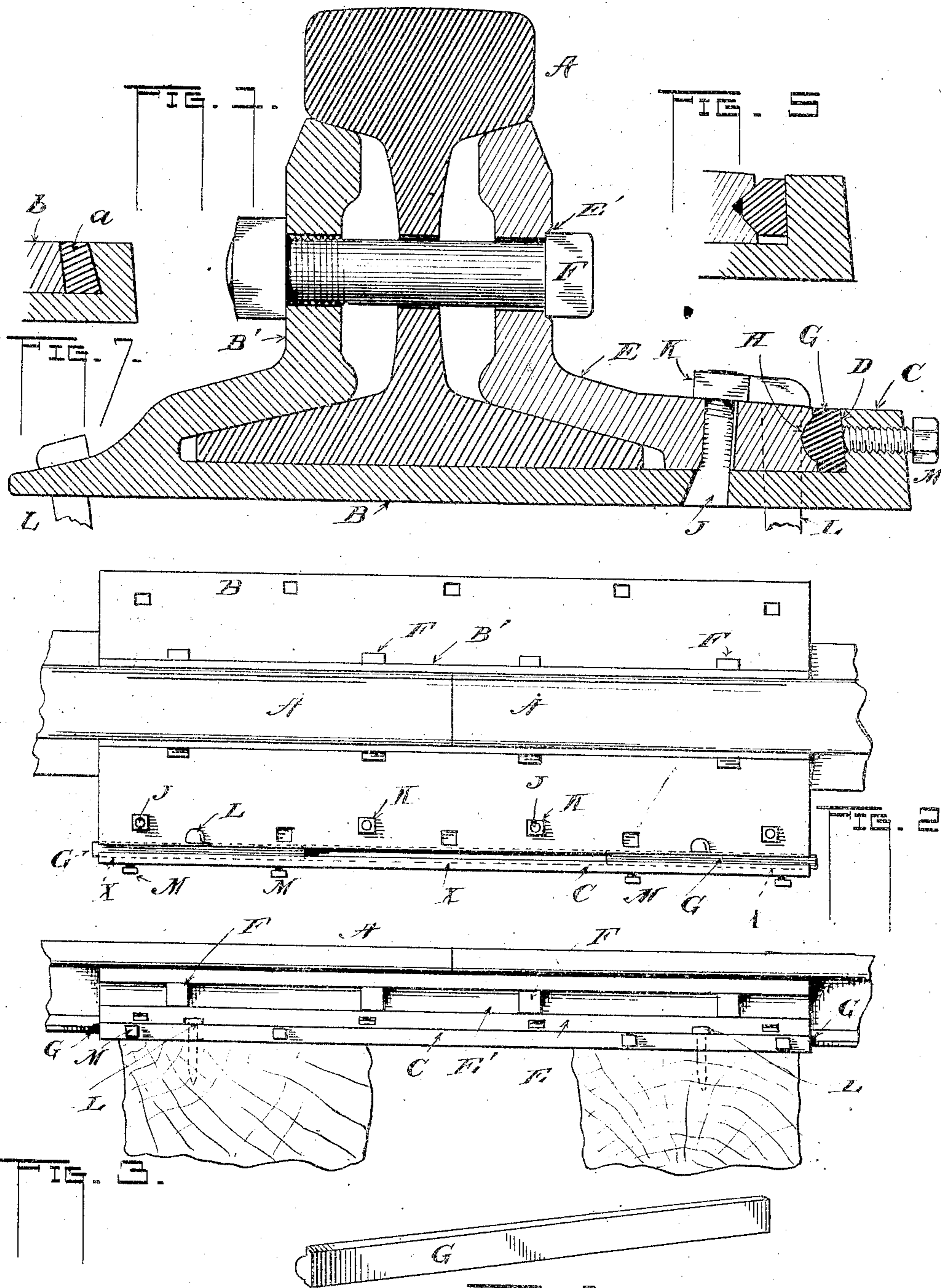


No. 855,265.

PATENTED MAY 28, 1907.

J. THOMAS.
RAIL SPLICE.

APPLICATION FILED SEPT. 7, 1906.



WITNESSES

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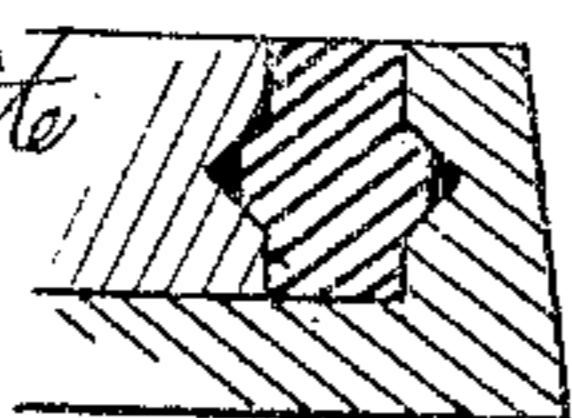


FIG. 3.

FIG. 4.

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RAIL-SPLICE.

No. 855,265.

Specification of Letters Patent.

Patented May 28, 1907.

Application filed September 7, 1906. Serial No. 333,642.

To all whom it may concern:

Be it known that I, JAMES THOMAS, a citizen of the United States, residing at Joliet, in the county of Will and State of Illinois, have
5 invented certain new and useful Improvements in Rail-Splices; and I do hereby declare that the following is a full, clear, and exact description of the invention, which
10 it appertains to make and use the same.

This invention has reference to improvements in rail splices.

An object of the invention is to provide a rail splice having few parts and great rigidity,

15 A further object is to provide a rail splice of simple form and great rigidity.

Another object is to provide a rail splice of two portions and a key to enter between the parts to take up all shake.

20 A further object is to provide a rail splice, part of which incloses one side of the rail and extends beneath the base thereof in one solid member and having a peculiarly formed upturned edge at the other side of the rail, and
25 a second member for seating upon the first leaving a space between it and the upturned edge within which to insert a key or "shim" for making a tight fit between the two members.

30 In my device I leave the space between the upturned edge of the base of the supporting member and the adjacent edge of an insertible member for the purpose of permitting easy insertion of the member beneath the
35 rail head; taking up the space thus left by means of a key.

I am aware of a number of rail splices several of which employ a key, or keys, for taking up the space left between certain of their
40 members much in the same way that I do it but as to the particular structure to be described, or its equivalent, I am not aware. This device as I construct it comprises the members of which there are two their oppos-
45 ing faces being recessed or undercut to receive a key corresponding in cross section to the space between such members formed by such undercuts. With this as one of the objects in view I shall proceed to describe my
50 device.

In the accompanying drawings Figure 1 is a transverse section of a rail seated in my improved splice. Fig. 2 is a top view of the same on a smaller scale. Fig. 3 is a side

view of that shown in Fig. 2. Fig. 4 is a per- 55
spective view of the key employed between the two parts of the splice. Fig. 5 is a modified form of the key and a key seat in one of the members of the splice. Fig. 6 is a por- 60
tion of my device showing certain modifications. Fig. 7 is another modification of the same portion.

The rail is indicated by the reference letter A being seated upon a base plate B; the latter having formed at one side integral there- 65
with, a vertical portion B' the top of which fits snugly beneath the head of the rail, the base of the rail perfectly fitting therein as shown in Fig. 1, the relation of the parts being such as to form a rigid support for the 70
rail ends where they abut. The opposite side of the base plate B has an upturned edge C provided with an overhang D, forming an acute angle with the base as shown. A second member E is formed much like that just 75
described except that it does not have the base plate extension but rests upon the base plate B inside of the said upturned edge C, as shown, leaving a space between it and the overhang D. 80

A series of bolts F are provided which extend through the portion B' and E and the vertical web of the rail and serve to draw the parts of all firmly together, there being a groove E' in the side of the member E for re- 85
ceiving the heads of the said bolts to prevent them working loose. I next provide a key or "shim" indicated at G which is inserted between the upturned edge C and the member E, the latter being longitudinally undercut 90
or recessed on its edge as at H to face the overhang D, the said key having its surface formed to correspond substantially with the recess so as to fit therein as shown in Fig. 1.

Fig. 5 shows a slightly modified form of the 95
key and recess. In Fig. 7 the edge of the member E is beveled somewhat like the angle of the overhangs D though more nearly approaching a vertical line. It will be noted that the key represented by a cannot leave 100
its position because of its wedge shape, neither can there be movement of the member b (which corresponds to E of the other figure) since it is held down by the said key. Referring to the other figure, it will be noted 105
that the overhang D of the part C and the recess H, together with the key, constitute a lock for preventing the member E from leav-

ing the plate B or moving in the slightest degree so that even without the bolts F heretofore described the member E would remain firmly in position.

5 It is my preference to employ a series of bolts J which extend upward through the plate B and the member E for receiving nuts K, the heads of the bolts being let into the base B so there will be no projections below
10 the splice. These bolts will obviously serve in clamping the parts tightly together. In addition to this I employ spikes L at as many places as desired to hold the splice to the ties as shown. The key G has no taper and fits
15 snugly from end to end in its seat, however, if desired a slight taper could be imparted to it and I desire to make it understood that I may employ a key of sufficient length to extend the entire length of the splice as represented in dotted lines x, this being optional. Set screws M enter the portions C, the ends of which bear upon the key and hold it in place, but these need not be used. Other means
20 may of course be used for the same purpose as I do not confine myself to any particular method of so doing, in fact, as I have shown in Fig. 1, and also in Fig. 2, the spikes L are so positioned that as they are driven home they will contact with the curved surface of
30 the key, binding tighter and tighter as they are driven farther in, thereby holding the key permanently in position.

As has been intimated I may use the bolts J or the spikes L singly or both together for
35 securing the member E in place and may use either the said spikes or the screws M or even other means to hold the keys in place, and I may change the shape of the overhang D, of the part C, as also the groove H of the member E, the main purpose being to provide
40 some such means as that described by which to lock the said member E in its position; it being evident that other forms of the key may be readily used. In addition to what
45 has been described the inner surface of the portion C instead of forming an overhang could be provided with a recess similar to the recess H as shown in Fig. 6, the key being made to correspond therewith.

50 My purpose in bringing out the present form of splice is to provide the member E of a size that instead of fitting snugly between the rail and the member E as in some devices of this class, can be seated loosely therein and afterward the space and shake be
55 taken up by the inserted key. This allows for greater latitude in making the rolls which are to produce the parts.

As above intimated, by making the insertible member E narrower in transverse measurement along its base it can be easily
60 dropped into place, the intervening space receiving the key to make the fit.

After the device has become worn or
65 slightly loosened if such should occur after

long and continual use the key may be withdrawn and after tightening the bolts F a new and larger key may take the place of the old one to restore the original condition. The space to be occupied by the key could be
70 poured with Babbitt metal if desired thus showing that I do not wish to be limited in the particular means employed.

Having thus described my invention I claim

1. The combination with a base having at
75 one side of the place of the rail an upwardly extending portion under cut on its inner face, of a member interposed between the place of the rail and said portion and having the face
80 next said portion undercut, and a key adapted to fit the space between the said undercut faces.

2. The combination with a base having at
85 one side of the place of the rail an upwardly extending portion under cut on its inner face, of a member interposed between the place of the rail and said portion and having the face next said portion recessed, and a key adapted to fit the space between said undercut face
90 and said recessed face.

3. A rail splice comprising a base for supporting the rail the same being of greater width than the base of said rail and having at
95 one side an upward extension for inclosing one side of the rail, and having at its opposite side an upturned portion the inner surface of which forms an overhang, a second member for inclosing the opposite side of the rail there being a space between it and the
100 overhang, there being a substantially longitudinal groove in the second member to face the overhang and an insertible member for entering the space and the groove beneath said overhang, said groove and the overhang
105 together with said insertible member preventing relative movement of the first and second members.

4. A rail splice comprising members for inclosing the rail, one of said members extending beneath and beyond the rail and supporting the latter and having an upward extension beyond the rail, such extension being undercut to form an overhang facing the rail, the clamping member at that side of the rail
115 being recessed longitudinally facing the overhang, the recessed portion being removed from the vicinity of the overhang, and means adapted to enter the space between the overhang and the recessed member and
120 also adapted to enter the recess for preventing movement of the clamping member.

5. A rail splice comprising a base for supporting the rail, the same being of greater width than the base of the rail and inclosing
125 one side of the rail, and having at its opposite side an upturned portion whose inner surface has an overhang facing the rail, a second member for inclosing the opposite side of the rail, the same lying partially upon the
130

first member and partially upon the rail base, there being a space left between it and the overhang, there being a substantially longitudinal groove in the second member to face the overhang, and a third member adapted for entering the space and the groove, the groove and said overhang preventing the vertical movement of the second and third members relatively and relative to the first member.

6. A rail splice comprising a base for supporting the rail, the same being of greater width transversely than the width of the rail-base and having at one side an inclosing extension for one side of and to fit the rail, its opposite edge having an overhang facing the rail, a second member for fitting the opposite side of the rail from that inclosed by the first member and lying upon the latter member and the rail-base, and a third member adapted for entrance between the second member and the overhang of the first member, there being a longitudinal groove in the said second member, the third member being adapted to engage the groove and thereby prevented having vertical movement and also preventing vertical movement of the second member.

7. A rail splice comprising a base for supporting the rail, the same being of greater width than the rail base and having at one side an extension for inclosing one side of the rail, its opposite side having an overhang facing the rail, said overhang extending upward from the base and inward toward the rail, the bottom of the overhang being substantially in line with the under side of the rail-base, a second member for inclosing that side of the rail facing the overhang and resting upon the rail-base and the base of the first described member, there being a longitudinal groove in said second member facing the overhang, and means entered between the second member and the overhang and within the groove for preventing the second member from moving relative to the first member and the rail.

8. A rail splice comprising a base for supporting the rail, the same being of greater width than the rail-base and having at one side an extension for inclosing one side of the rail and having at its other side a vertical extension, its upper edge facing the rail and overhanging its own base, a second rail inclosing member seated upon the rail-base and the base of the first member between the rail and the overhanging vertical extension, there being a space left between the second member and the overhang, there being a longitudinal groove in the said second member facing the overhang, and means entered in said space and occupying the groove and lying beneath the overhang for holding the parts all in rigid relation.

9. A rail splice comprising a base for sup-

porting the rail, the same being of greater width than the width of the rail-base and having at one side an inclosure for one side of the rail and having at its opposite side an upturned extension, the inner upper edge of the extension overhanging its base, a second member inclosing the opposite side of the rail and resting upon the rail-base and the base of the first member, there being a space between the said second member and the overhang, bolts for drawing the rail-inclosing portions firmly together against the rail, and means for filling the space between the overhang and the second member after the said bolts are tightened, there being a longitudinal groove in the said second member into which said means is designed to enter, the means adapted through the overhang and groove to prevent vertical movement of the parts relatively.

10. A rail splice comprising a base for supporting the rail, the same being of greater width than the rail-base and having at one side an upward extension for inclosing one side of the rail and having at its opposite side an upturned portion, the inner surface of which forms an overhang, a second member for inclosing the opposite side of the rail, there being a space between it and the overhang, bolts for drawing the rail-inclosing members against the rail, means for entering the space between the second member and the overhang after the bolts are tightened, there being a longitudinal groove in the said second member facing the overhang, the space filling means adapted to enter said groove and prevent relative movement of the parts, and means for locking the first and second members together.

11. A rail splice comprising a base for supporting the rail, the same being of greater width than the rail-base and having at one side an upward extension for inclosing one side of the rail and having at its opposite side an upward extension, the inner surface of which forms an overhang, a second member for inclosing the opposite side of the rail, there being a space between it and the overhang, bolts for drawing the rail-inclosed members against the rail, means for entering the space between the second member and the overhang after the bolts are tightened, there being a longitudinal groove in the said second member facing the overhang, the space filling means adapted to enter the groove and prevent relative movement of the parts and means for preventing longitudinal movement of the space filling means.

12. A rail splice comprising a base for supporting the rail, the same being of greater width than the rail-base and having at one side an upward extension for inclosing one side of the rail and having at its opposite side an upturned portion, the inner surface of which forms an overhang a second member for inclosing the opposite side of the rail,

there being a space between it and the overhang, bolts for drawing the rail-inclosing members against the rail, means for entering the space between the second member and the overhang after the bolts are tightened, there being a longitudinal groove in the said second member for facing the overhang, the space filling means adapted to enter said groove and prevent relative movement of the parts, means for preventing longitudinal movement of the space filling means, and means for locking the first and second members together.

13. A rail splice comprising a base as a support for the rail, the same extending at each side of the latter, one side having a vertical portion for inclosing the rail as shown, the opposite side having an upturned portion

the inner surface of which overhangs the base, a second member for inclosing the opposite side of the rail the same resting upon the base and having a groove in its edge opposite the overhanging upturned portion, there being a space left between the two, a member for entering the space for the purposes set forth, and set screws in the upturned portion for engaging the insertible member for securing it in place against voluntary movement.

In testimony whereof I affix my signature, in presence of two witnesses.

JAMES THOMAS.

Witnesses:

E. J. ABERSOL,
L. M. THURLOW.