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## Gage's Shay

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**Printed on:** 30 Nov 2005

### Topic:

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**Topic author:** Don Gage

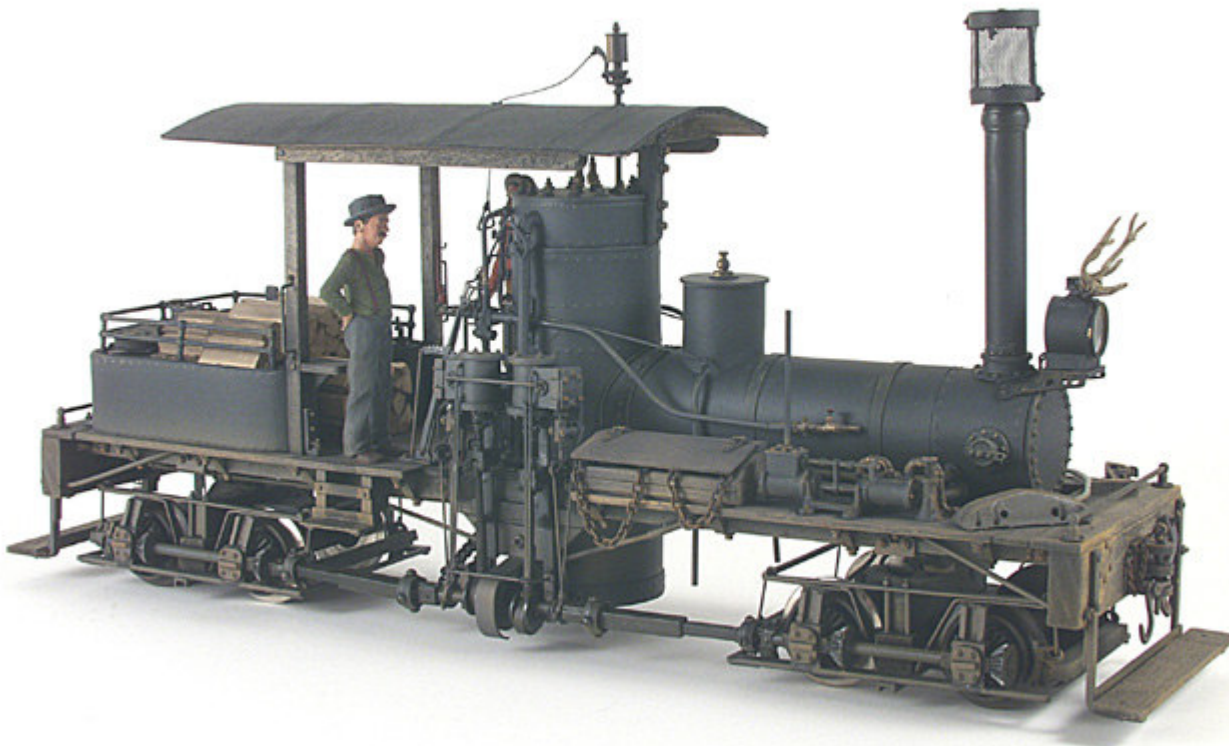
**Subject:** Gage's Shay

**Posted on:** 27 Oct 2003 13:25:26

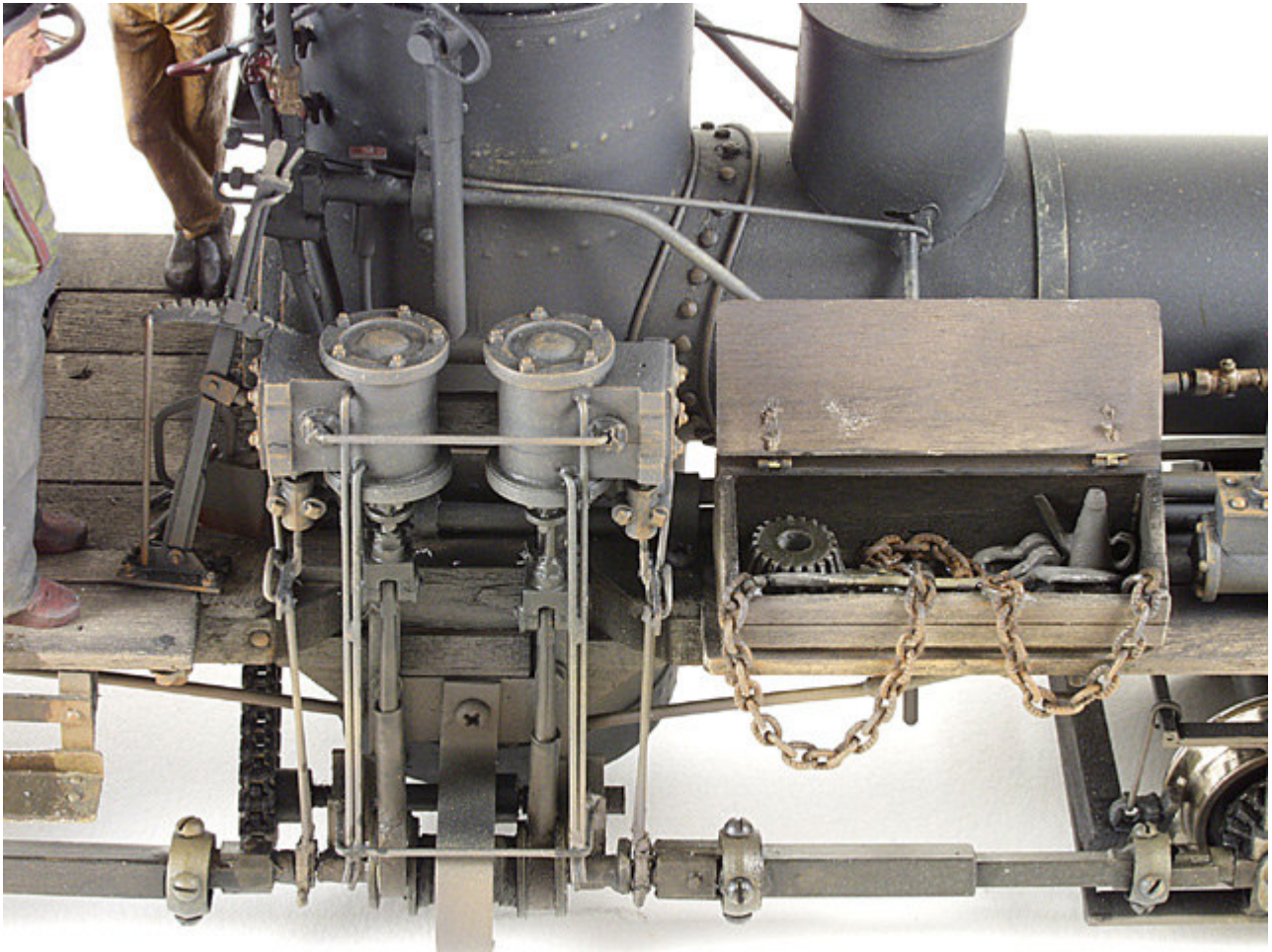
**Message:**

R.W.-

Here are a few pics of the Shay.



Cylinder detail:



Backhead detail:



Thanks for the interest R.W., I hope you like them,

DG.

## Replies:

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**Reply author:** Arty

**Replied on:** 27 Oct 2003 13:48:24

**Message:**

Don, that is really great, 😄😄😄

Can you tell us a bit about how you built this machine.

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**Reply author:** Don Gage  
**Replied on:** 27 Oct 2003 16:00:29  
**Message:**

Richard,

The starting point for this model was a pair of the excellent cylinder castings from Ozark Miniatures Steam hoist kit , MM-901. I thought the castings were so impressive that I had to come up with some use for them. A lobed crankshaft was fashioned from brass tube, rod and washers soldered together. The trucks were built from scratch using brass strap, Dean Lowe's amazing wheels, bronze bushings, gears from a Tamiya R/C vehicle, NBW and styrene bits to finish the details. The frame and deck was built from basswood and poplar with more NBWs and brass strap. The electricity for the unit runs through the truss rods. The boiler was fashioned from PVC pipe fittings. The pipe was wrapped with styrene sheet embossed with rivets and detailed with more NBWs. The unit is driven through the side gear and cylinders. A surplus VCR motor powers it via a Grandt Line chain and sprockets through a minor gear reduction gearbox. Details are from Ozark Miniatures, Simpson, Saxton Car and Foundry and others.

Hope this helps,

DG.

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**Reply author:** Arty  
**Replied on:** 27 Oct 2003 17:35:51  
**Message:**

Thanks for the description Don, every time I read through the posts on MLS, I keep seeing more and more projects to inspire - this one has really got me.

I've got a critter to finish -  
two Connies to weather -  
6 more tippers to load & weather -  
a Garratt to make -  
some more track to lay in the garden -  
a track cleaner/leaf blower to make -  
some patterns to make -  
and I've got to go to work -  
it just gets worse 😞😞😞😞  
( or better )

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**Reply author:** Bob Baxter  
**Replied on:** 27 Oct 2003 18:12:31  
**Message:**

SIMPLY AMAZING!!!!

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**Reply author:** R.W. Marty  
**Replied on:** 27 Oct 2003 19:49:47  
**Message:**

Yes, that's it. Guys you think the pictures are something you ought to see it in person. I had the opportunity to meet and talk with Don at the Natoinal in Sacramento this year.

The Del Oro group, which Don is a part of, had their large scale modules set up at the California State RR Museum. Anyway I was admiring his module with all the fine model work, would you believe an operating donkey engine, when Don asked if I had seen his Shay. I said no, he reached under the table, lifted it out and plopped that beauty in my hands. I just stood there in awe, couldn't even ask any intelligent questions. He then proceeded to show me several other models that were as good if not better than the Shay.

Don, how come you don't have a web site with your work displayed?

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**Reply author:** Don Gage  
**Replied on:** 27 Oct 2003 20:40:34  
**Message:**

Thanks for the encouragement R.W.-

I am lucky to figure out how to post images in the forums, let alone operate a website. I'll do some research and see what I can come up with.

Just what I need, another project!

DG.

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**Reply author:** slug  
**Replied on:** 28 Oct 2003 01:10:21  
**Message:**

I love that Shay 🤩🤩🤩🤩  
Excelent backhead detail 🤩  
One day, if i get the time I would make one of them.

Sam

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**Reply author:** OLDORIGINAL  
**Replied on:** 28 Oct 2003 02:23:27  
**Message:**

ARRGGHH!!! 🤩🤩🤩 This is so good I feel ANOTHER project in the pipeline 🤩🤩

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**Reply author:** KIRTLEY  
**Replied on:** 28 Oct 2003 02:43:10  
**Message:**

😊 Fabulous! Mere words seem so inadequate.....

Peter



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**Reply author:** peter bunce  
**Replied on:** 28 Oct 2003 04:12:35  
**Message:**

Hi All, & Don,

That is a superb looking little old Shay, congratulations, and thanks for the photo's and description of it, you have provided more idea's for the scrapbook.

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**Reply author:** docwatsonva  
**Replied on:** 28 Oct 2003 05:49:23  
**Message:**

Don,

An absolutely fantastic model. How about more work - a construction article for the forum?

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**Reply author:** Don Gage  
**Replied on:** 28 Oct 2003 08:16:40  
**Message:**

Doc and all,

I don't think a construction article is necessary. i published an article describing the majority of the project in Finescale Railroader's the 2003 Narrow Gauge Annual in September 2002. The article includes a few diagrams as well as in-process shots. I am not certain but I might be able to coerce Uncle Russ to produce an electronic version of the article that could be downloaded (maybe?). I'll look into it,

DG.

---

**Reply author:** OLDORIGINAL

**Replied on:** 28 Oct 2003 09:17:43

**Message:**

Don, The gears you used for this ....are they a standard R/C car item or will any do depending on the diameter? Is the gear ratio critical?

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**Reply author:** Don Gage

**Replied on:** 28 Oct 2003 19:12:06

**Message:**

John,

I picked the gears due to price not gear ratio. I found the set of Tamiya gears in a Radio Control hobby shop, they cost about \$6.00 a set with two ring gears and three pinions made from a very hard cast white metal alloy. The are differential gears for an R/C off-road truck. I figured since these guys are really hard on their toys that they would most likely hold up to low speed operation in a Shay. The gear ratio could be altered by using a gear head motor.

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**Reply author:** OLDORIGINAL

**Replied on:** 30 Oct 2003 04:49:58

**Message:**

Don....The gears sound as though they are made from the same stuff that Bachmann used on their Shay which seems to be quite serviceable. There's a shop in Nottingham that stocks bit for R/C cars so will have to go and have rummage! 😊 Thanks for the info.

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**Reply author:** ACL BIG50AE

**Replied on:** 30 Oct 2003 06:49:26

**Message:**

nice job dg and pics

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**Reply author:** Arty

**Replied on:** 30 Oct 2003 13:30:32

**Message:**

Now I know your not going to believe this, 🤔🤔🤔

but after OLDORIGINALS question about bevel gears, and Dons answer, I thought I'd checkout the local toy shop that does sell a small range of Tamiya R/C cars.

I asked the young chap if they stocked any spares and he produced a drawer full of assorted gears - he turned them out on the counter and said " are these any use "

He sold the lot to me for £10.00 (\$17.00) 🤔🤔🤔



Sometimes things just seem to go your way 😊😊😊

Now, how much shall I charge John for a set 😬😬😬😬😬

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**Reply author:** OLDORIGINAL  
**Replied on:** 30 Oct 2003 15:14:30  
**Message:**

😬😬😬😬 Alright alright I suppose I'd better start saving.....I don't suppose you have a spare set?! 😬

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**Reply author:** Arty  
**Replied on:** 30 Oct 2003 15:17:53  
**Message:**

John - what is mine is yours 😬😬😬😬



BTW The circlips will be here tomorrow - I'm working on the U/Js

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**Reply author:** OLDORIGINAL  
**Replied on:** 30 Oct 2003 15:25:19  
**Message:**

Amazing isn't it how we can communicate from a couple of miles away via the New World...it never ceases to impress 😊

Looking at the photo the gears look as though they have been diecast, as per the B/mann ones, as I first thought.

Is it raining on your side of the village?? 🌧️🌧️

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**Reply author:** Arty  
**Replied on:** 30 Oct 2003 15:28:00  
**Message:**

Answer 1 - yes

Answer 2 - yes

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**Reply author:** Don Gage  
**Replied on:** 30 Oct 2003 21:32:59  
**Message:**

Arty,

Those are the exact gears I used. They also work great as differential gears for rail vehicles. You spent as much for all you purchased as I did for 2 sets of them babies. What universal joints are you planning on using? Mine were scratchbuilt using compression ferrels. I sure would be interested in haveing you do my shopping for me in the future.

Great find,

Don.

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**Reply author:** Arty  
**Replied on:** 31 Oct 2003 00:44:33  
**Message:**

Hi Don

The jurys still out on the U/Js, most of the commercial ones are too big and the wrong type, must investigate the ferrule idea. 😞😞😞

What method did you use to fix the small bevels onto your layshafts 🤔🤔

We're wondering if we can cast the trucks in whitemetal - dont fancy making lots of them ( one set for me, one set for John and I bet Pete will want some ) - thats 12 sides  
AARGHHHHHHHHHHHHHHHHHHHH 🙄🙄

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**Reply author:** KIRTLEY  
**Replied on:** 31 Oct 2003 01:28:24  
**Message:**

😞 You pair of buggers, I've told you, I don't build engines.....mind you, it looks very tempting.....oh all right then, I'll have a set of frames, in fact I'd better have two sets, as the first one is bound to end up in the bin! I suppose the 'Old Originals Works for Engines that Won't Work' is open for business if required?!

Pete



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**Reply author:** OLDORIGINAL  
**Replied on:** 31 Oct 2003 15:52:35  
**Message:**

Pete.....Don't panic 🙄 We can rebuild it 😞 if it goes all wrong.....chill 😞😞 We have the technology...we have Don's nice article in the magazine..what can go wrong 🙄...trust me 😞😞 Now go and have a mug of cocoa, put the cats out and go to bed 😞😞 ...it'll be fine!

---

**Reply author:** Don Gage  
**Replied on:** 31 Oct 2003 20:00:41  
**Message:**

Arty,

The bevel gears are a light press fit with CAE used as a lubricant/locker when being pressed in place. The lay shafts are 1/8" brass rod with the end chamfered to assist in starting the gear. If you are planning on casting side frames please allow me a set as well. I am very interested in Shay parts, any Shay parts, the more parts the better.

Don- The Shay Nut!

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**Reply author:** OLDORIGINAL  
**Replied on:** 01 Nov 2003 07:21:03  
**Message:**

Sideframes...don't want to put a damper on this but having looked at it I think we may be better doing them as Don has done i.e build them up from brass strip, they are so thin that w/metal just won't be strong enough to sustain the inevitable knock(s).

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**Reply author:** Arty

**Replied on:** 02 Nov 2003 08:35:37

**Message:**

Don

Just picked up a copy of Finescale Railroader annual with all your words and pics - wow 🤔🤔🤔 - lots of info to digest.

Got the book from a small gathering of folks called "The Slim Gauge Circle" who had a meet in Rugby today ( Sunday )  
Lots of books to buy, mainly small stuff in the way of models.

But there was a trader with a second hand Bachmann Shay (£395 - \$670)😱😱😱  
and a Bachmann Climax (£395)😱😱

As far as the Shay project is concerned -

investigations continue.🤔🤔🤔🤔

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**Reply author:** Don Gage

**Replied on:** 02 Nov 2003 18:23:14

**Message:**

All the Best to you Richard.

Keep me posted on your progress. Feel free to e-mail me with questions.

Don.

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