



# NEWSLETTER



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HAVE YOU HEARD ABOUT THE INTERNATIONAL UNICYCLING FEDERATION?

A number of unicyclists around the world are talking of starting a new organization, similar to the USA, Inc., but more international in scope.

If you are interested in joining such a group, get in touch with Jack Halpern.

Jack Halpern  
6-21-39 Nobidome  
NIIZA-SHI, SAITAMA = 352  
JAPAN



HOLY ROLLERS!

Our pin-up picture this issue is an 8-wheeler, ridden by MEGUMI TSUKAHARA, 22, of the Japan Unicycling Club.

Her dad is an enthusiastic builder of weird unis, including a coasting uni, and an off-center kangaroo!

There are three 4-wheelers in Japan now, and, according to JACK HALPERN, someone is building a real backwards-forwards 6-wheeler!

Apparently, multi-wheelers are taking off in a big way in Japan!

For your viewing pleasure, here's another picture - though we don't know the names of the other two riders!

MORE NEWS FROM JAPAN!

STEVE McPEAK recently spent three weeks in Japan, where he walked the world's steepest cable wire for the Guinness Book of World Records. He built a 100 foot extension for his uni, and one of these days, he'll ride a 200 footer.

During his stay, Steve spent some time with Jack Halpern, showing him videotapes and pictures of his record-breaking ride on the 100-foot unicycle in front of the Hilton Hotel in Las Vegas. Steve's Feat aired on the "Daredevils" TV show last year, and enabled him to regain the record for riding the world's tallest unicycle.

THANK YOU!

Many of you took the time to write and say how much you enjoyed the newsletter. But the letter we enjoyed the most came from USA Member CHARLES BERRY (who is also a champion weightlifter). He wrote:

"Tell your wife I got a big kick out of the old man riding the uni and using his cane... but I wonder if she is insinuating that I'm getting too old -- I'll soon be 75! Be sure to tell her that I can still ride...without using a cane!"

Thanks, Charlie, we didn't mean it, honest!

Also, we would like to again thank the Redford bunch for their help with the collating, stapleing, and distribution of the newsletter. With an organization like they one they've got, this year's National Meet is bound to be a winner!

DON'T FORGET THE NATIONAL UNICYCLE MEET!

Elsewhere in this issue you will find a reprint of the application form, and all sorts of miscellaneous information to help you get ready for the meet.

This year we expect unicyclists from all over the world and all across America, so you be sure to be there too! We'll be looking for you!

NEWS FROM SWEDEN! (our thanks to Lloyd Timberlake for this one)

N THE ICEMAN COMETH ... ON ONE WHEEL

STOCKHOLM, U.P. (UNICYCLING PRESS) -- OVE MOLLVIK IS A DANCER, A TECHNICIAN AND A UNICYCLIST WITH A BIZARRE AND IMPRESSIVE SPECIALTY.

ALWAYS INTERESTED IN ALL ASPECTS OF CYCLING, SEVEN YEARS AGO 32-YEAR-OLD OVE BOUGHT A UNI FROM A PASSING AMERICAN AND WON BACK ONE-FOURTH OF THE PURCHASE PRICE BY BETTING A FRIEND HE COULD MASTER FORWARD MOTION ON IT IN A DAY.

NOT HAVING A BOOK OR KNOWING OTHER UNICYCLISTS, OVE STUCK TO FORWARD MOTION AND DIDN'T BOTHER WITH TRICKS. NOW HE COMMUTES TO WORK ON ONE WHEEL IN ALL SEASONS, EVEN WHEN STOCKHOLM IS KNEE-DEEP IN SNOW OVER AN ICE BASE.

TO REACH HIS JOB AS CHIEF TECHNICIAN AT THE SWEDISH SCHOOL OF DANCE HE MUST PEDAL DOWN A STEEP HILL TO A BRIDGE OVER A FINGER OF THE BALTIC, THEN PEDAL 2.5 MILES THROUGH CITY STREETS.

AFTER WORKING ALL DAY ON SOUND, LIGHT AND VIDEO-TAPE EQUIPMENT AND PERHAPS TAKING A DANCING CLASS, OVE HOPS HIS WHEEL AND CYCLES TO THE THEATRE WHERE HE IS DANCING IN THE MUSICAL 'SUGAR', WHICH AT THIS WRITING HAS HAD 330 PERFORMANCES OVER 18 MONTHS.

HOW DO YOU RIDE A 24-INCH, NORMAL WHEEL ON ICE? 'VERY CAREFULLY,' ANSWERS OVE. 'BUT I FEEL SAFER ON THE WHEEL THAN ON MY FEET. THE MAIN PROBLEM IS MAKING SURE I DON'T HAVE SNOW ON MY SHOES WHEN I GET ON. THAT'S DANGEROUS.'

THERE IS A BROAD PATH THROUGH ROLLING MEADOW BESIDE THE DANCE SCHOOL, AND IN WINTER THE CITY SPRAYS THIS TRAIL WITH WATER. IT FREEZES AND SKATERS CAN THUS SKATE CROSS-COUNTRY, UPHILL AND DOWN.

TO PERFECT HIS ICE TECHNIQUES, OVE TACKLES THIS ON HIS UNI: 'SOME OF THE HILLS ARE SIMPLY IMPOSSIBLE, BUT I MANAGE MOST OF IT.'

THERE ARE ALSO LIT CROSS-COUNTRY SKIING TRAILS THROUGH THE WOODS, WHICH OVE ATTACKS ON THE UNI IN WHAT MUST BE ONE OF THE MOST DIFFICULT CYCLO-CROSS PURSUITS IN THE WORLD.

'THE FOREST WEARS OUT THE CYCLE SO I AM LOOKING FOR A NEW MACHINE,' OVE COMMENTED CASUALLY.

YOU WOULD THINK A UNI ICE-RIDER WOULD BE USED TO SURPRISES, BUT OVE WAS ALMOST FLOORED LAST YEAR WHEN HIS 57-YEAR-OLD FATHER MET HIM AT THE TRAIN STATION -- ON A UNICYCLE.

'HE BOUGHT IT AND LEARNED TO RIDE IT, ALL WITHOUT TELLING ME A THING,' SAID A PROUD OVE.

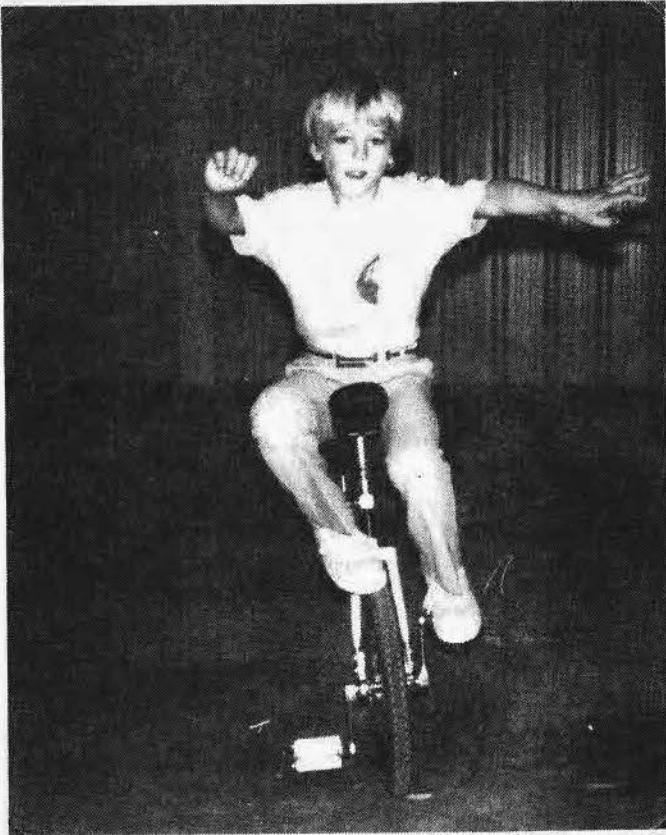
Lloyd Timberlake  
c/o Earthscan  
10 Percy Street  
London W1  
England



CORY RYBACK has a six-foot unicycle built by Emmitt Carpenter of Hamilton Bicycles which he is willing to sell for what it cost him plus shipping.

If you are interested, you can call or write Cory at:

2792 Judith Court  
Belmore, New York  
11710  
Tel: 516-826-2500



EDITOR'S NOTE: Because some members felt uncomfortable about having their names and addresses published in the newsletter, this editor has no present plans to publish a directory similar to the one published last year. However, this idea sounds reasonable and perhaps it could be discussed at the Annual Meeting at the upcoming National Unicycle Meet.

Here's Dale's Address:

Dale Carson Granberry  
3204 Desire Street  
Mobile, Alabama 36606

So all you letter-writers,  
take note!

### JUGGLERS, TAKE NOTE!

Michel Poignant PLV  
P.O. Box 5  
Cauvigny  
60730 Sainte Genevieve  
FRANCE

writes that a new, two-volume book on juggling called "4,000 Years of Juggling" is about to be published by author Karl-Heinz Ziethen. According to Poignant, Mr. Ziethen has, over 22 years of wide travel and personal friendship, collected material from over 5000 jugglers from 2000 B.C. to the present.

Each volume will have 290 photographs. The format will be 9' by 12½". The books are available in English, German and French, and the cost is - hold your breath - \$196.00!

Still, for the professional unicyclist who is also a juggler, these books may be worthwhile - and if you juggle professionally, they are most likely tax deductible.

EDITOR'S NOTE: Not having seen the books ourselves, the Unicycling Society of America makes no warranties with regard to them. Please write directly to Mr. Poignant if you are interested.

### LOOKING FOR A PEN PAL?

DALE CARSON GRANBERRY writes:

"I would be interested to know how many young unicyclists there are in the United States - seven or younger - and what skill level they are working on if they are participating in the USA skill awards.

"I was six on August 25, 1980. I learned to ride a 16' Miyata Unicycle about two months before my 6th birthday and I have just completed Level 3 in the skill awards. I can also ride my brother's Schwinn Giraffe Unicycle. I would be interested in hearing from other "Small Fry" riders across America, or persons who learned to ride at age 6 or younger.

"Also, how about listing the ages of USA members in the Membership Directory the next time it's reprinted? Then people can get an idea of about how many people their age across America ride a unicycle."



THE TWIN CITY UNICYCLE CLUB  
DOUBLES THE PLEASURE...AND  
THE FUN!

USA MEMBER JIM BURCELL writes:

"The Twin City Unicycle Club has been very busy since the meet in Kokomo. We practice twice a month all winter, indoors -- and outdoors, weather permitting.

"We have 31 active members, ages 8 to 18. The club members are all busy working for riding level patches.

"The club now has new jackets which members wore in the two St. Paul Winter Carnival Parades. After the day parade February 7, 1981, the club went to the State Capitol and signed the world's longest yellow ribbon in honor of the return of the hostages. We also participated in an indoor parade through the skyways for the winter carnival. (EDITOR'S NOTE: Minneapolis and St. Paul have an extensive skyway system that allows pedestrians to move throughout the downtown area without having to go out into the weather.) This parade was entered into the Guinness Book of World Records for the longest indoor parade.

Plans are now being made to be in many parades through the spring and summer.

On April 25, the club took part in a benefit for the St. Paul Chamber Orchestra (EDITOR'S NOTE: It was a fabulous performance, I saw it myself!), and in May, some of our members rode unicycles in the Diabetes Sport-a-Thon. Don and Bob Bursell, Barb and Ken Anderson, Darla Resner and Jack Dant rode 21 miles, including 10 in the rain!

Officers for the year are:

Parade Chairperson: Pat Reisdorph  
 Uniforms: Meredith Anderson  
 Secretary: Eve Brown  
 Director

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Pat Reisdorph - Parade Chairperson  
 Meredith Anderson - Uniforms  
 Eve Brown - Secretary  
 Jim Bursell - Director  
 Mrs. Roseborough - Calling Comm.  
 Mrs. Dant - Calling Comm.  
 Mrs. Kritsman - Calling Comm.

"In closing, we are all looking forward to seeing every one Michigan this August."

Thanks Jim...for all the news, and for the warm welcome you and the club extended to Karen and myself when we moved here!

## TWIN CITY UNICYCLE CLUB MEMBERSHIP RULES

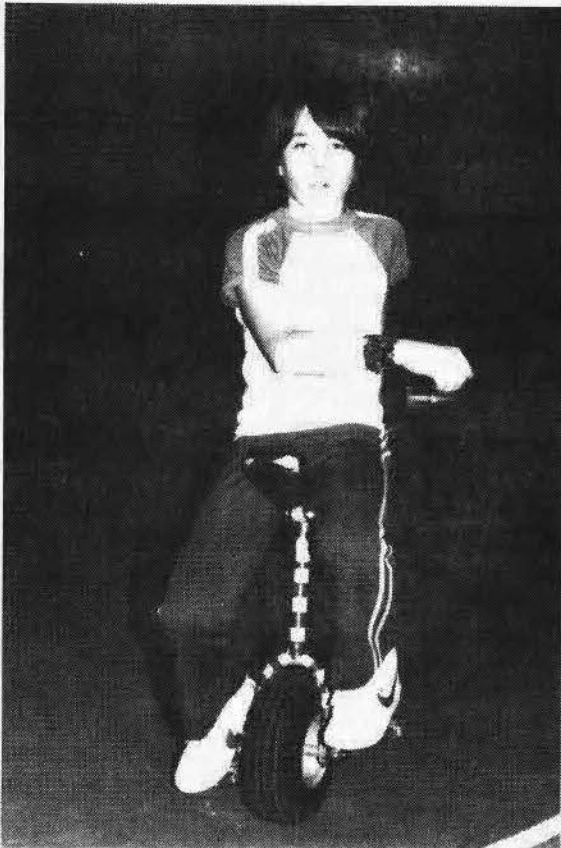
- MEMBERSHIP -** Any perspective new member must pass Level I of Achievement Awards for the Unicycling Society of America, ride thru cones, and be able to idle. Contact Jim Bursell - 529-4195 - to try out.
- New members must be at three practices to be able to ride in a parade or show during the winter months.
- PRACTICE -** Twice a month during winter. During summer months as often as parade schedule allows.
- To ride in the club performance at the National Unicycle Meet, you must be at the practice sessions for the National Meet.
- UNIFORM -** Black pants, black tie, red vest, white shirt, black derby hat, black socks, black stretch overshoes.
- Complete uniform must be worn for parade or performance. If uniform is incomplete, you can not ride and will not be placed on the attendance record. When jacket is to be worn for a parade, members will be notified. Contact Meredith Anderson - 633-6397 - for wardrobe information.
- JACKET -** National Unicycle Patch is placed on the right sleeve with the Level Patches  $\frac{1}{2}$ " apart underneath it. Yearly club patches are placed on the left sleeve  $\frac{1}{2}$ " apart. No other patches or buttons will be worn on jacket.
- ATTENDANCE -** If three parades or practices are missed, member has the responsibility to call for future dates. Member will not be called after three absences.
- Member must ride in at least three parades prior to the Aquatennial and Winter Carnival Parades in current year.
- Attendance is taken at every parade, show, and practice. Every summer prior to the National Meet, the money earned during the year will be divided among members according to attendance. Members must be active and have taken part in six current events.
- CLUB BANNER -** Club members must take turns carrying banner. Members will be grouped according to size. If you are unable to attend parade you are assigned, you will have to carry banner at the next parade or you cannot ride in a parade until you take your turn carrying the banner.
- SENIORITY -** When number of riders is limited, seniority prevails.
- AWARDS -** When the club places 1st, 2nd, or 3rd for a parade performance, the trophy awarded will be given to active members who have ridden with the club for at least one year, according to seniority. 1st, 2nd, & 3rd place ribbons will be given to each member who participated in the parade.

NEWS FROM VIRGINIA!

JIM MOYER of the Oak View Elementary School writes:

"Unicyclists from our Exhibitional Activities Club have been busy during the winter season, performing at half-time shows of basketball games and participating in local parades and shows. In addition to performing for local basketball contests, the club was featured on the ABC telecast of the Duke-Maryland game and NBC's telecast of the Georgetown-St. Johns game. Students also performed for games for George Washington University, American University, the U.S. Naval Academy and George Mason University.

"The following students were the first unicyclists to pass all four achievement levels of the USA: JOEL DEMPSEY, KATHY SMITH, LEE WALKER, NANCE GERING, BETH HOLT, TOM WELCH, AND GEOFF HOLT."



EDITOR'S NOTE: Jim was kind enough to pass along a photo of LEE WALKER riding on a tiny unicycle built for the Oak View group several years ago by Mr. Emmett Carpenter of Hamilton's Bicycles East of Wichita, Kansas.

For those of you who would like to write to the Oak View Group, the address is:

Jim Moyer, Director  
Oakview Elementary School  
Exhibitional Activities Club  
5004 Sideburn Road  
Fairfax, Virginia 22032

NEWS FROM THE JENACKS!

BILL JENACK writes:

"I just got a postcard from Andy D'Allesandro. It's pre-printed with an invitation for a unicycle ride at a specific location, but there's a space open for the date. That way, he can send a bunch out anytime he's ready for a get-together. Maybe other clubs could adopt the idea. Don't know if Andy or the other folks from Bala Cycwyd (EDITOR'S NOTE: From where???) have joined the USA yet but I sent them poop sheets and indexes to past newsletters. They apparently now have quite a group started there.

"Last Sunday, Mary, John, Michelle and I attended a cook-out at KEVIN SMITH'S in Uniondale. Kevin is a Fire Eater, Magician, Juggler and Unicyclist. At the cookout, there must have been 50 or more people, many of them performers, and we spent a beautiful sunny afternoon juggling and entertaining each other in Kevin's back yard."

THANK YOU KEN FUCHS!

For those of you intrigued by the mechanics and engineering of unicycling, we have a special treat for you. USA member KEN FUCHS of Ames, Iowa took advantage of his access to a computer and printed up a series of articles which he researched and wrote himself.

They cover all sorts of aspects of unicycling and some come complete with diagrams and drawings.

We are pleased to present them to you in this issue, and we hope you find them useful.

By the way, here's a picture of Ken on one of his unicycles. Photo courtesy of the Iowa State Daily.

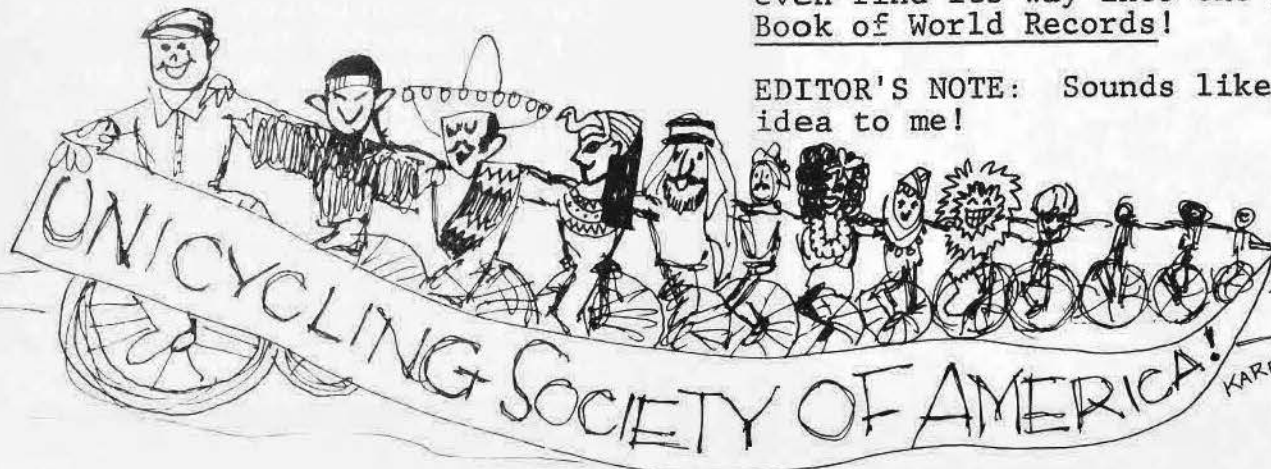
HEY, BIG WHEEL!

AL HEMMINGER writes:

"Ken Fuchs's article on big wheels was interesting. Since the big wheel may be the answer to a bicycle for touring purposes, perhaps the USA could begin to give credit to people who complete a set distance tour such as the Wheelmen do with the ordinaries.

Perhaps owners of such big wheels could group together for scheduled tours in various areas of the country. This would be great exposure for the unicycle movement, and may create an interest other than "fad". And, if enough cycles got together on such a tour, who knows, it might even find its way into the Guinness Book of World Records!

EDITOR'S NOTE: Sounds like a neat idea to me!

WHEELING

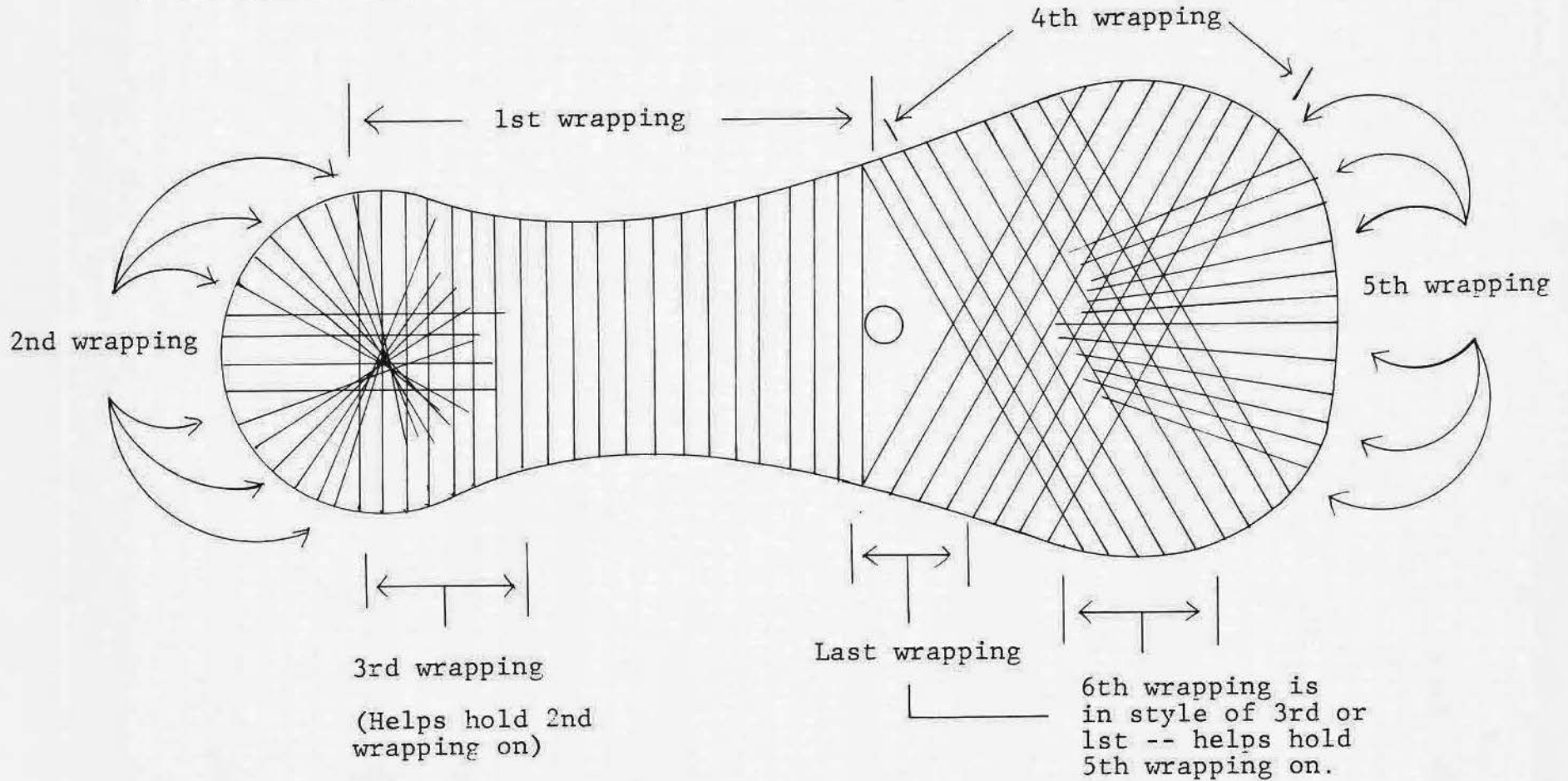
Ken Fuchs, Comp Sci 6, decided that sole power was superior to pedal as he rolled about campus Monday afternoon, propelling his unicycle wheel with the bottem of his shoes.



Follow the wrappings from 1st to final.

Diagram #1.

(Style of 1st wrapping may be used.)



Schwinn saddle covers never seem to last. While learning to ride or trying a new stunt, we all take our spills. We try to catch our cycle before it falls, but with a BAM CLANG, there's a new cut in our shiny black Schwinn saddle cover.

A saddle cover is almost exclusively cut and beat up in its lower surface, where it is in direct contact with the metal part of the saddle. Placing foam rubber between the metal and lower portion of seat cover, will greatly increase saddle cover life. The following describes the technique I have developed for placing this foam.

- 1) Adjust seat to desired angle ( I suggest that front be as low as possible for standard uni and high as possible for giraffe.)
- 2) Remove seatpost-seat assembly from cycle.
- 3) Be sure that the four bolts under seat are as tight as possible. ( Careful, bolts may break.)
- 4) Remove seat cover and foam rubber form. ( If form is glued to metal part, carefully remove with knife.)
- 5) From foam rubber sheet, 1/2 inch thick when compressed, cut a shape 1 inch larger all the way around metal part of seat.
- 6) Cut a hole in center of foam rubber shape for seat post.
- 7) Slip foam rubber shape via hole over the seat post.
- 8) With 1/2 inch wide black plastic electrical tape, wrap foam rubber shape so it covers entire bottom and sides of metal part of seat. Overlap the tape by 1/4 inch. ( See diagram #1 for wrapping pattern. The numbers indicate order of the wrappings. Any or all the wrappings may be doubled i.e. 1st, 2nd, 3rd, 2nd, 4th, 5th, 6th, 5th, 6th wrappings would reinforce front & back.)
- 9) Place original foam rubber form inside seat cover.
- 10) Spread talc powder (baby powder) over plastic tape wrapping of seat and inside original foam rubber form. ( Reduces friction.)
- 11) Pull seatcover-foam over tape wrapped metal seat. ( Pull on one side, then the other etc. if necessary.)
- 12) Put seatpost-seat assembly back on your uni. <sup>from</sup>

Now you have a "cut-proof" seat. Your seat cover may still receive damage if it falls to the pavement at high speed. This is particularly true of big wheels and additional padding in front may be warranted. But, such damage will be far less than when your seat's underside was unprotected.

To repair cuts in saddle cover: Sew cut together with thick or doubled up ordinary nylon thread. Sew a little beyond ends of the cut for extra strength. Always leave at least 1/4 inch between edge of cut and point of needle's entry. Otherwise, stitch may pull through to edge of cut. Space stitches about 1/8 inch from each other. Use straight or curved needle, whichever you find easiest to work with. Now cover the stitches (on outside of cover) with vinyl adhesive to a 1/16 inch thickness. Let it dry overnight. Now your seat cover has a new lease on life. The repair will not be as soft as your seat cover, but at least it will no longer have a cut in it.

To repair a hole, sew from outside of cover, a tough cloth, vinyl or rubber patch on inside of hole perimeter. Cover stitches and patch with vinyl adhesive or rubber cement. I have never tried a hole repair, so I promise nothing about the result.

Toeclips and straps without the metal plates can be far more dangerous than with them. With straps on tight: Without metal plates, it may be difficult to release feet from pedals; with metal plates however, feet can slip out quickly and with moderate ease since there's nothing for sole to get caught on. Do avoid using straps with pedals narrower than your feet, otherwise strap may not release your foot even with plates.

The metal plates also allow your body weight to be distributed over a greater area of your foot, as compared to rattrap pedals alone. If you have ever jumped with rattrap pedals, you not only receive foot pain but also bent up pedals. Hence, the metal plate also reinforces the rattrap pedals.

Some final cautionary notes: Learn to jump on standard rubber pedals. When using straps, don't wait till last moment before disengaging (dismounting) during a fall; dismounting with straps on takes a little longer.

Another thing you can do to increase the joy of jumping is replacing your 1 3/4" x 24" rim & tire with a 2.125" x 24" rim & tire. This amounts to more than a 50% increase in "air" volume; stair climbing was hard for me before switching rims, but it's easy now! Since the balloon tire provides more "cushion", there's less stress on the hub and cranks. Using a 30-35 lb./sq.in. rated tire at 50 lb./sq.in. seems to work out fine. The balloon tire also seems to make wheel walking easier. Note that the 24" balloon tire rim has 28 holes, so old hub can be used without modification. However, as the 2.125" rim is 3/4" smaller, the spokes should be about 3/8" shorter.

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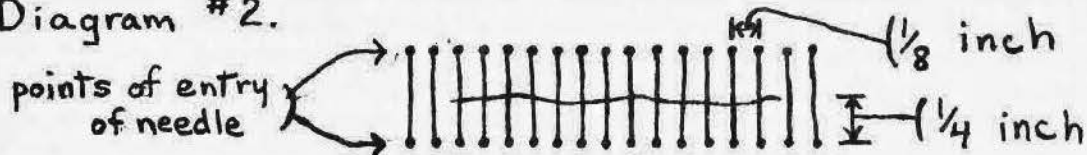
During jumping, spoke breakage can be quite a problem. A possible solution would involve replacing the original 14 gauge (.080 in. dia.) spokes with 12 gauge (.105 in. dia.) spokes. To allow the new spokes to fit, enlarging holes in hub to 1/8" may be required.

If you have broken a cottered hub, instead of ordering a new one, you may consider having a machine shop build one (or more) for you. I make my own flanges, and have a machine shop cut and mill notches in cold rolled 5/8" rod and weld the flanges on for \$15. a piece. You may want to use the flanges from your old hub, rather than making new ones. The machine shop built hubs seem to be stronger (less brittle) than the Schwinn originals. Note that Schwinn cottered hubs, to my knowledge, are no longer available. Another possibility, is ordering a cottered hub from a different company.

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An idea for a jumping cycle: Take a 24" standard unicycle and disassemble the wheel. Lay rim on floor and center an about 16" dia. 1 3/4" wide steel band or 20" rim inside it. Drill holes and bolt circular 1 1/2" wide band springs to the rim and big band as shown in diagram #4. The band springs should flex, compress and recoil readily in the plane of the wheel, but not allow the wheel to wobble from side to side. I haven't built one of these, so I don't know how well or if it will work.

Diagram #2.

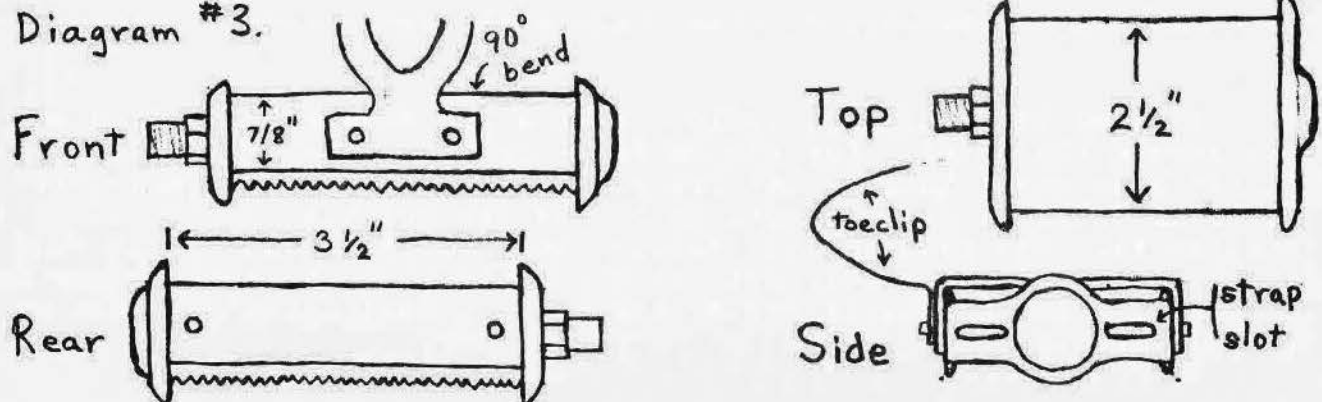


A few words about shoes for unicyclists. Though I never tried them, leather sided and topped (Nonleather soled; leather soles wear out quickly, particularly on rattrap pedals.) shoes may last considerably longer than nonleather shoes. The types of leather shoes I'm considering here include tennis, basketball, squash, bicycle, etc. The bicycle shoes with their very hard sole at ball of foot, work very nicely on rattrap pedals, are handy for jumping (particularly with the toeclip, strap and foot plate idea beginning in the next paragraph), but not so good for giraffe dismounting and wheel walking.

For expert riders who enjoy jumping: A unicyclist loses some of the joy of jumping when he must either squeeze seat with his legs, hold front of seat with his hand or be strapped into his seat with an elastic band. To regain some of this lost joy, replace your pedals with rattrap pedals, toeclips, straps and metal plates which fit over the pedals.

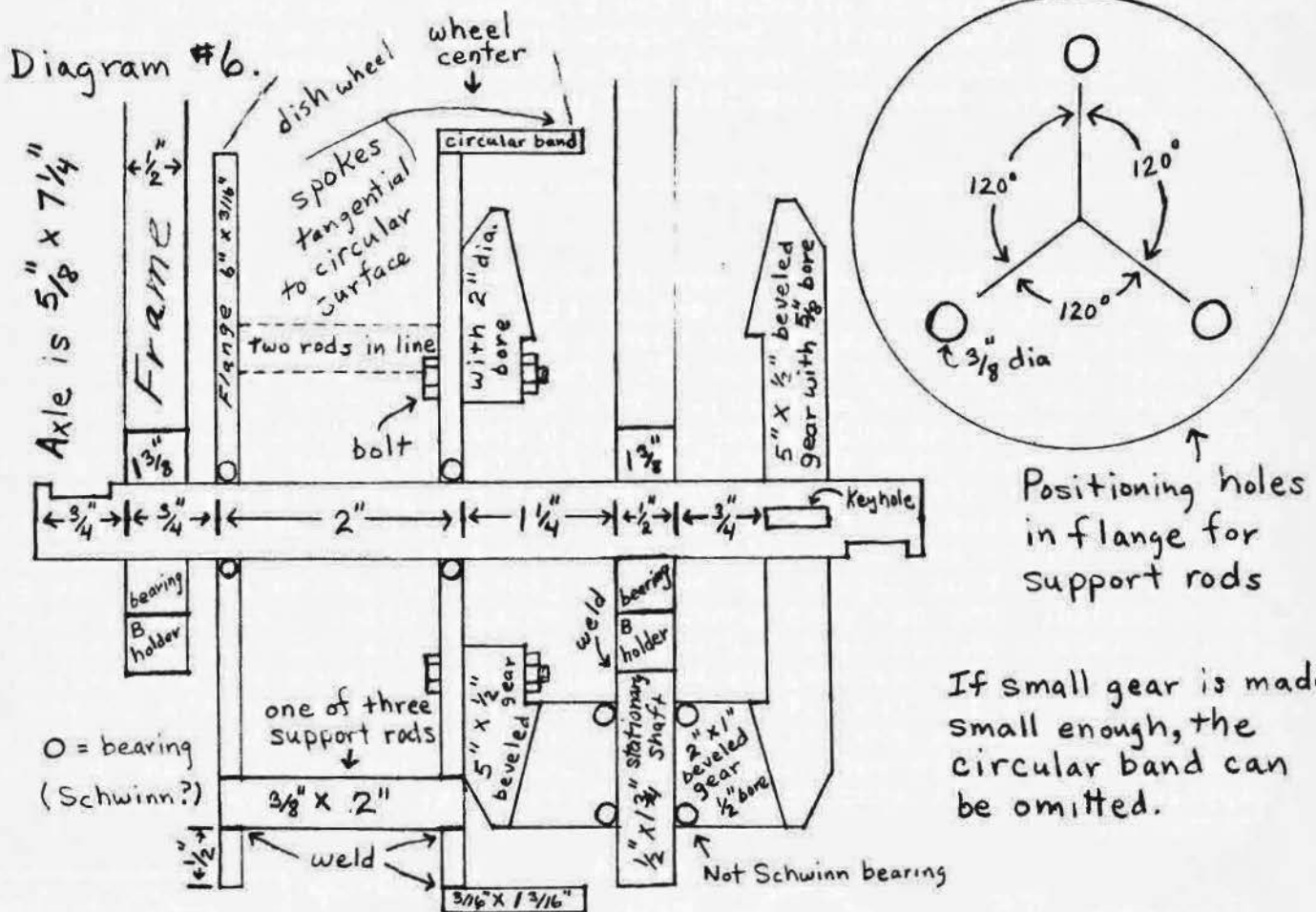
First obtain rattrap pedals to which toeclips may be bolted to. Remove reflectors from pedals. If pedals are (a=) 3 1/2" wide, (b=) 2 1/2" long and (c=) 1" high, cut from 1/16 inch thick steel plate, two rectangles of size [ 3 1/2" ] x [ 2 1/2" + 2 \* ( 1" - 1/8 ) ] that is 3 1/2" x 4 1/4". [ a ] x [ b + 2 \* ( c - 1/8 ) ] for people who like algebra. Place a 90° bend 7/8" or c-1/8" from each end of both rectangles. U-shaped plates should now fit nicely over pedals. Mark and drill two holes in front of each plate where toeclips will be bolted on and two holes in back of each plate. Make distance between back holes as far as possible for greater strength. See diagram #3. Bolt plates and toeclips on pedals and insert straps into slot from outside end of pedals. Note that bottoms of pedals can be used as standard rattraps.

Diagram #3.



I have completed a two wheel unicycle like the one the Japan Unicycle Club brought to the 1980 meet in Kokomo. It's the one that has one wheel on top of the other, goes forward when pedaled backward and backward when pedaled forward. After attempting to ride it a few times, I've found that just remaining atop of it while holding onto a prop can be an accomplishment. I have since reasoned that learning to ride this two wheel unicycle is like learning to ride all over again, since a whole new system of balance must be acquired. Furthermore, the two wheel unicycle is also a giraffe in nature, so learning to ride it is like learning to ride an ordinary giraffe unicycle without first knowing how to ride a standard unicycle.

I then proceeded to invent what I call the standard reverse drive unicycle (revercycle). It's simply a standard unicycle that goes forward when pedaled backward and backward when pedaled forward. Note that the two wheel unicycle can be called a reverse drive giraffe unicycle. My design starts with an axle rotating one direction and around it a hub rotating in the other direction. The transfer of power from axle to hub is accomplished with a differential like combination of three beveled gears. See diagram #6.

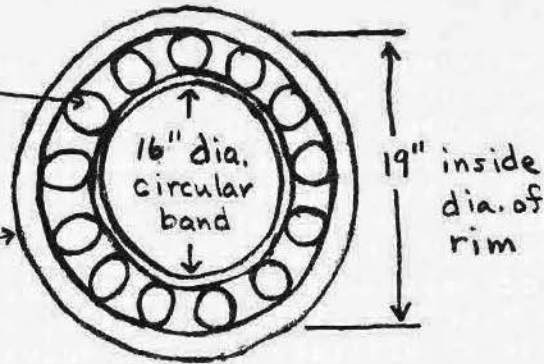


Though I haven't yet built or ridden a revercycle, I believe it will be easier to learn to ride than the two wheel unicycle by height considerations, but may in reality be a more difficult cycle to ride. Nevertheless, I believe it to be a stepping stone to riding the two wheel unicycle.

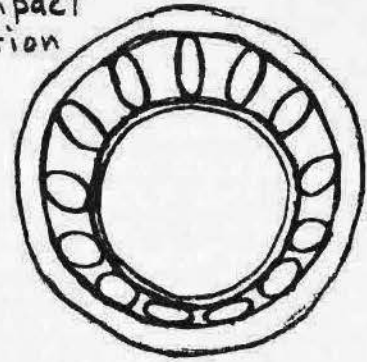
Diagram #4.

1 1/2" dia. 1 1/2"  
wide steel  
band spring

24" rim



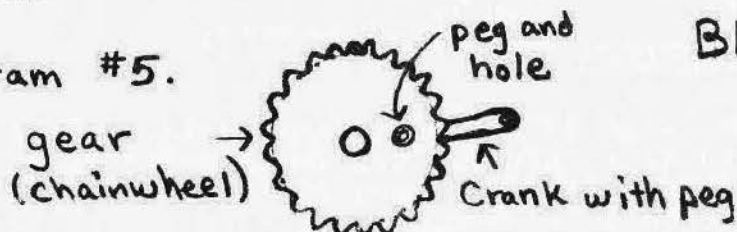
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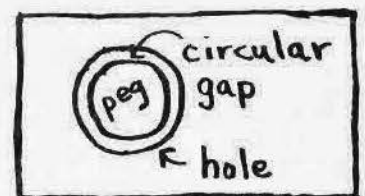
Big wheel travel bag: When touring, it's a pain to carry your travel supplies in a backpack. Note that there's a lot of space inside your wheel. Build a short cylindrical bag with a hole for the axle. Divide it pie-wise into six compartments. Along with compartment zippers or snaps, add one that will allow removal of the bag from axle. Provide some means of attaching bag to spokes. Pack supplies with newspaper to avoid having them bounce around. It's a great frozen orange juice mixer. Be sure to distribute weight among the compartments equally. Another possible location for a travel bag is behind the seat.

On many giraffes with a one piece crank (includes Schwinn), the peg on the crank is a little smaller than the hole in sprocket. This loose fit allows the cranks to move a little without forcing the sprocket to move. See diagram #5. This play in the cranks and sprocket can be quite annoying. Here are two ways of solving this problem. The first and better solution involves first finding a bushing or small pipe that will both fit tightly over the peg and into the hole. Cut off about a 1/2" length of the pipe and tap it into place with a hammer. If the fit is tight enough it may stay there by itself. Otherwise, it could be spot welded from both sides or directly to the sprocket or crank. Or held in place with a few nuts if the pipe is threaded. You may even consider a metallic glue. The second solution involves obtaining a 1/2" wide strip of aluminum from perhaps an aluminum can. Use extreme caution and leather gloves since aluminum strips can cut fingers literally to the bone. Determine the longest length of aluminum you can coil into circular gap. Place it in the gap and pound the sharp ends over with a hammer. Metallic glue may now be applied where felt appropriate. Eliminate any remaining sharp projections.

Diagram #5.



Blow-up



Another view of Unicycling Theory: A unicycle will respond to three primary forces: 1) Wheel force. 2) Twisting force about the vertical axis. 3) Hopping or bouncing force.

The unicycle will also respond to what I call secondary forces such as body leaning, up-down arm action, etc. They are secondary in that they are used as adjustments or corrections to the three primary forces. As a clarification, perfect riders quite often do not need use secondary forces, but use them as an enhancement of their performance rather than as balance corrections.

Let us now investigate the motion of a unicycle in response to a few combinations of the primary forces.

Starting situation of unicycle	Primary forces applied by unicyclist	Motion of the unicycle
Constant wheel motion No lean	Increase (Decrease) wheel force	Forward (Backward) lean <sup>↖</sup> Switch <sup>↗</sup>
Same	Constant wheel force Right (Left) twist	Left (Right) lean "Enter a left (right) turn"
Same	Increase-decrease wheel force Right-left twist	Lean in any direction
Left (Right) lean Constant wheel motion	Constant wheel force Constant left (right) twist	Smooth left (right) turn
Forward (Backward) lean	Increase (Decrease) wheel force	Acceleration (Deacceleration) No lean
Smooth left (right) turn	Increase left (right) twisting	Recover from turn No lean
No wheel motion No lean	Left (Right) twist	Twist left (right)
Same	Hop & Twist	Mid-air twist
No wheel motion Lean in any direction	Hop	Hop in same direction

Let us examine the second "row" of the above matrix where "Enter a left (right) turn" appears in the third column. To execute a left (right) turn from a situation of constant wheel motion and no lean, the unicyclist must first establish a left (right) lean. He could do this by body leaning and up-down arm action, but moving his base of support to the right (left) would be much quicker. Since there's constant wheel motion, a right (left) twist will provide him with his desired left (right) lean. A constant left (right) twist would now, result in a smooth left (right) turn.

In the third column, I have listed only the more important

unicycle motions. Can you determine the missing motions.

Thus far, we have seen a little of how a unicycle reacts to primary forces applied by the unicyclist. Now let us look at some of the various ways a unicyclist can produce primary forces.

- Let us first iterate some of the ways of producing wheel force:
- 1) Both feet forward.
  - 2) Both feet backward.
  - 3) One foot forward.
  - 4) Both feet forward with seat in front.
  - 5) Both feet forward with seat in back.
  - 6) Walk forward both feet.
  - 7) Both feet backward with seat in front.
  - 8) One foot backward.
  - 9) Walk backward both feet.
  - 10) Both feet backward with seat in back.
  - 11) Walk forward one foot.
  - 12) Walk forward both hands with belly on seat.
  - 13) Walk backward one foot.
  - 14) One foot forward with seat in front.
  - 15) Walk forward both feet with seat in back.
- I don't know of anyone who can do 15, so I'll stop here.

Twisting can be accomplished by body, arm or leg twisting while pushing against seat, tire or pedals.

Hopping can be accomplished by ankle, leg and/or trunk extension, followed by ankle, leg and/or trunk contraction.

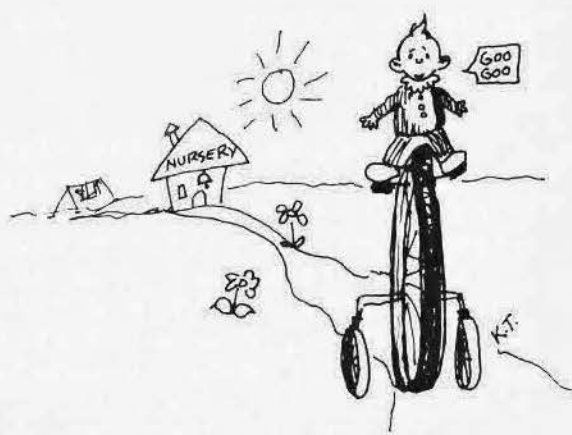
We can now divide a unicycling stunt into the primary forces needed to provide the desired motion of the unicycle and how those primary forces are produced by the unicyclist. To develop new stunts, we can take an old stunt, replace at various points its method of producing a primary force with a different method. For example if an old stunt has a backward circle in it, replace backward with one foot forward.

The position of a unicycle can be defined by a rectangular coordinate system (x,y). Let the positive x direction be east and the positive y direction be north. Let the point of reference on the unicycle be the wheel bottom relative to the ~~frame~~ ground. Let the variable z be the altitude relative to the ground.

The orientation of a unicycle can be defined by a spherical coordinate system. Let a be the angular direction of cycle where 0° is north. Let b be the angular direction of cycle lean where 0° is forward. Let c be the angle of lean from vertical.

Now just think of the velocities and accelerations of x, y, z, a, b, and c. It just might give you some wild ideas about grandiose unicycle stunts.

All views expressed in this newsletter are those of the respective authors. They are not necessarily those of either members or officers of the Unicycling Society of America.





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Aug. 19-23	Long Beach	California	Convention Center	36
Aug. 25- Sept. 1	Oakland	California	Coliseum	458
Sept. 3-7	San Francisco	California	Cow Palace	63
Sept. 9-14	Fresno	California	Convention Center	204
Sept. 17-20	Portland	Oregon	Memorial Coliseum	320
Sept. 22-27	Seattle	Washington	Seattle Center	183

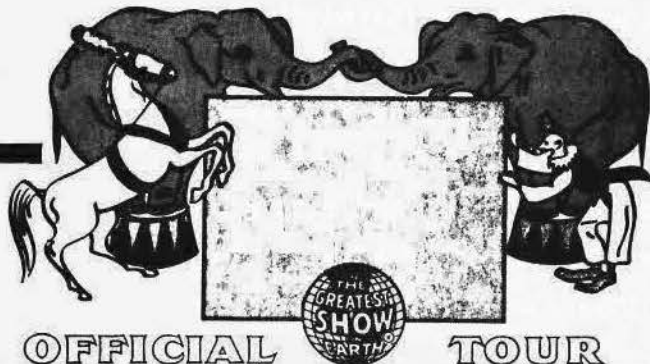
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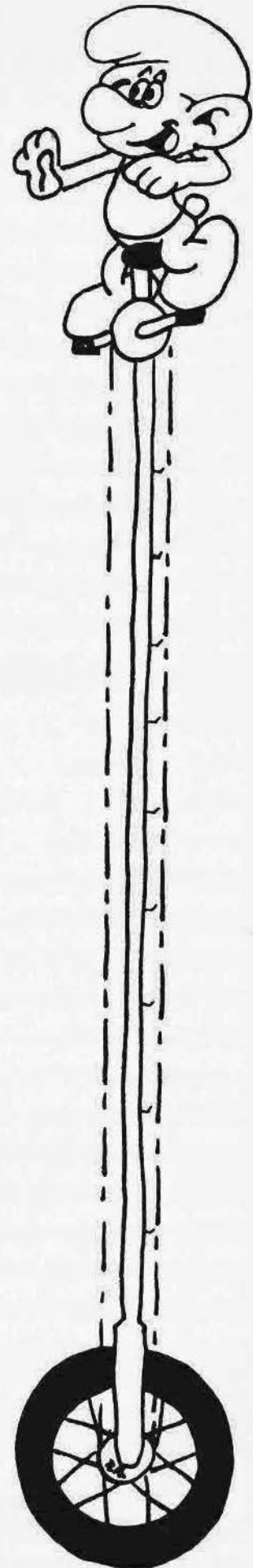
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July 21- Aug. 2	Houston	Texas	Summit	217
Aug. 4-5	San Antonio	Texas	Convention Center	206
Aug. 7-9	Fort Worth	Texas	Tarrant County Conv. Center	280
Aug. 11-16	Dallas	Texas	Reunion Arena	35
Aug. 18-19	Tulsa	Oklahoma	Assembly Center	318
g. 21-23	Wichita	Kansas	Coliseum	185



THE OTHER WHEEL

BY JOHN FOSS

1. "Where's your other wheel?"
2. "Someone stole the other half of your bicycle!"
3. "How do you get up on that thing?"
4. "How do you ride that thing?"
5. "How do you get offa that thing?"
6. "What happens when you fall?"
7. "How's the weather up there?"
8. "Hey, look at that BIKE!"
9. "Fall down!"
10. "Don't fall!"
11. "What happens when you get a flat?"
12. "How do you stop?"
13. "You lost your handlebars!"
14. "Can I have a ride?"

To most riders, this list needs no explanation. But to those that ride only in caves, or don't ride at all, this is a list of a few of the things you hear from the general public when riding a unicycle. There are many others, such as, "I HOPE YOU FALL DOWN AND BREAK YOUR NECK." but the very most common ones I've heard are listed. It's amazing that when you hear these things, the person probably just made it up on the spot, but after a while it seems like thay've read it off from a list, and it's not funny anymore. And when Ted Wade, at last years National Meet, approached me as I ride and rattled off three of these things one after another, without even knowing who I was, I concluded that this was a national phenomenon, not just a local thing ( we live at least 300 miles apart).

It is time to do something about it. You have probably noticed this phenomenon, but never really thought about it. When you've heard one of these things, you've wanted to say something in return that lets the person know you've heard this fifty times before, but what? Some of these things are hard to think up snappy comebacks for.

And so, I use the power of this nameless newsletter to call upon

**You!**

Yes, that's you, the smart-aleck unicyclist sitting there reading this dumb article, to use your quick, well balanced wits, and get up and send us in some answers!

Another simple construction project:

FENDER

by John Foss

Unicycles are naked wheels. When you ride through a puddle on them, you feel it. Also, the twisting back and forth of the wheel causes the water to cover the underside of your legs as well as your back. This is how to make a fender for a Schwinn unicycle. It can be attached or removed in about a minute, because it is only held on by the single, seat post bolt.

You need:

An old seat post. Outgrown 9" posts can be easy to find.

A length of pipe that can be welded inside the seat post pipe ( $\frac{1}{2}$  or  $17/32$  O.D.)

A front fender for your size wheel (Unicycles are front wheels!)

(4) Screws, nuts, washers and lock-washers.

Start with the seat post by grinding or filing off the part of the post that protrudes through the top (1). Next flatten the curve in the curved part of the seat post so that it will more closely approximate the curve of the fender (2). This can be accomplished by pounding on the end of the pipe with a sledge hammer while the other end is on an anvil. Do this when you are angry. Next drill four holes in the fender where you want the old seat post to be attached. You may want it to be far enough forward so that it will not hit the ground when the unicycle falls over backward, but if you prefer good looks, mount it so that the pre-drilled hole (In a 24" fender from Schwinn) is just out of sight under the seat post (3).

Next you must cut off part of the old seat post pipe. With your seat at the lowest setting you would use it at, make a mark on the frame where the bottom of the unicycle's seat post is. Then, with the fender screwed onto the old seat post, put the old seat post between the frames of the unicycle and mark it where the original mark is. The post & fender should be pressed tightly against the frame at this time. Now cut the post at the mark so that the two pieces of seat post will meet when assembled on the unicycle.

Next you must weld in the plain pipe. If you are an adult and finished growing, the pipe, after being welded in, need only come up as far as the seat post bolt. First get the pipe welded in, and file away the fillet, if any, so that the two posts will fit together well (4). Then mark the plain pipe where the seat post bolt must come through, and drill it. Make the hole the same size as the holes in the seat post to minimize twisting.

If the rider is still growing, the fender must be adjustable. The plain pipe should extend up far enough so that the seat can be raised up as far as it will need to be and still be attachable. For this you need to drill more holes in the plain pipe to accomodate the growth of the rider.

The reason for using an old seat post for this is that when the bolt is tightened down, it will fit perfectly tight and shouldn't move around at all. If the bearings on the unicycle are old and worn, the fender will twist around more and may buzz against the tire in turns, but if your bearings are tight, the fender holds perfectly! It can be ridden through water at full speed without the rider getting wet at all, which really feels great.

After removing the fender from the unicycle, it should always be cleaned to prevent rust, unless you want an ugly fender! From now on when you ride your unicycle in the rain, the only reason you will be getting wet is because it's raining!!

Questions? Please write John Foss  
18826 Melvin  
Livonia, MI 48152

In case you're wondering what kind of delinquent is writing your articles, I'll give you a brief case-history. This past school year I was a freshman Industrial Design major at the Center for Creative Studies in Detroit, though I don't know what I'll be doing next year. I used to want to be a writer, but I was never really good at it (please correct any messed up grammar & stuff you come across). I started riding unicycles in Nov. '79 on a Schwinn Giraffe. I soon became a Hardcore unicycle freak and have ridden unicycles almost every single day since. As soon as I got in contact with the local unicycle club, which I'd heard of somewhere, I joined in March, '80 and in July '80 was in my first performance with them.

Sorry, I'm out of paper, hope to meet you at the meet...



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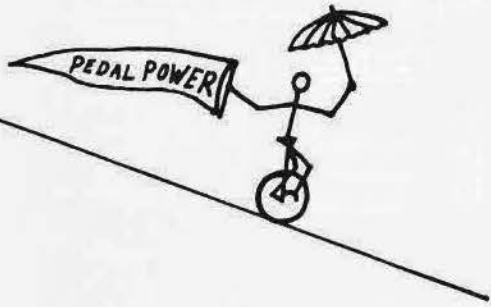
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