The Emery Ball Strang

The Origin of the Emery Ball How the Ball Was Pitched Seven Years' Secret — "Cy" Invincible"—How the Mys- Ball Was Abolished—Invisi-

BY F. C.

"CY" FALKENBERG
The man who revealed the secret

The Emery Ball was one of the skill. Discovered by Russel Ford, the fected by the keen young twirler until seven years he kept the secret. Finally initiated into the mystery of the Emery of the circuits. Both Ford and Falken- the secret, through the carelessness of land players. Soon pitchers all over the new delivery until the league of- plete history of the Emery Ball, with behavior, are treated in the following

HAD long Cy Falkenburg possessed a bit more caution, the secret of one of the most mystifying deliveries in the annals of baseball might still be unknown. And the emery ball, that creature of freaky accident and uncanny inventive genius, might still baffle the mightiest batters in the whole kingdom of swat. But the time had undoubtedly come. The secret had long been zealously guarded. It gave a wonderful career to a studious, keenly intelligent young pitcher. It brought a new lease of life to an ageing veteran, and like some miraculous potion made his declining years far more brilliant than his prime. Then having accomplished these beneficent offices, it was suddenly ushered into the full blaze of publicity where it withered away and was speedily discarded as a dangerous and unnatural innovation.

The emery ball has written a new chapter in baseball history. It has taught the inventive pitcher that the list of freak deliveries has by no means been exhausted. It has triumphed even in defeat and set a whole army of ingenious pitchers to work to try to discover some new principle of pitching science, some unique method of handling the ball that will make the possessor temporarily invincible and bring him a fortune in larger pay checks and public renown.

To the owners and the league presidents the emery ball is a thing accursed. They have employed against it their bitterest invectives.. To the umpire it is an unfailing thorn in the flesh adding to his already top heavy list of duties. To the batter it is a very blight to a three hundred average. To the fielder it is anathema, a perverse maker of undeserved errors. To the pitcher it is at best a two-edged sword, stimulating his pitching skill at the expense of his fielding support. To the public it is little more than a vague rumor, an unsolved mystery.

In 1907 Russel Ford, a young pitcher

est of Freak Deliveries

Its Discoverer, Russel Ford —A Unique Delivery—The Falkenberg, the "Old Man tery Was Solved—Why the ble Air Currents

LANE

strangest inventions of the pitchers' result of a happy accident, it was per- it made him all but invincible. For "Cy" Falkenberg, the failing veteran, Ball, became all at once the sensation berg joined the Federal League, and the latter, became known to the Cleve- the circuit began experimenting with ficials prohibited its use. The com- the scientific explanation of its queer article:

RUSSEL FORD

The man who discovered the emery ball and kept the secret for seven years

of no particular prominence, was playing with Atlanta, Georgia. He was warming up with a catcher pal of his, big Ed. Sweeney. At that time his attention was engrossed with the spit ball whose mastery he confidently hoped might bring him admission into the big leagues. But fate, and chance, and his own ingenious wit, were destined to place within his hands a mightier agency than the spit ball ever was. And it happened as usual quite by accident.

The spit ball is wild. It is the nature of the beast particularly in the hands of an untrained pitcher. Ford had considerable speed. The moist delivery requires speed for a proper break, and one of the twisting wet ones went so far wide that it escaped the glove of the straining Sweeney and ricocheted against the grandstand. And here the peculiar chain of circumstances came into play which carried the new delivery along a flood tide of prosperity. Baseballs had been getting away from catchers for generations and rebounding from grandstands and other hard objects. But they had waited for Russel Ford. It was the old story of Columbus and the egg.

Sweeney recovered the ball and threw to Ford. The latter turned the ball over in his fingers, looking for the wet spot upon its surface, for be it remembered he was using the spit ball. The significance of this fact was merely this. It enabled the pitcher to grasp the ball in precisely the same way he had done previously; nay, required him to do so. Ford placed the tips of his fingers on the moistened spot as per custom, threw the ball with the same sweeping motion and gasped in utter astonishment at the enormous break in its flight.

"Say," shouted Sweeney, as much surprised as was Ford, "what did you do to that ball?" "I don't know," said Ford, "but I will try to find out."

He took the ball, turned it over and over carefully, examined every millimeter of its surface, and finally a dawn-

ing idea struggled slowly through his brain.

"Do you think you can pitch it again?" asked Sweeney anxiously. "I don't know, but I think so," responded Ford, and he tried many times, generally getting the ball to break in much the same peculiar manner, though it showed an uncanny aptitude toward going wild, clear out of the reach of the waiting catcher.

Ford had unwittingly uncovered a vein of pure gold, though like many another young prospector he didn't at once realize how great was his discovery. He had seen and demonstrated that a baseball with a roughened surface, if held in exactly the right way, and thrown in a certain manner, would deviate most strangely from the prescribed path. The baseball, be it remembered, had struck violently against the stand.

It was a comparatively new sphere, and this contact had bruised and roughened a spot on its surface. This spot had providentially been so situated in reference to the moist place already on the ball that in throwing a spitter, as he was doing, Ford had to hold the ball in a certain way with reference to the bruised spot. And this spot evidently acted with remarkable effect on the course of the sphere once it had left his fingers.

Ford experimented with his new find occasionally that season, but found out little more about it than he had discovered from his first experience. It seemed to have possibilities, but the road to the Majors was long and hard, and there remained much for him to do along legitimate lines before trying out any unknown quantities.

The next season, 1908, he used his new discovery not at all, and he did not use it when he was purchased by the New York American League Club. That club saw that the youthful pitcher had possibilities, but he still looked crude, and they turned him over to Jersey City for further seasoning. Ford had accomplished something of his ambition only to find the realization of his hopes turn to dust. He had been admitted into the Major Leagues, then summarily dismissed back to the minors and the door shut in his face. Whether or not that door would ever reopen was at best problematical, for the usual lot of the recruit who has tried and failed is back to the minors for keeps.

Under these discouraging circumstances, rendered still more discouraging by the fact that he was no longer a young man for a beginner, and that whatever he might do, it behooved him to do quickly if at all, Ford bethought him of the day in Atlanta, Georgia, when the bruised ball, rebounding from the grandstand, acted in so peculiar a manner. And he immediately set himself with zest and enthusiasm to try out the ill-developed discovery and find out what prospects actually lay in the new delivery.

He was a spit ball pitcher and the uncanny breaks of that delivery partially cloaked his designs. The crazy twists that a spit ball would take were not unknown, and when it became manifest that a clever young pitcher in Jersey City had developed a marvelous new type of spit ball, it was scarcely a matter for unusual comment.

Ford first tried out his discovery in morning practice. He attached a piece of sandpaper to his glove and with the paper roughened a small portion of the ball. He then held the ball as experience had taught him was necessary, put it over the plate with considerable speed, and was highly gratified to see the heaviest hitters reach for it in vain.

Having convinced himself fully of the value of his new idea, Ford began systematically to improve his control of it. He found by experiment that however strangely it might break, he could control it, and he could get it to break where he wanted it to. And he also discovered that when it was breaking, as he designed, it was practically unhittable.

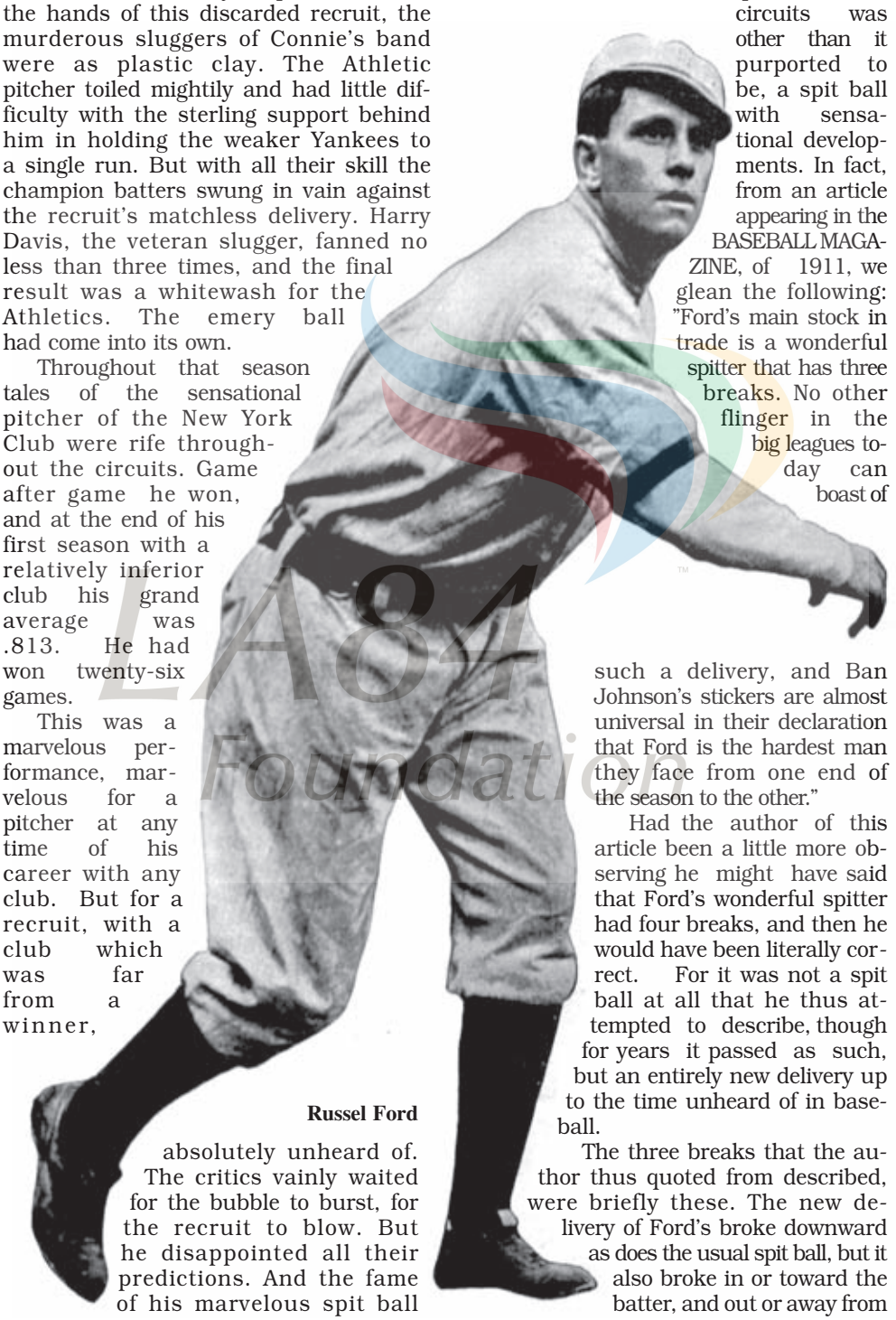
With this valuable information at his command, Ford started out to make the most of his discovery. He pitched sensational ball for Jersey City, so sensational that he was recalled at the close of the season to the Yankees. And his second chance in the Major Leagues came on April 21 of the following season.

It was a stiff proposition that was given Ford. He was asked to match his youthful skill against the renowned

Athletics. A defeat at the hands of this redoubtable club would have carried no stigma of disgrace. Perhaps a creditable showing, though defeated, was all the management anticipated. If so, their illusions were rudely dispelled. For, in the hands of this discarded recruit, the murderous sluggers of Connie's band were as plastic clay. The Athletic pitcher toiled mightily and had little difficulty with the sterling support behind him in holding the weaker Yankees to a single run. But with all their skill the champion batters swung in vain against the recruit's matchless delivery. Harry Davis, the veteran slugger, fanned no less than three times, and the final result was a whitewash for the Athletics. The emery ball had come into its own.

Throughout that season tales of the sensational pitcher of the New York Club were rife throughout the circuits. Game after game he won, and at the end of his first season with a relatively inferior club his grand average was .813. He had won twenty-six games.

This was a marvelous performance, marvelous for a pitcher at any time of his career with any club. But for a recruit, with a club which was far from a winner,



Russel Ford

absolutely unheard of. The critics vainly waited for the bubble to burst, for the recruit to blow. But he disappointed all their predictions. And the fame of his marvelous spit ball traveled the length and breadth of the land.

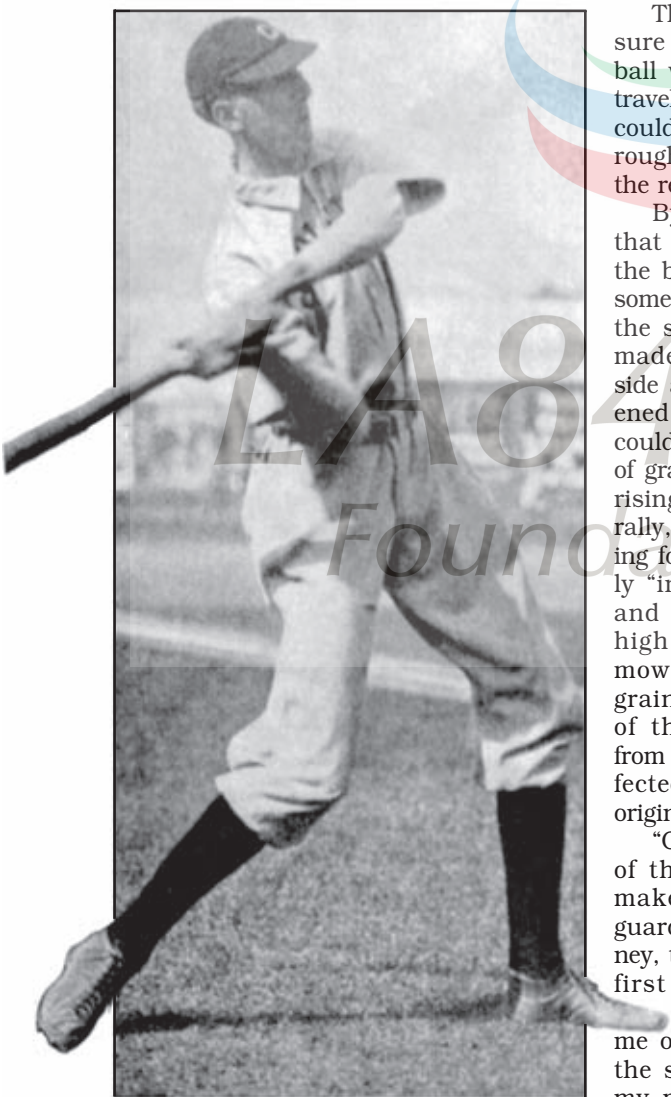
No one save Ford himself, his catcher, and one or two trusty friends dreamed that the redoubtable delivery that had made him the most feared pitcher on the circuits was other than it purported to be, a spit ball with sensational developments. In fact, from an article appearing in the BASEBALL MAGAZINE, of 1911, we glean the following: "Ford's main stock in trade is a wonderful spitter that has three breaks. No other flinger in the big leagues today can boast of such a delivery, and Ban Johnson's stickers are almost universal in their declaration that Ford is the hardest man they face from one end of the season to the other."

Had the author of this article been a little more observing he might have said that Ford's wonderful spitter had four breaks, and then he would have been literally correct. For it was not a spit ball at all that he thus attempted to describe, though for years it passed as such, but an entirely new delivery up to the time unheard of in baseball.

The three breaks that the author thus quoted from described, were briefly these. The new delivery of Ford's broke downward as does the usual spit ball, but it also broke in or toward the batter, and out or away from

the batter, as well. No other spit ball pitcher had these three clearly diversified breaks to the ball, so the author quite logically assumed that Ford could do with the spit ball what no other man could do. He might have added a fourth break, however, and told how the remarkable spit ball of Ford's not only broke in or out or down as the pitcher willed, but could also be made to break up; that is, actually rise in its flight. For all four breaks are perfectly possible to the emery ball.

Let us see just how this remarkable ball acts when properly controlled. An ordinary baseball when thrown overhand rotates rapidly as it whizzes through the air. But obviously there are two points on its surface which do not properly rotate at all, one at either end of its axis of rotation. These points on the revolving baseball correspond to the north and south poles of the earth. Now by roughening the surface at the outside pole of the revolving ball, Ford found that the air currents which met this surface swerved the ball sharply from its course and bent it directly away from this roughened surface. That is to say, by roughening the outside pole of the ball it would break "in" or by roughening the opposite side of the ball it would break "out."



Falkenberg at bat

The only thing necessary was to be sure that the roughened surface of the ball was always on the same side as it traveled through the air, which condition could be maintained only by having the roughened spot on or near the poles of the revolving sphere.

By holding the ball in such a way that the roughened spot was on top of the ball, it would break suddenly down sometimes two or three feet, as much as the spit ball at its very worst could be made to do. While by pitching with a side arm motion and keeping the roughened spot on the bottom of the ball, it could actually be made to defy the laws of gravity and break upward in its flight, rising sometimes a foot or more. Naturally, Ford seldom used his weight-defying form of the emery ball, but the deadly "in" and "out" sweep of the sphere, and the dizzying drop from shoulder high to below the batsman's knees, mowed down the heavy hitters like grain. But let us go to the originator of this marvelous delivery and hear from him, in his own words, how he perfected this new delivery which he had originated:

"Once I had discovered the real merits of the roughened ball I proceeded to make the most of it, very carefully guarding my secret. Fortunately, Sweeney, the catcher, who was with me when I first came in contact with the new delivery, was later associated with me on the New York Club and he kept the secret strictly to himself, realizing my prior claim to the benefits of the discovery. It was a great advantage to

have a catcher who knew something of the new type so that he could judge better of its odd breaks and not let so many balls get away from him. Otherwise it was a very hard delivery to catch. And there lay one great defect of the emery ball. It was a wonderful thing in the hands of the pitcher, and almost impossible to connect with. But it was very hard for the infielders to handle and the pitcher had to guard against its too frequent use for fear that the fielders behind him would throw away a game he was winning by his good pitching. It is obvious that if the unlucky short stop happened to pick up the emery ball that had been hit to him and was unfortunate enough to handle it in such a way that the roughened surface was on the axis of rotation as he threw the ball, it would act in much the same way as when handled by the pitcher and might break away outside the first baseman's reach. Many infield errors were directly chargeable to the emery ball and I have seen an outfielder line the ball in to third base when the sphere broke almost to home plate. Such a throw would look the wildest thing imaginable, and yet it wasn't the outfielder's fault, though he would get well roasted for his apparent wildness. The fault lay in the ball itself, and the fact that he had been unlucky enough to grasp it in just the wrong way.

"Pitching the emery ball was not unlike handling a stick of dynamite. It was the best delivery in the world, and yet the pitcher never knew when the very excellence of the delivery might not work against him and throw away for him the game he was winning by his fine work in the box. I speedily discovered this deadly proclivity of the emery ball and guarded against it as much as possible. In fact, I made a scientific study of the ball and its freak moves, and as I was the only pitcher who even knew that it existed, I had the field all to myself.

"I found among other things that it wasn't necessary to roughen a very large spot on the ball to get good results. A spot as large as the thumb nail was enough, under ordinary circumstances. And I also found that it wasn't necessary to roughen the surface a great deal. A slight roughening of the surface was all that was needed.

"At first I had sewed a piece of sandpaper on my glove and used this. But later I discarded the sandpaper. For one thing it was a little coarse and crude and for another, once I had seen the value of the discovery, I was very careful to guard the secret.

Ford pitching the emery ball

Falkenberg winding up

"I finally hit upon a system which I followed pretty generally the later years I used the emery ball. I constructed a ring of leather which I used to slip on my middle finger. On this ring was a circular disc of rubber with holes around the edge. This disc was about the size of a quarter. Every game I used to sew a new piece of emery on this disc. My glove had a hole in it which was quite convenient for catching the ball. Many fielders' gloves have holes in them, but I made good use of the worn condition of my glove. Not very often, but once in a while I would slip the glove down till the hole came opposite the rubber disc and rub a spot on the ball with the emery. Then I would generally dispose of the batter in front of me without much trouble. I seldom used the ball except in the pinches.

"Sometimes a ball that had been in use for a considerable time would be roughened on the surface, but that didn't bother me any. I would smooth the surface down and polish it on my glove or uniform until it was fairly smooth, leaving one side of the ball with its original roughness. That acted precisely as if I had treated a perfectly smooth ball to a dose of emery.

"I was wary lest someone should see me roughen the ball, but I was never detected. When I took off my glove at the end of the inning I would merely slip off the leather ring and put it into my pocket until next inning. Later as I became even more cautious I would sometimes dispense with the leather ring altogether. Just before the game I would sharpen two or three of my finger nails to a keen cutting edge and by scraping a portion of the surface with my finger nails I could roughen it enough to act as the emery would do.

"I used the emery ball all the time I was with the Yankees. It was a life-saver to me. I used it only when I felt that I was in deep water, and it was necessary to resort to heroic measures to extricate myself. But I had always at my command a delivery that no batter on earth could hit when it was going right, and I had experimented with it for years until I could control it as I could a curve.

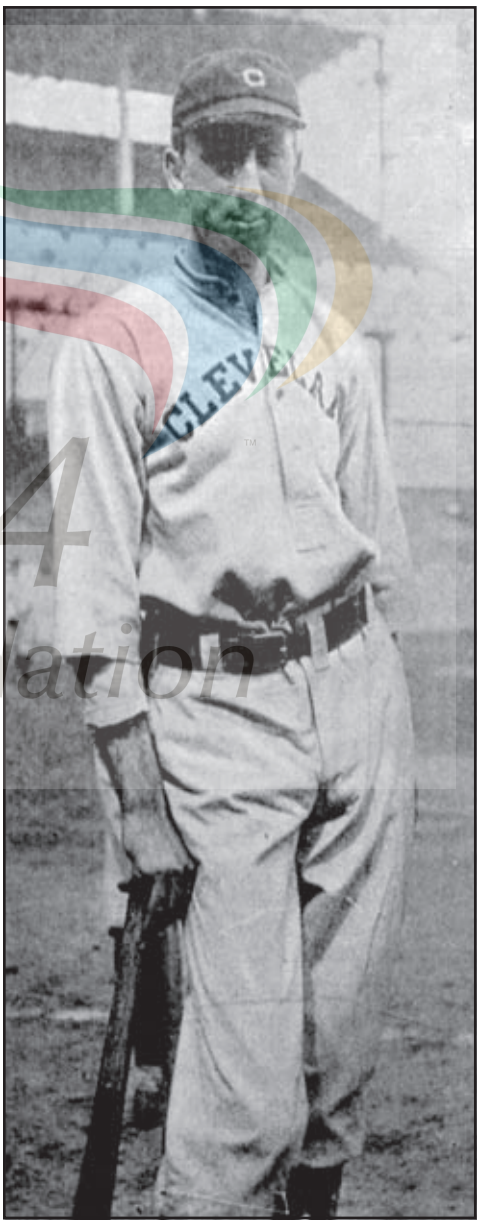
"Sweeney knew of the emery ball all

through those years, but he never gave me away. He was my pal. A few other players knew of it also, particularly Kid Foster, of Washington, who had been my room mate. But I am sure no one of the few players who could have done so ever betrayed my secret."

So said Ford, but he was in error and the subject of that error involves one of the most dramatic comebacks ever recorded in baseball annals. Long "Cy" Falkenberg, of Washington, and Cleveland, had for years been a good, steady, but never brilliant pitcher. His excessive height, for he was nearly six feet five inches tall, coupled with his meagre build, had sapped his strength and endurance to such an extent that he could take part in relatively few contests per season. His winning percentage had been about .500 year after year which was good considering the average ability, or rather lack of ability, of the clubs with which he had been associated. But his weight was far too small for his height, and as age crept up on him his day seemed rapidly drawing to a close. It was too bad for Falkenberg, a keenly intelligent man, a graduate of Illinois University, with a family to support, could but look upon his baseball career as a failure. He had never commanded a high salary, and as he passed the thirty-year mark, he found himself facing a long decline with rapidly diminishing pay checks and no future. He was discouraged and told his friends that he would have been better off had he practiced the calling for which he fitted at college, and never looked upon baseball as a means of livelihood. Then came the inevitable beginning of the end and he was sent back from the Cleveland Club to Toledo in the Minors.

It looked as though Falkenberg were through, but by a freak of fate that fortune which had frowned upon him for so long was about to reverse her attitude. His health was better than it had ever been before. He gained in weight and strength, and so in endurance and ability to take his regular place on the pitching mound. The tide turned strongly in his favor, but still there was something lacking to round out a full and complete success.

One day a fellow player on the Toledo Club came to Falkenberg and said: "Do you know there is a certain kind of delivery just suited to a man of your build that you could use and strike out a batter while you were sitting in a rocking chair?" Falkenberg admitted that he knew of no delivery that was so effective either from a rocking chair or otherwise. And thereupon the fellow player proceeded to relate to the astonished ears of the elongated pitcher the mar-



Long "Cy"

Mr. F. C. Lane,
New York City.
My dear Mr. Lane:

The following, which is Rule 38, Rules, Instructions and Playing Rules of the Federal League of Professional Base Ball Clubs, was adopted by our organization because the writer felt that it was not sportsmanlike to permit a pitcher to deface the ball:

"The use of what is known as the Emery Ball is positively prohibited. If Emery Paper, Cinders, or any other substance is used by any player to roughen ball, the offender will be fined $200.00 and suspended for 10 days without pay."

Furthermore, with a ball so defaced, it was hard for a pitcher to keep control, and the possibilities of hitting a batter were greatly increased.

For those reasons I recommended the abolishment of what is known as the "Emery Ball."

Yours very truly,
J. A. GILMORE, *President.*

velous tale of Russel Ford's patented delivery.

Falkenberg took the matter very seriously to heart. He experimented with the ball and found that it would do all that was claimed for it. And he proceeded to make the most of his new found treasure. He sewed a piece of emery on his glove. Not so cautious as Ford; he did not guard the secret so zealously. But he kept it long enough to reap a rich reward from the emery ball. So good was his work at Toledo that he was recalled the following season to Cleveland. Here he astonished the whole baseball world by winning ten consecutive victories before he was defeated. The spectacle of an old man who had never been a brilliant performer, winning game after game, was little short of a marvel. It was the magic of the emery ball working unseen on the records.

But Falkenberg labored under difficulties. Ford had successfully diverted attention from his freak discovery by his delivery. He was a spit ball pitcher and a good one in actual fact. The additional fact that his pitched ball sometimes developed an unaccountable break was merely laid to the perversity of the moist delivery. He was the only man who could get the ball to perform in that manner true enough, but it was of course the spit ball that did it nevertheless.

But Falkenberg's main stock in trade was a baffling slow ball that he had developed and christened the "Fall away." It was a remarkably good delivery and hard to hit. In addition he had good control, fair speed, and an innate ability to mix them up. The mere item of improved health would have assured him better success than he had ever had before, but the emery ball put the cap stone on his success.

Still there were disadvantages. The emery ball was a little too apparent in his delivery. When a man of Falkenberg's methodical way and easy going movements uncorked a ball that started as if it were going to pass level with the batters' shoulders, but then suddenly and unaccountably swooped below his knees, he created more than a passing comment in the spectator.

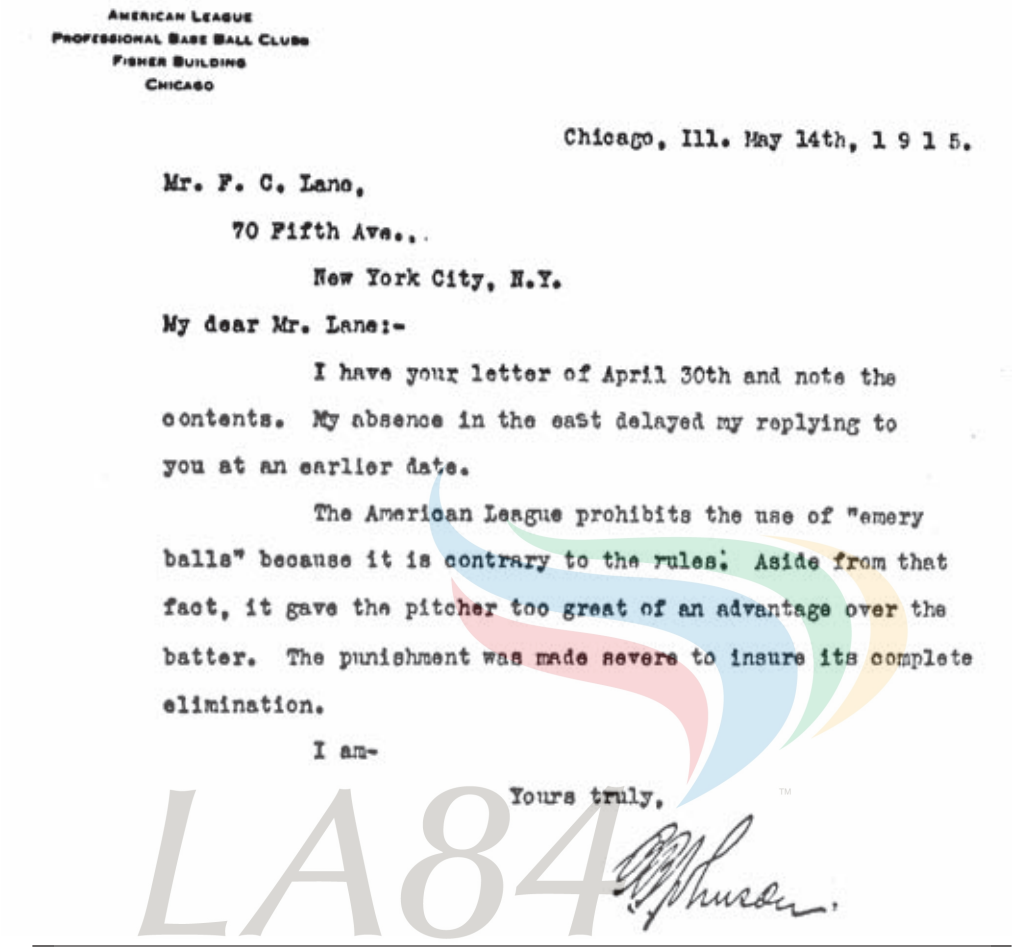
" 'Kid' Gleason used to watch me like a hawk," said Falkenberg, "whenever I pitched against the White Sox. He would say to me: 'I know you are doing something to that ball. You must be doing something to it to get it to break in that way.' And then he would pick up the ball I had used and examine it carefully. But he could never detect the slight and almost invisible roughening of a small spot on the side.

"He kept at me continually, but I would jolly him along and he never got on to the secret.

"Another man who was very suspicious was Clark Griffith. Grif had been a pitcher himself and thought he knew something about the workings of a baseball. I have seen him go on the field and examine two or three of the balls that had been in use, take them up and look at them carefully all over to see how they differed from other balls. The 'Old Fox' was pretty keen, but be never read their secret. It was too deep for him."

There is something almost humorous in this lynx-eyed scrutiny of his delivery by some of the most crafty men in the game, while all the time the guileless Falkenberg pitched the strange delivery before their very eyes.

But things could not go on like this



AMERICAN LEAGUE
PROFESSIONAL BASE BALL CLUBS
FISHER BUILDING
CHICAGO

Chicago, Ill. May 14th, 1 9 1 5.

Mr. F. C. Lane,

70 Fifth Ave.,

New York City, N.Y.

My dear Mr. Lane:-

I have your letter of April 30th and note the contents. My absence in the east delayed my replying to you at an earlier date.

The American League prohibits the use of "emery balls" because it is contrary to the rules. Aside from that fact, it gave the pitcher too great of an advantage over the batter. The punishment was made severe to insure its complete elimination.

I am-

Yours truly,

forever. It was little short of astonishing that Russel Ford could fool the whole American League for four years and never be even suspected of any necromancy over the ball. It was remarkable that Long Cy Falkenberg could draw from his aging muscles such miraculous wizardry over the sphere and not be found out. But it was inevitable that the secret should come to light sooner or later. And the immediate cause of its coming to light was the Federal League.

When Russel Ford pitched his last season for New York he was getting fifty-five hundred dollars. That spring the club had trained at Bermuda. Ford was in excellent shape in the island, but upon the return the change of weather wrought havoc with the club. Not a pitcher on the staff was in condition to work, but since Ford was the highest-priced man in the squad and more was expected of him, he was often pitched. He was good for about three innings in game after game and then he seemed to lose all strength or ability to control the ball. The result was that he lost many games that year and his average suffered severely.

Frank Farrell was by no means reticent in criticising his star pitcher. He told several other players that when the season closed Ford could expect a substantial reduction in salary. The club was a consistent looser. Discontent engenders ill will and there was much friction in the ranks. “I felt certain that Mr. Farrell had meant what he said when he claimed that I would get my salary cut,” said Ford, “so I made up my mind that while the opportunity of-

The Two Ex-Masters

fered I would make the best arrangements I could.

"Having settled this matter to my own satisfaction, I went to the Federal League offices and told them that I would pitch for them for a certain salary. They accepted my terms and I signed for three years. My contract with Farrell expired in any case, but even if it hadn't, it was subject to the ten-days' clause and various other clauses to the benefit of the magnate. The ten-day clause has been worked to death, and every one is tired of hearing about it, but in passing I will merely say I have no respect for the clause and never have had any respect for the clause. The fact that players sign contracts with such clauses means nothing. Players have no choice in the matter. The owner has always held the whip hand. It is precisely the same as the ordinary person's signing a contract with a gas company or an electric light company. There are certain clauses in the contract the ordinary householder may not like, but if he wants any light or gas he signs the contract because he has to. It is the same with the ten-days' clause. The player has signed contracts containing this clause, not because he approved of the clause, but because he had to sign such a contract if he wanted a job. My conscience pains me not at all for what I have done, and I am frankly glad to be with the Federal League.

"To show that my suppositions were correct, when I reached the home of my wife's people in North Carolina, the address I had given Farrell, there was a contract awaiting me to sign. The contract said that I was to draw four thousand dollars instead of the fifty-five hundred I had been getting, but stipulated that if I won twenty games for the club I was to get a thousand dollars extra. Twenty games with that rotten ball club was the same as a hundred games, so far as any prospect of getting the bonus was concerned. Walter Johnson couldn't have won twenty games for the Yankee team of that year.

"I paid no attention to the contract But some time later I was favored with a communication from the estimable Mr. Farrell, saying that as his former offer hadn't been accepted, he had withdrawn

the offer and that I would play for two thousand dollars a year. He may not have known that I had signed with the Federal League, but with an independent organization in the field it was not very likely that I would be bullied by Mr. Farrell or any of his kind. True, the man is out of baseball now, so there is nothing more to be said."

Shortly after the defection of Ford Long "Cy" Falkenberg had a series of conversations with Mr. Somers anent a raise in salary. He had been getting $3,250, which was not excessive for a man who was considered among the leading three or four pitchers of his league. But when he was tendered a contract for $3,500, only $250 raise, he rebelled.

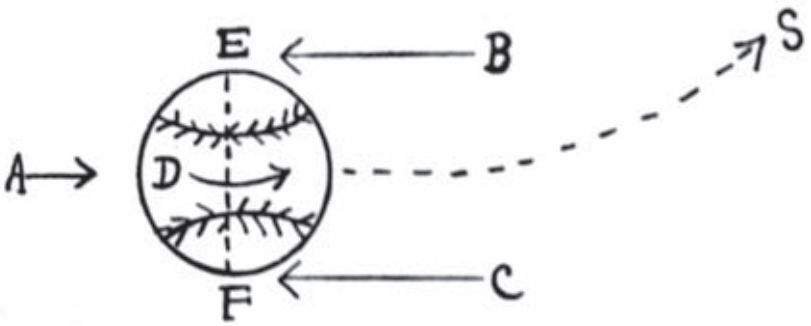
Said Falkenberg: "Mr. Somers is in financial difficulties, I understand, which is unfortunate, for he is undoubtedly a fine man. But when he blames the ball players I don't think he has a license. If he had come to me and made me a substantial offer there wouldn't have been any kick at all on my part, and I would have signed at once for terms far less than I afterwards received from the Federal League. But he didn't do so, and I took the only good offer I had ever had. I was getting on in years and owed something to my family and to myself. I would have been willing and glad to meet Mr. Somers half-way, but I didn't think I was under obligations to go the whole way."

What bearing has this on the emery ball? Merely this. The going of the only two twirlers who understood the delivery to a rival organization left the secret in the hands of a number of players who were no longer bound to their former pals. Both were amply provided for with long-term contracts which would tide them over the years of their usefulness. And the secret might quite properly be passed on to others.

Unfortunately, however, the secret was hard to pass on without allowing too many to get in on the ground floor. And even as it was, had not Falkenberg rather carelessly sewed emery cloth on his glove the emery ball might be a secret yet.

Some one on the Cleveland club saw

of the Emery Ball



The ball is traveling in direction A. It is revolving in direction D around axis E-F. The ball is roughened with emery paper at point E. B and C are air currents encountered by the ball in its flight. Apparently the current B, striking on the roughened surface at E, should retard the flight of the ball and tend to swerve it from its path toward the roughened surface E as indicated by the arrow S. What actually happens, however, is shown in the diagram on the opposite page.

the emery on that tell-tale glove. Who saw it first does not so much matter. It was seen, at any rate. Several pitchers practiced the delivery, and almost before anyone awoke to the fact pitchers on other clubs learned the secret. In a short time everybody knew the delivery, and many pitchers were practicing it. There was a grand stampede for the emery ball.

Ford was accused at Baltimore of originating the delivery. The secretary of the club came to him and urged him to deny it. But Ford said: "Why should I deny it? The New York press, since I have left the city, have accused me of everything except polygamy and murder. Now that they accuse me of having an original idea, why should I deny it?"

"It had been my secret for nearly seven years. I could not expect to keep it forever. Even as it was, I could congratulate myself that I had had the use of so valuable a secret for so long."

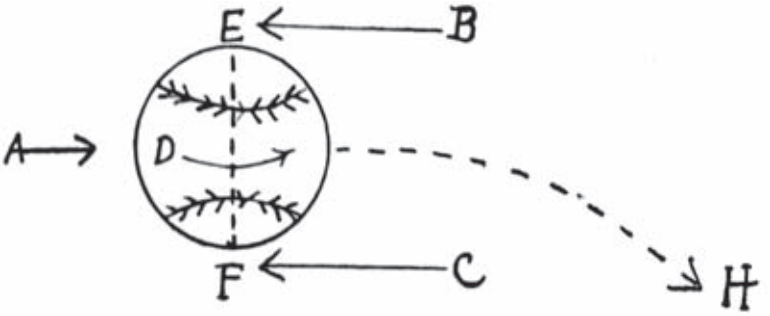
For a time the emery ball became an epidemic. Then all three leagues, taking prompt action, abolished the use of the ball altogether. The Federal League further discouraged its use by imposing a fine of $200 on any player caught disfiguring a ball in that manner. All umpires are instructed to examine a ball which breaks with the peculiar emery twist, and if, in their opinion, the surface is roughened artificially, to throw the ball out. "I imagine the presidents of the leagues and the umpires are cussing me whenever they think of the emery ball," said Ford. "But I should worry. The battery used to cuss just the same way years ago. But the emery ball has been good to me. When I used it there was no ban against it and I was well within my rights.

"Now that the delivery is generally known, however, the owners have done well to abolish the ball. So long as it was one man's secret it was very valuable, just as the old-time formula the alchemists searched for to turn lead into gold would have been very valuble. It would have made a fortune for one man, but if every one could do it it would have had no value whatever. The emery ball was a great invention for the use of one or two pitchers, but with every one doing it it was different The owners did well to abolish it.

"I have understood that Walter Johnson criticised the delivery. He did well to criticise it. If he had used it before he acquired control with his awful speed he would have been the most murderous pitcher in the world. It would have been as much as a man's life was worth to stand at the plate with his gattling gun delivery and the ball taking all kinds of terrific breaks. In my case I used the ball only when I had mastered its breaks and could control it as well as I could control a curve."

The objections to the emery ball, roughly catalogued, are as follows: First, the disfigurement of the ball. "The delivery might have been all right," says Falkenberg, "but the pitchers who were using it took all kinds of liberties with their new find. In their hands the emery ball speedily became the cinder ball. They would pick up a handful of cinders or gravel and roughen a large, surface on the ball. In this way they would disfigure the ball badly, which was an evil, without doubt, and should have been stopped. I handled the emery

ball very carefully, sometimes even using the naturally roughened side of the ball that had been grazed on the ground or against the stand with no work at all on my part. In any case, I roughened only a limited surface, which was scarcely visible."



The emery ball, shown on the opposite page, instead of bending from its path in the direction S, actually bends in the other direction, that is, away from the roughened spot at E, in the direction indicated at H. It does so for two reasons. First, the revolving baseball is a true top or gyroscope. When any outside influence tends to deviate a gyroscope from its path, it resists that tendency and goes rather in the opposite direction. So when air current B, striking on roughened surface E, tries to swerve the baseball gyroscope to direction S, it goes rather to direction H. Again, the air current B, retarded by roughened surface E, builds up a cushion of air which gradually swerves the ball in direction H.

Disfiguring or damaging the ball was the primary cause for its abolishment.

Secondly, the ball was very hard to hit. "It caused a great decrease in batting, or would have caused it had it come into general use," said Ford. "The public like hitting and frown on any innovation that favors the pitcher. The emery ball would have interfered with the most spectacular part of baseball." In brief, the ball was undesirable for it curtailed hitting and imposed unusual hardships on the batter.

Thirdly, a fundamental objection to the emery ball is well expressed by Walter Johnson. "The emery ball required little or no skill on the part of the pitcher. An outfielder with good control and fair speed could have come in and pitched the emery ball. To be sure, a proper use of the ball demanded training, as in any other delivery, but at the same time a person did not have to be a good pitcher to use it. It really discouraged pitching as much as it did batting, for it required nothing else from a man than the ability to roughen a part of the surface of the ball and control the ball when he pitched it.

Fourthly, as well brought out by Ford, the ball worked a hardship on the fielders. They were always likely to grasp the ball in just the wrong way, and in throwing to catch a man the ball would make all kinds of odd breaks and twists. These were clearly not their fault, but the fault of the ball itself, and the records should not properly charge them with errors as was inevitable in actual practice.

An ingenious friend, a man with a national reputation as an expert in engineering feats, offers the following solution of the queer breaks of the emery ball. The ball, says he, is effective only when the roughened surface is at one of the poles of rotation. It must be so, for it always has to be on the same side of the ball while the ball is constantly revolving in the air in its flight. Now experience shows that the friction of the air is considerable, more than is commonly supposed. For instance, the friction of the air on the surface of the water is the sole cause of waves in the ocean, and yet hardly a breath of wind is necessary to wrinkle the surface of the sea, while a considerable breeze will raise large waves. Undoubtedly the friction of the air on the sides of a moving baseball is much greater than the velocity of its flight. The ball may be moving through the air at the rate of a hundred feet a second or more, but the air which is piled up in front of it and whizzes by the sides in flight may well be going at double that speed. Now this friction of the air on a roughened spot on the ball would be considerably more than on the smooth surface and would naturally tend to slow up that side of the ball and swerve it toward the roughened spot. But experience teaches that the ball acts in exactly the opposite way; that is to say, instead of bending toward the spot, it bends in the opposite direction.

"It does so for two reasons, I believe. One is the general effect of gyroscopic motion. The gyroscope is a deep subject, though its action is well formulated. It is the gyroscope that steadies a torpedo and an aeroplane and is the basis of the famous "one rail" railroad. The baseball is a true gyroscope, revolving rapidly on its axis as it goes. Now when any effort is made to swerve a gyroscope from its natural tendency at steadiness it acts the other way. For instance, try to tip a monorail car down on one side and it will not only not tip, but it will actually rise instead. The effect of the gyroscope is not only to equalize a force to the contrary, but to more than equalize that force, and cause the gyroscope to tend to the opposite direction. When the air currents try to swerve the baseball to a certain side, the gyroscopic effect of its flight tends to swerve it rather the other way, and so while the ball would tend naturally to bend toward the roughened surface, the gyroscopic effect of its flight actually swerves it the other way.

Another reason for the breaks, I believe, is the following peculiar fact. The air caught by the roughened surface tends to pile up on that side of the ball. There is formed really a cushion of air on that side. And the effect of this accumulating cushion of air is to swerve the ball more and more from the cushion and thus away from the roughened surface. The effect of both these physical forces is, I believe, responsible for the queer behavior of the emery ball."

To the scientist, no doubt, the peculiar workings of the emery ball are fairly simple. But to the lay mind the effect of air currents on a moving baseball are an uncharted sea. He will think of the emery ball as the most baffling of pitching mysteries and let it go at that. Which is, perhaps, a fitting climax to the argument after all.

"They can legislate against the emery ball as they please," says Russel Ford, "but they will never abolish it. They can prevent its use on any wide scale, but the emery ball has come to stay. And there is no manner in which I can see that they can detect the pitcher who occasionally employs this most effective ball. For aught they know the ball may have been bruised by contact with the ground and the use of it by the pitcher be pure accident.

"As for myself, I am through with the emery ball for all time. I have no complaints to make. The emery ball has been good to me. It rounded out the years when I needed it most and won many close games for me. The spit ball has almost as sharp a break and is a legitimate delivery. So I will use the regulation types from now on."

At a word in passing, let it not be thought that Falkenberg and Ford are helpless without the emery ball. Falkenberg would have been a winning pitcher for the past three years without its uncanny help, and so would Ford. Both are great pitchers independently of their other merits. But the emery ball was unquestionably the secret of their most brilliant seasons.

As Ford says, the abolishment of the emery ball is hardly a possibility, though its general use has ceased. But even if the last emery ball had disappeared from the diamond for all time, its influence would live for generations. For it opened up an entirely new line of endeavor in a field of research which seemed practically exhausted, the discovery of new types of handling the ball.

The inventor of the curve revolutionized baseball pitching years ago. The discovery of the spit ball advanced the art a long step. The invention of the slow ball, with its various modifications, was still another manifestation of the heights which baseball science might scale. But with that the field seemed exhausted. The emery ball, however, with its romantic association with the success of two great pitchers, has set the whole circuits ablaze with new enthusiasm. Many pitchers are experimenting with new types of delivery which they hope may prove to be successful. For the goal of achievement is well worth striving for. The emery ball was a veritable Alladin's lamp to Ford, he could invoke the magic delivery when the tide of battle ebbed against him and turn that tide almost at will. What wonder that so many keen, intelligent pitchers are striving to emulate the example of Russel Ford and to find some worthy successor to the banished emery ball!