

(No Model.)

3 Sheets—Sheet 1.

J. A. HUNT.
SADDLE FOR VELOCIPEDES.

No. 471,685.

Patented Mar. 29, 1892.

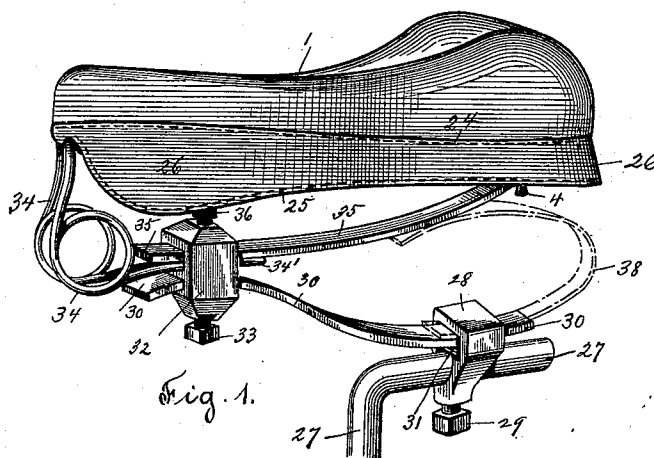


Fig. 1.

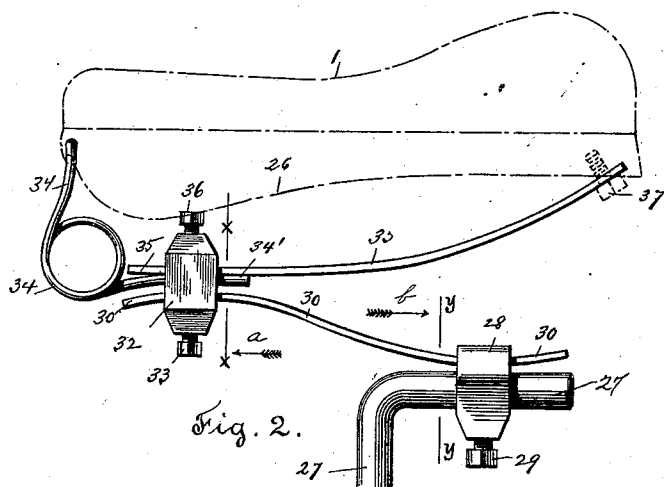


Fig. 2.

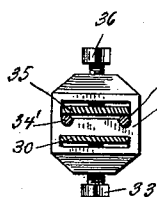


Fig. 3.

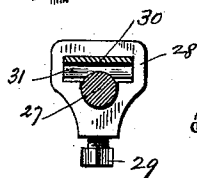


Fig. 4.

Witnesses
Chas. F. Schmelz
John Powers.

Inventor
Jonathan A. Hunt,

By his Attorney
John C. Dewey

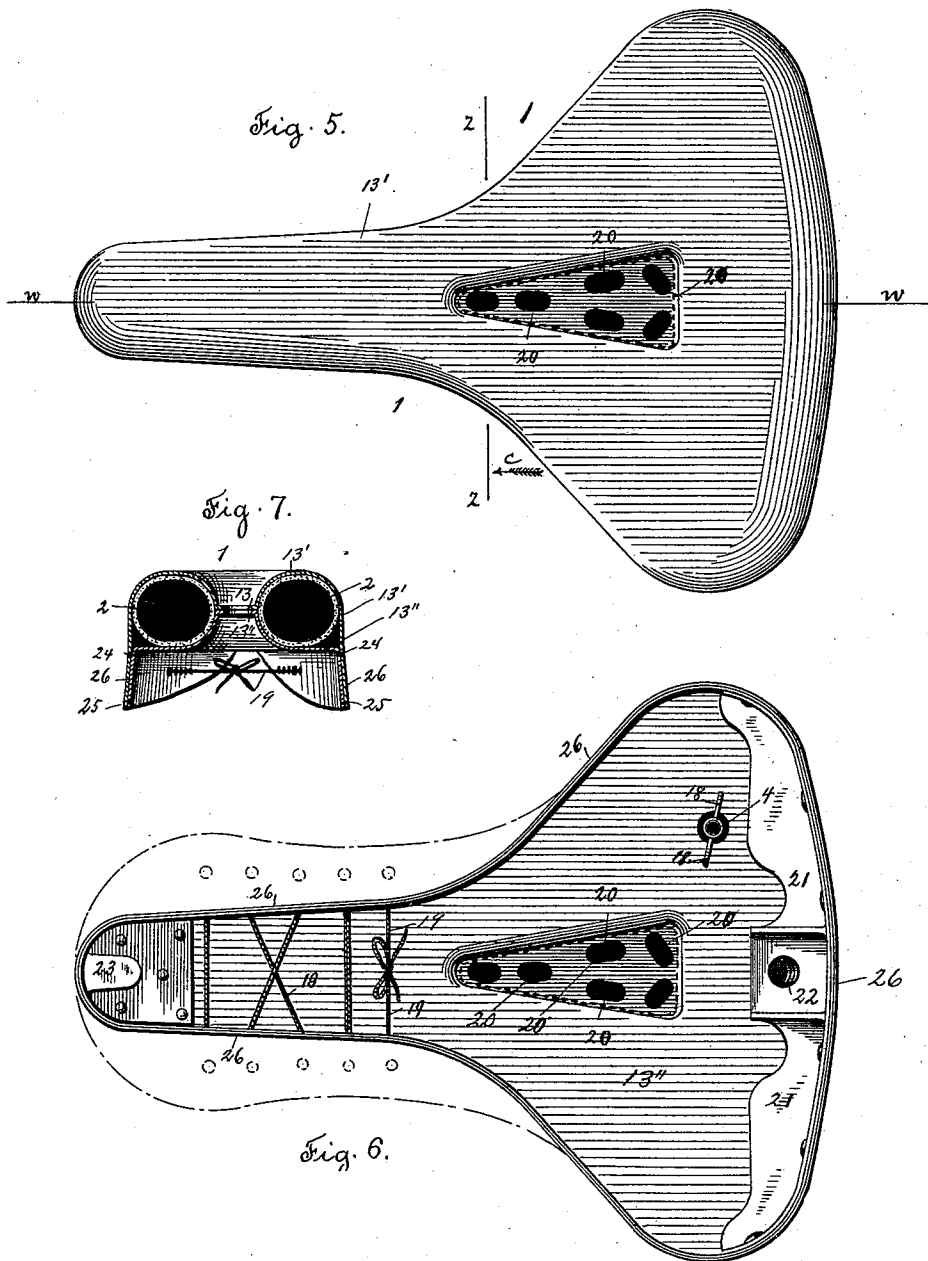
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Chas. F. Schmelz,
John Powers.

Inventor
Jonathan A. Hunt,
By his Attorney
John C. Dewey

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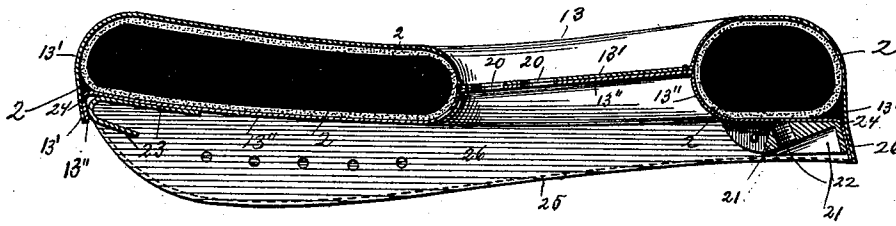


Fig. 8.

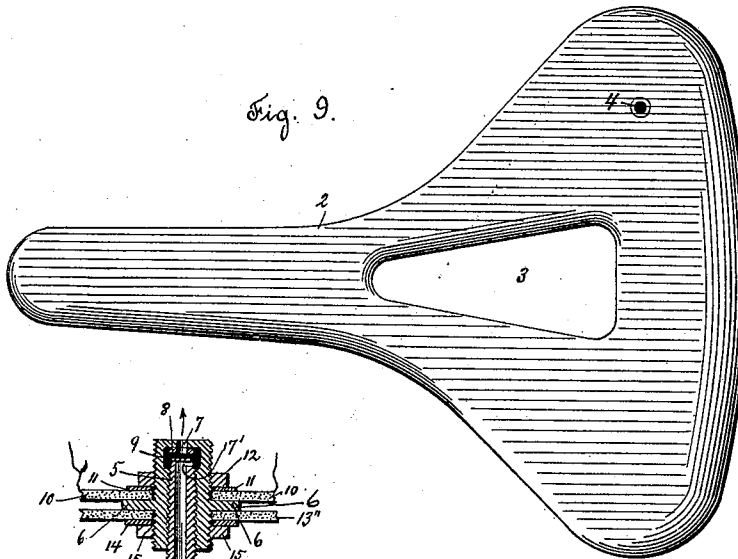


Fig. 9.

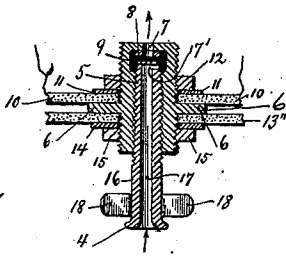


Fig. 10.

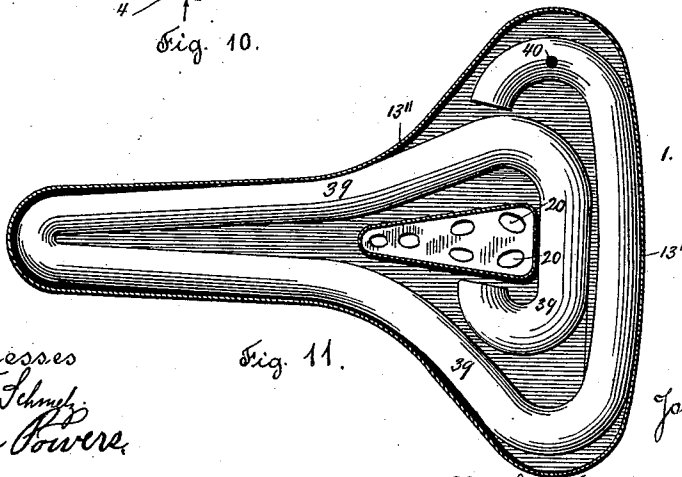


Fig. 11.

Witnesses
Chas. F. Schuch
John Povere.

Inventor
Jonathan A. Hunt,

By his Attorney
John C. Dewey

UNITED STATES PATENT OFFICE.

JONATHAN A. HUNT, OF WESTBOROUGH, MASSACHUSETTS.

SADDLE FOR VELOCIPEDES.

SPECIFICATION forming part of Letters Patent No. 471,685, dated March 29, 1892.

Application filed September 14, 1891. Serial No. 405,570. (No model.)

To all whom it may concern:

Be it known that I, JONATHAN A. HUNT, a citizen of the United States, residing at Westborough, in the county of Worcester and State of Massachusetts, have invented certain new and useful Improvements in Saddles for Velocipedes; and I do hereby declare that the following is a full, clear, and exact description thereof, which, in connection with the drawings making a part of this specification, will enable others skilled in the art to which my invention belongs to make and use the same.

My invention relates to saddles for velocipedes, and more particularly to saddles for bicycles and tricycles; and the object of my invention is to improve upon the construction of saddles for bicycles and tricycles as now ordinarily constructed and to provide a strong and durable saddle and one which will be easy and comfortable for the user, and more particularly to provide an air-cushion saddle and a strong and elastic spring attachment.

My invention consists in certain novel features of construction and operation of a saddle and spring, as will be hereinafter fully described, and the nature thereof indicated by the claims.

Referring to the drawings, Figure 1 is a perspective view of my improved saddle and spring. Fig. 2 is a side view of the spring. Fig. 3 is a cross-section on line *x x*, Fig. 2, looking in the direction of arrow *a*, same figure. Fig. 4 is a cross-section on line *y y*, Fig. 2, looking in the direction of arrow *b*, same figure. Fig. 5 is a plan view of the saddle proper. Fig. 6 is a bottom view of the saddle shown in Fig. 5. Fig. 7 is a cross-section on line *z z*, Fig. 5, looking in the direction of arrow *c*, same figure. Fig. 8 is a central longitudinal section on line *w w*, Fig. 5. Fig. 9 is a bottom view of the air-cushion or rubber bag detached. Fig. 10 is a sectional detail of the valve of the saddle. Fig. 11 is a central horizontal section of a modified construction of the saddle. Figs. 5 to 11 are on an enlarged scale.

In the accompanying drawings, 1 is the saddle proper of the machine. The saddle 1 is preferably of the shape shown in Fig. 5, having the broadened rear part and the narrow or contracted forward part. Saddle 1 consists, preferably, of an india-rubber bag 2,

preferably of the shape shown in Fig. 9 and of substantially the shape of the saddle. The rubber bag 2 has an opening or hole 3 in its central part and is provided with a valve 4 in its under side, by means of which it may be inflated.

A sectional detail view of valve 4 is shown in Fig. 10, and I prefer to use the form of valve shown in said figure. Said valve consists of the tube 5, having a flange or collar 6 made integral therewith and extending out from the central part thereof. Tube 5 is provided with an external and internal screw-thread and has a contracted opening 7 at its inner end and a washer 8 extending around said opening, also an enlarged chamber 9 in its inner end. The inner end of the tube 5 is inserted within the bag 2 and screwed therein until the outer surface of the rubber 10 presses against the flange 6. The washer 11 is then pressed up against said rubber and the nut 12 screwed onto the end of the valve for the purpose of securing the rubber to the valve and making a tight joint. The outer end of the tube 5 extends through the lower section 13 of the leather covering 13 of the saddle, and said leather covering presses against the flange or collar 6 and is held firmly against the same to make a tight joint by the washer 14 and nut 15, screwed onto the outer end of the tube 5. The valve-stem 16 has a screw-thread on its outer surface to engage the inner screw-thread on the inner surface of the tube 5. A central passage 17 extends through the stem 16, with its inner end opening on one side of the stem at 17'. The valve-stem 16 is provided with wings or projections 18, extending out therefrom to furnish a surface to be grasped by the fingers to move the valve-stem in or out to close and open the valve.

The operation of the valve shown in Fig. 10 is as follows: Air is forced in through the passage 17 of stem 16 and out of the opening 17' in the end of the stem and passes through the opening 7 in the end of the tube 5. When the bag 2 has been sufficiently inflated, stem 16 is screwed in until the solid end thereof comes against the washer 8 and closes the hole therein and the hole in the end of the tube. As before stated, the valve is screwed in the under side of the inflatable bag 2 and the under side of the saddle. By means of the

washers 11 and 14 and nuts 12 and 15, in connection with the flange or collar 6 of the valve, the valve is securely attached to the rubber bag and leather covering thereof and any leakage of air around the holes through which the valve extends in said rubber bag and leather covering is prevented.

Combined with the rubber bag 2 and forming a part of the saddle proper is the leather covering 13, which extends over and around said rubber bag and entirely covers the same. The leather covering 13 of the saddle is made in two pieces or sections 13' and 13'' of thick leather cut out and pressed or molded into the shape desired and to conform to the general shape of the rubber bag 2, extending within said leather covering, when the same is inflated. The two sections of leather covering, (one 13' forming the covering for the top part of the saddle and the other 13'' forming the covering for the bottom of the saddle,) after the rubber bag is placed between them, are sewed together at their meeting edges by a row of stitches 24, which extends entirely around the saddle. (See Figs. 1 and 8 of the drawings.) The free projecting edges of the covering of the saddle are sewed together by stitching 25, (see Figs. 1 and 8,) forming a downwardly-extending flap 26, extending around the saddle. The side flaps at the front end of the saddle are laced together by lacing 19, which passes through holes in the projecting edge of the bottom section 13'' of the covering of the saddle, as shown in Figs. 6, 7, and 8, thus preventing the edges from spreading out, as shown by dotted lines, Fig. 6, when the saddle is inflated.

I have shown in the drawings a lacing 19 for holding together the downwardly-extending edges of the leather covering of the saddle; but it will be understood that any equivalent means for holding together said edges may be substituted for the lacing. The upper and lower sections of the leather covering 13, which inclose the rubber bag 2, are brought together and stitched at the point where the hole 3 extends through said rubber bag, as shown in Figs. 7 and 8, and the two thicknesses of leather covering thus brought together and stitched form a single surface, which is provided with holes 20 therein for the purposes of ventilation.

To the rear portion of the under surface of the saddle is secured the metal support 21, of the ordinary construction, provided with a threaded hole 22 for the reception of the bolt which secures the spring to said support. To the front end of the saddle is secured the metal hook 23 of ordinary construction, to which is attached the spring for supporting the saddle.

It will be understood that the india-rubber bag or cushion 2 is made independently of the leather covering thereof and is combined with said covering before said bag is inflated.

After the rubber bag 2 has been combined with its leather covering, as above described,

it is filled with air or inflated by means of the valve 4, extending through the bottom section of leather on the under side of the saddle into the rubber bag. The inflation of the rubber bag causes the leather covering thereof to be correspondingly inflated and to assume the shape shown in Figs. 1 and 8 of the drawings. After the saddle is inflated the valve is closed and the saddle is ready for use. By making the rubber bag 2 with a hole or opening 3 in its central part and by drawing together the top and bottom coverings of leather to form a single thickness at this point I depress the central portion of the saddle in its top surface, thus causing it to fit better and make a better seat for the rider, and at the same time I bring the stitching which unites the two sections of leather covering at this point below the top surface of the saddle. By placing the valve by means of which the saddle is inflated in the under side of the saddle I conceal it from view and I prevent any liability of the projecting stem 16 being broken off by striking against any object.

I have shown in Fig. 11 a modified construction of the saddle-seat. Instead of the india-rubber bag shown in the other figures, I may use a section of rubber hose 39, with one end closed and with a small hole 40 in the other end for the insertion of the valve by which said hose is inflated. The hose is combined with the leather covering of the saddle in the same manner as above described in connection with the rubber bag 2.

I will now describe the spring attachment on which the inflated saddle above described is in this instance supported. The saddle-support 27 is of the usual construction. A clamp 28 is supported on said support 27 and adjustably attached thereto by a set-screw 29. The clamp 28 has a rounded hole through its lower part, into which fits the support 27, and an oblong hole in its upper part, communicating with said rounded hole. Through the oblong hole in the clamp 28 extends the rear end of the spring 30. A movable piece 31, rounded on its lower surface, is preferably inserted between the spring 30 and the support 27, (see Fig. 4,) so that the single set-screw 29, screwed in against the support 27, will press the piece 31 against the spring 30 and secure it in place in the clamp 28. The spring 30 is preferably made of flat steel of substantially the shape shown in the drawings, having its front end curved upwardly, so as to extend in a horizontal plane above the plane of the saddle-support 27. The front end of the spring 30 is adjustably secured in the lower part of the clamp 32 by means of the set-screw 33. The lower projecting ends 34' of the double-coil spring 34 extend through rounded depressions in an opening in the upper part of the clamp 32, and the upper end of said spring 34 is attached to the saddle by the hook 23 in the ordinary way.

Through an opening in the clamp 32 above the ends 34' of the spring 34 extends the

front end of a second spring 35, preferably made of flat steel. The front end of the spring 35 rests upon the ends 34' of the spring 34, (see Fig. 3,) and a set-screw 36 serves to hold said ends 34' and the spring 35 in the clamp 32, and also allow of the springs being adjusted in said clamp. The spring 35 is of substantially the shape shown in the drawings and is curved upward at its rear end and adapted to be attached to the support 21 in the rear end of the saddle by a bolt 37, screwed into the hole 22 in said support in the ordinary way.

By making my spring attachment, as above described, formed of two springs placed one above the other and the lower one extending upwardly at its front end and having its fulcrum at its rear end on the saddle-support and the upper one extending upwardly at its rear end and having its fulcrum on the front end of the lower spring I produce a saddle-spring which will allow the saddle to have a yielding and elastic downward motion both at its front end and at its rear end. The downward motion of the saddle at its front end and at its rear end may be adjusted, as desired, by moving the springs in their holding-clamps.

In case of a very heavy weight on the saddle it may be advisable to use a supplemental spring 38, as shown by dotted lines, Fig. 1. The lower end of said spring 38 is secured in the upper part of the clamp 28 over the spring 30, and the upper end of the same extends under the spring 35. The supplemental spring 38 prevents too much downward motion of the saddle at its rear end.

I prefer to combine my inflated saddle-seat with the spring attachment shown in the drawings; but it may be combined and used with other forms of spring attachment, if desired. The spring attachment shown may be used with other kinds of saddle-seats, if desired. I have shown in the drawings flat springs 30 and 35. If preferred, round springs may be used instead of flat.

I have described the rubber bag 2, forming a part of my improved saddle, as being inflated with air. It may, if desired, be filled with some liquid to furnish a cushion-surface instead of being filled with air.

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

1. As an improved article of manufacture, a saddle for velocipedes, consisting of an inflatable rubber bag having an opening extending through its central part and a leather covering inclosing said bag, the upper and lower sections of said covering being fastened together at the point where the hole extends through the rubber bag, so as to depress the central portion of the saddle below the top surface thereof, and a valve for inflating the saddle located in the under side of the saddle, substantially as set forth.

2. As an improved article of manufacture,

a saddle for velocipedes, consisting of an inflatable rubber bag or cushion having an opening extending through its central part and a leather covering inclosing said bag, the upper and lower sections of said covering being fastened together at the point where the hole extends through the rubber bag, so as to depress the central portion of the saddle below the top surface thereof, substantially as set forth.

3. In a saddle for velocipedes, the combination, with an inflatable rubber bag or cushion and a leather covering inclosing the same, of a valve in the under side or bottom of the saddle and lacing or equivalent device for holding together the downwardly-extending flaps of the leather covering, substantially as set forth.

4. In a saddle for velocipedes, the combination, with the rubber bag and the leather covering inclosing the same, of a valve located in the bottom of the saddle and consisting of a tube screw-threaded externally and internally and provided with a collar or flange extending out from the central part thereof, and washers and nuts for binding the rubber bag and leather covering against said collar, and a screw-threaded hollow stem with a solid end to open and close the opening in said tube, said stem provided with projections or wings, substantially as set forth.

5. In a saddle for velocipedes, the combination, with the air-cushion saddle and a leather covering inclosing the same, of a supporting-spring attachment consisting of a spring clamped at its rear end to the saddle-support, with its front end extending upward and adjustably attached by a clamp to the projecting ends of a coil-spring and to the front end of a second spring, and said coil-spring attached to the saddle and said second flat spring extending upward at its rear end and attached to the saddle at said rear end, substantially as set forth.

6. In a saddle for velocipedes, the combination, with an inflatable rubber bag or cushion and a leather covering inclosing the same, of a valve located in the under side of the rubber bag or cushion in the enlarged portion thereof at the rear of the saddle, with its outer end extending through the leather covering on the under side of the saddle, substantially as set forth.

7. In a velocipede, the combination, with the saddle-support, and a spring extending upwardly at its front end, and a clamp for adjustably securing the rear end of said spring to said support, of a clamp adjustably secured on the front end of said spring, and a coil-spring with its lower end secured in said clamp, and a second spring with its front end adjustably secured in said clamp and its rear end extending upwardly and adapted to be attached to the rear end of the saddle, substantially as set forth.

8. The combination, with the saddle or seat of a velocipede, of a spring-support consisting

of a coiled spring at the front end of the saddle, with its lower ends secured in a clamp, and said clamp and a spring secured at its front end in said clamp and extending upwardly at its rear end and fastened to the rear end of the saddle, and a second spring made independently of the last-mentioned spring and secured at its front end in said clamp and extending downwardly at its rear end and secured in a second clamp attached to the saddle-support, substantially as set forth.

9. A velocipede-saddle spring consisting of a coiled spring and two separate flat springs made independently of each other, the front ends of the flat springs and the rear ends of the coiled spring being clamped together and the rear ends of the flat springs diverging from each other, the upper one adapted to be attached to the saddle and the lower one adapted to be attached to the saddle-support, substantially as set forth.

10. In a velocipede-saddle spring-support, the combination, with a coiled spring and two

flat springs, the front ends of the flat springs and the rear end of the coiled spring being clamped together and the rear ends of the flat springs diverging from each other, of a supplemental spring interposed between the two flat springs at their rear part for the purpose stated, substantially as set forth.

11. In a velocipede-saddle spring-support, the combination, with a coiled spring and two separate flat springs, of a clamp for adjustably securing together the contiguous ends of said springs, said clamp having openings therein for the reception of the flat springs and rounded depressions therein leading out of one of said openings for the reception of the coiled spring, so that one of the flat springs will rest upon the ends of the coiled spring to retain the same in place, substantially as set forth.

JONATHAN A. HUNT.

Witnesses:

JOHN C. DEWEY,
KATIE FARRELL.