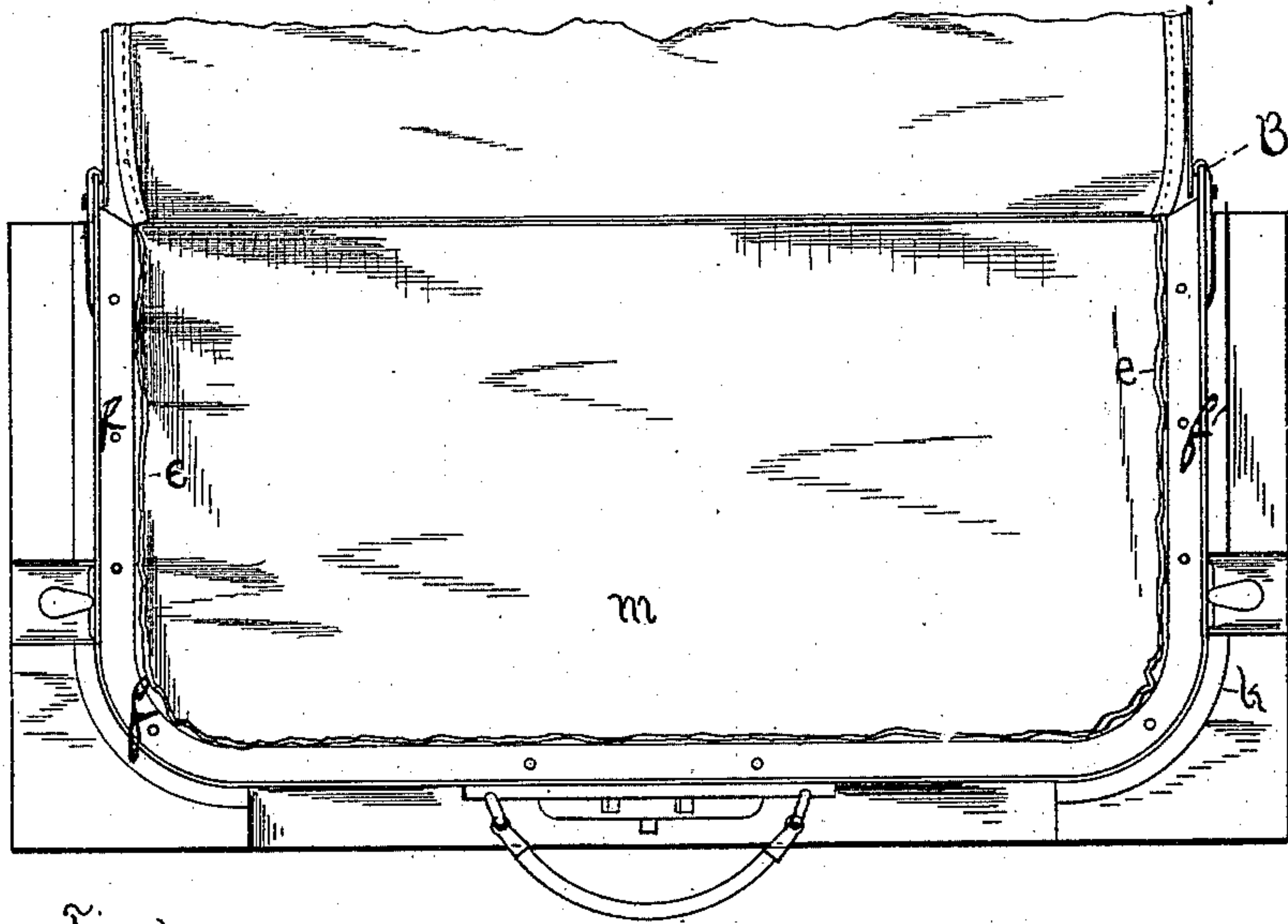


Fig. 1.

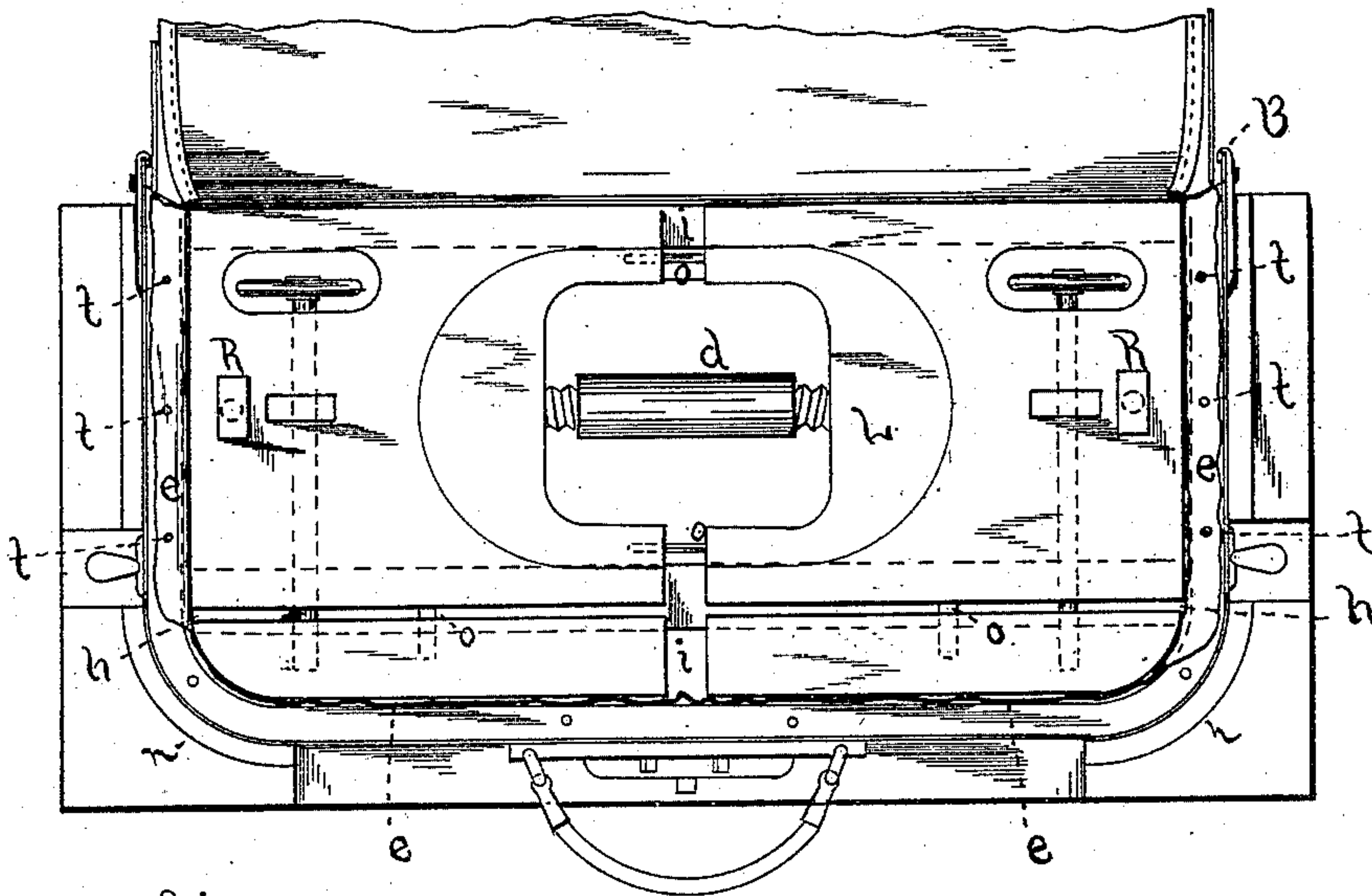


Fig. 2.

Attest.

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(No Model.)

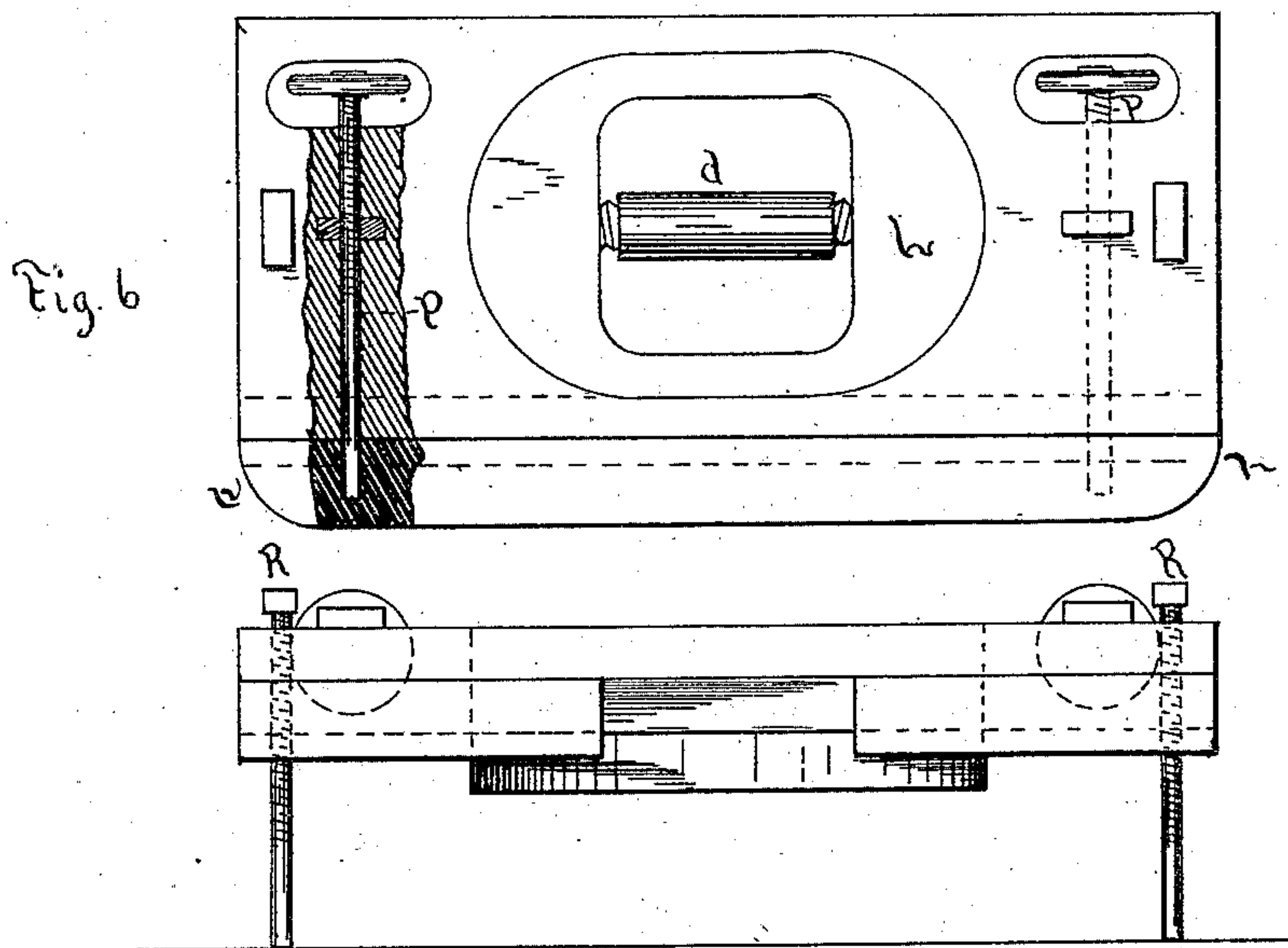
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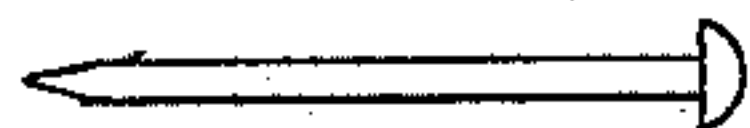
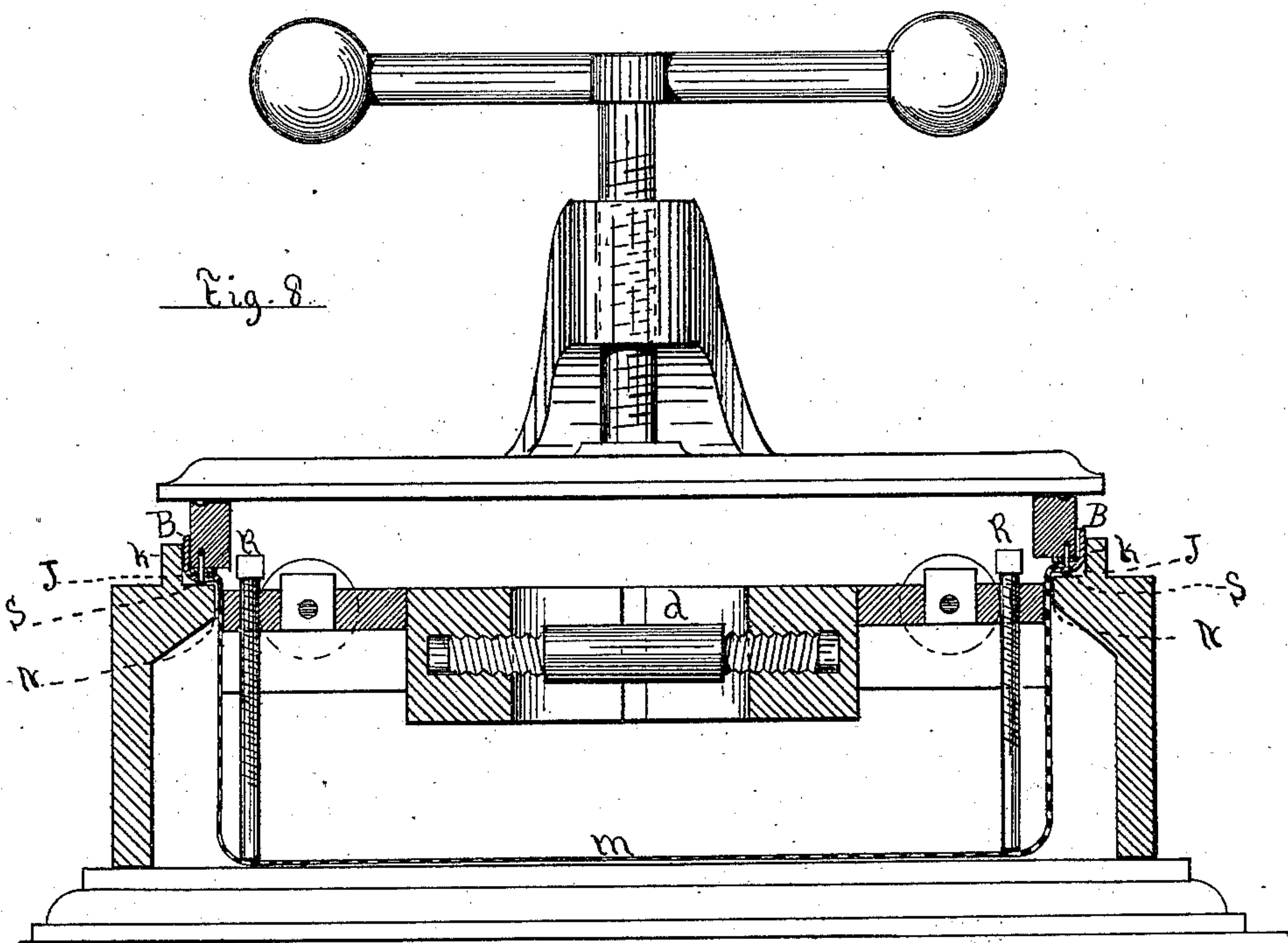


Fig. 9



Fig. 10

Witness
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ROBERT W. CHAPMAN, OF NEWARK, NEW JERSEY.

PROCESS OF MANUFACTURING TRAVELING-BAGS, SATCHELS, &c.

SPECIFICATION forming part of Letters Patent No. 311,059, dated January 20, 1885.

Application filed April 8, 1884. (No model.)

To all whom it may concern:

Be it known that I, ROBERT W. CHAPMAN, of Newark, in the county of Essex and State of New Jersey, have invented a new and useful Improvement in the Process of Riveting the Frames of Traveling-Bags and Satchels to the Material of which they are commonly made.

I hereby declare that the following specification and the accompanying drawings, forming part of the same, are a full, clear, and exact description of my invention, which will enable others skilled in the art to which it appertains to make and use the same.

My invention involves a new and improved process of riveting the frames of traveling-bags and satchels to the material of which they are commonly made.

The frames of traveling-bags and satchels are generally made of sheet-iron, and have a strip of metal, called an "inlay," fitted to the inside flange of the frame. The frame and inlay are pierced by suitable dies with pin-holes at proper distances apart, in order that pins may be put through them, to be riveted down, with the edges of the material clamped between the flange of the frame and the inlay. "Escutcheon-pins" five-eighths of an inch in length are commonly used for this purpose.

To prevent the pins from pulling through the leather or other material of which the bag is made, the workman cuts off with a cutting-nippers the surplus portion that projects through the frame and inlay and then rivets the pin with a riveting-hammer down upon the surface of the inlay inside the frame.

The average number of pin-holes in a frame and inlay is twenty-eight, and to make the holes in both the frame and inlay correspond with the required exactness a large press is employed, which will punch all the holes in either frame or inlay at once, and all the frames and inlays of a certain size being thus punched, it is obvious that the holes will exactly agree. The material of which the bag is made, however, when inserted between the flange of the frame and inlay, is not provided with any holes, as it has to be arranged to the required shape within the frame, and for this reason an ordinary rivet cannot be readily in-

serted into the holes in the frame and through the material into the inlay; but a pointed pin with a rivet-like head is forced through the material, thus making a hole for itself in the right place. The material of the bag, being thus arranged, can at once be secured by such a pin; but to change the pin into a rivet requires that the workman should cut off the surplus portion of the pin and rivet the remaining portion down onto the surface of the inlay inside the frame. The usual method of the workman is to put all the pins in the frame through the material and then place the inlay in its place, with the points of the pins through it, then with a pair of pliers bend over the points of the pins at an angle, to prevent them from falling out. Now, having a bag thus pinned, he brings the edge of the frame over an anvil, and, cutting off the surplus point of the pin, rivets the remainder down in its place. Thus each pin is taken in succession. This is the method usually employed on common to fair grades of work; but on the better class of goods the workman is required to use an additional tool, called a "burling-iron," the proper use of which causes the points of the rivets to assume an imitation of the original head on the outside of the frame. The inlay being a thin strip of metal, and usually japanned the color of the material from which the bag is made, is very liable to be wrinkled and bent, especially at the corners, where it is thicker on account of the seams, and the workman, in using his hammer to smooth out and straighten the inlay at the corners and other places where required, is very apt to crack off and disfigure the japan, which is always more or less brittle; and then a careless use of the hammer when riveting will also cause the japan to chip off. This makes it necessary to use a small "touching-up brush" to restore the inlay to good condition and appearance. The cutting off of these pins requires considerable time and labor, besides wasting about one-half of the metal in the pins. It is also evident that the time that is spent in retouching the inlay where the japan has been chipped off constitutes quite an item in the cost of manufacture. By my invention and process I save both these items of the cost and produce a far superior finish in the ap-

pearance, as I preserve intact the original luster of the japan, and the rivets are all nicely burled.

Having thus described the method now in general use, with its consequent loss of time and waste of material, I will now describe in a full, clear, and exact manner my improved process for riveting the frames of traveling-bags and satchels to the material of which they are commonly made.

First. The frames and inlays are made in the usual manner. The holes in the inlay and frame are punched to correspond and agree exactly, as heretofore described.

Second. I provide slightly-tapering rivets of suitable lengths, which are forced into the flanges of the frame through the holes already punched. They are made to taper slightly for two reasons: first, that they may the more easily enter the holes in the frame and inlay, and, second, that when forced in their full length they will be more firmly and rigidly held in place.

Third. I place the frame thus prepared, with these tapering rivets in their places, in an under die or form properly constructed to receive and hold it, together with the bag.

Fourth. I place a suitably-constructed conformator or stretcher in the bag now in the under die or form, and then cause the conformator or stretcher to force the edges of the material forming the bag into the proper position within the frame, that they may be afterward pressed down on the flange of the frame with the upper die.

Fifth. The frame and bag being thus duly prepared and arranged within the frame in the under die, I place them in a suitably-constructed press, having an upper die constructed to fit the inside of the frame, and the die having slightly-tapering holes in its under side the exact distances apart that the rivets are in the frame. The holes in the upper die being made a little larger in diameter than the rivets employed, and of a tapering form, will tend to straighten any of the rivets that may be out of line. I would here remark that the heads of the rivets are oval shaped, and that they fit into oval-shaped cavities in the under die, which materially tends to keep them in an upright position, and also prevents the heads from being flattened out or marred. Pressure being now applied, brings the upper and lower dies together, and the upper die, being properly constructed, will cause the edges of the bag to turn over on the flange of the frame, and at the same time will simultaneously force the points of all the rivets through the material of which the bag is made.

Sixth. I now take the strip of metal called the "inlay," which has holes in it punched to correspond with the rivets in the frame, and place it in its proper position on the edge of the bag inside the frame. It is obvious that the same dies, coming together again under pressure, will cause the points of all the riv-

ets to pass simultaneously through the holes in the inlay.

Seventh. Having the frame and bag with the inlay thus in proper position, the next and final process will be to simultaneously set, head, and burl all the rivets. For this purpose I employ a die that will fit the inside of the frame, having on its under surface oval or concave places in it, the precise and exact distances apart corresponding with the rivets in the frame. These oval or concave places will, on pressure being applied, cause the points of all the rivets to simultaneously spread, as under a burling-iron, and thus form a head smaller in size but similar in appearance to the original head on the outside of the frame.

These several processes and various arrangements are plainly shown in the drawings hereto annexed, of which—

Figure 1 is a plan view of an under die, showing one-half of a traveling-bag, *m*, and frame *B* arranged therein, with the points of the rivets *f f* through the flange *J* of the frame *B*. Fig. 2 is a similar view with the conformator *L* adjusted therein, and holding the edges *e e* of the bag *m* up to and against the inner edge, *n*, of the under die, and also the edge of the frame resting therein. It also shows at both ends the position of the edges *e e* when turned over on the inner flange of the frame, with the points of the rivets *f f* through the edge of the material of which the bag is made.

Fig. 3 is a plan view of an under die constructed to receive and hold securely the one-half side of a traveling-bag and frame, having a flange, *k*, to hold the frame securely, and which will prevent the frame from spreading out of shape with the pressure that is exerted by the conformator in forcing the edges of the bag to their proper place. This flange *k* is cut away at *a a*, in order that the lock, handle, side catches, or other trimmings may not interfere with the pressure that is brought to bear when placed in the press. This under die may be built a little deeper than the ordinary widths of traveling-bags, so that various qualities of the same sizes of bags may be held in the same dies.

Fig. 4 is a plan view of the upper die, and should be about three-quarters of an inch thicker than the width of the frame, so that when in the press it will not interfere in any way with the trimmings on the frame. It is provided with holes *g g* in its under side the exact distances apart that the rivets are in the frame, and is constructed to fit inside the frame of a traveling-bag. Its office is to force the edge of the bag over on the flange of the frame, and then to simultaneously cause the points of all the rivets to pass through the edges of the material of which the bag is made, which is plainly shown in Fig. 2, at both ends of the bag. The burling-die is precisely of the same shape and size as Fig. 4, the only difference being that where there are holes in

the one there are concave places in the other, which are adapted to set, burl, and finish the points of the rivets. These concave places are shown at *c c* in Fig. 5, which is a section of Fig. 4 through the line X. Of course there are as many concave places in this die as there are rivets in the frame, and they are the same distances apart.

Fig. 6 is a plan of the conformator or stretcher, and is divided into four sections at *h h* and *i i*, and is shown in Fig. 2. The right and left sections are connected by dowel-pins *o o*, and a screw, *d*, having a right and left thread, which on being operated will cause it to work outward and force the edges *e e* of the bag up to and against the inner edges, *n n*, of the under die and the frame therein. This result is very plainly shown in Fig. 8 at *n*. The right and left sections are also divided at the line marked *h h* in Fig. 2. In the larger part of these sections there are two screws, *P P*, which being operated will cause the smaller and upper parts of the conformator to force the top edges of the bag against the inner edge of the under die and the frame therein. It is intended that the right and left sections of the conformator shall first be forced out, carrying with them the edges of the bag, and holding them firmly and securely in place, which being done the other two sections will be brought into use, and will thus have the lower and firmly-fixed portion to work against. The screws *P P* being turned will then cause the upper sections to carry out and hold securely the upper edges of the bag in place, and thus the whole of the edge of the bag will be placed in position to be turned down upon the flange of the frame, as is shown in Fig. 2, *e e*, at both ends.

Fig. 7 is an elevation of Fig. 6, and shows two thumb-screws, *R R*, adapted to sustain the conformator inside the bag, and also to raise and lower it to the required height in different qualities of bags. The upper surface of the conformator should be about one-eighth of an inch below the level of the flange of the frame when in its place in the under die, and is plainly shown in Fig. 8, and also how the thumb-screws *R R* rest on the inside of the bag.

Fig. 9 is an ordinary escutcheon-pin, which has a rivet-like head, and is pointed.

Fig. 10 is a tapering rivet, which will per-

mit it to enter the holes in the frame and inlay easily, and when forced in its full length will be firmly held in position.

Fig. 8 is a vertical longitudinal section of Fig. 2, arranged in any suitable press, which may be an ordinary screw-press, or a hand-lever or power-press, such as are used by bookbinders and others. I would here remark that I do not restrict myself to the use of any press whatever, only as a matter of convenience to facilitate the process, for when the bag is properly arranged within the frame in the under die, and the conformator in its proper place holding the edges of the bag securely, I can make use of a properly-constructed upper die with its outer and lower edges formed similar to the die shown at Fig. 4, and being properly arched across it will withstand a blow of a heavy mallet; and I can place such a die on the edges of the bag inside the frame, and striking a few blows with the mallet produce precisely the same result as would be produced if placed in a suitable press. Having thus done, I can then make use of a similarly-constructed burling-die in the same way and manner described, and produce thus precisely the same result as would be produced by a press.

It is obvious, however, that a press properly constructed would be much more convenient, and would cheapen the product materially.

Having thus fully and clearly described my invention, I therefore claim, and desire to secure by Letters Patent of the United States, as follows:

An improved process of manufacturing traveling-bags or satchels, which consists of stretching and clamping the material forming the bag so that the edges will be in place, then simultaneously forcing all the rivets which connect the bag to the frame through the said edges, then simultaneously forcing the said rivets through the holes in the inlay, and, lastly, simultaneously heading, burling, and finishing all the rivets which connect the bag to the frame, as and for the purpose set forth.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

ROBERT W. CHAPMAN.

Witnesses:

T. A. DENNIS,

A. DOMBROWSKY.