

How Our Warships Talk

by Commander Orton P. Jackson and Capt. Frank E. Evans in Sea Power

Methods of communication among Uncle Sam's sea fighters explained—radio, signal flags, blinking lights, rockets, wig-wags, searchlight rays, semaphore, are now in use

THE SHIPS that sail the seas are great talkers. They not only have their ways of sending messages of distress and other important news, but they love to gossip on matters of much less consequence. Of all ships the man-of-war is the greatest talker, for the fleet bustles with life in port or at sea, and the navies of the world talk fluently in many languages of which the peaceful merchantman has barely mastered the A B C.

The ships of the American navy carry on their talk by day or night; anchored within the toss of a ship's biscuit of each other or hundreds of miles apart; on a day sparkling with sunshine or when the fog lies like a great gray blanket on the sea, and all with the same ease. Within sight of each other they use their visual signals, and when the fog rolls in and hides them from each other their booming whistles carry on the talk with long and short blasts. Even the submarines darting beneath the surface have their bell warnings so that these undersea craft may avoid collision.

The visual signals are in constant use and are most varied of all the tongues that carry on deep-sea talk. Flags and semaphores keep up a lively conversation by day, and when night sets in the man-of-war has its Arlois lights and blinkers, its searchlights and rockets.

At the ends of the flying bridges that span a modern man-of-war you cannot fail to have noticed the upright bar from the top of which sprig arms wave at all angles, for all the world like the arms of a lively jangling jack. These are the semaphore signals, and they are made of wood or metal and worked by small levers. With the same movements a small man, with a small red and yellow flag in either hand, can send the same message, but the bulk of the messages are sent by the machines, for they reel off messages faster than a man. Before the semaphore system was perfected this kind of visual signaling was done by flag waving or wigwagging. The semaphore is faster, but when the distance is too great for the waving semaphore arms to be made out, the message is wigwagged by the big red-and-white flag.

In the semaphore each angle of the arms is a letter. In the wigwag there are three motions, to the right, to the left and to the front. Each motion to right or left represents a dot or dash of the telegraphic code, and some letters require four moves.

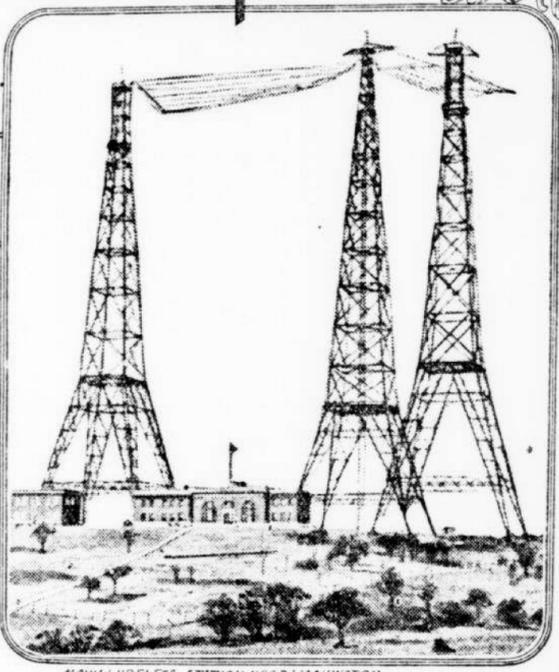
For distances where the semaphore and wigwag are not adequate, and always when the fleet is maneuvering at sea or in battle, signal flags are hoisted. These hoists, as they are called, can be seen for miles.

For the flag-hoists the 26 flags of the international code, one for each letter of the alphabet, are used. The code book of the navy, if it should fall into the hands of another government, might spell disaster if those two nations should meet in war. So, in peace time as well as in war, they are guarded jealously and their loss is a court-martial offense. The signal-code book is weighted with lead, and if a ship is captured it is thrown overboard.

When night falls the red and white lamps of the Arlois at each ship wink out their messages, and as each ship, as it reads them, yards them on to the ships astern. Passard blinkers are supplementing the Arlois just as the semaphore did the wigwag, for the blinkers flash out the dots and dashes in short and long displays faster than the Arlois.

If a message must be sent a great distance, perhaps to a scout far out at sea, the great searchlight draws its giant finger against the somber background, calling the scout by its code letter. From the black ocean leaps up the answering "Aye! Aye!" of the scout. Off goes the message with majesty sweep, and the signalmen lay their telescopes to the quarter from which the answer is to come, while the recorder, pad and pencil in hand, writes it down in his signal book.

There are other lights used at night by all ships for special purposes, such as code signals and signals of distress. These are the very night signals. A cartridge much like that used in a shotgun is fired from a specially constructed pistol and the rocket that soars up in the night is followed by



NAVY WIRELESS STATION NEAR WASHINGTON

other cartridges that send out their message in red and green stars like those of a roman candle. The greatest of all methods by which ships talk to each other, or to shore stations, is that of the wireless telegraph. The navy calls it the radio because the energy is radiated or sent out into space, and the messages are radiograms. Nowadays with the radio communication, vessels several hundred miles apart can talk with greater ease than the old frigates could lying in the same harbor. Every day the ships at sea get their radiograms of the world's news, and those giving the baseball and football scores are circulated through the ships with great enthusiasm. To make this wonderful communication, not only every ship in the navy has its wireless, but the navy has stations along the coast to receive and transmit orders and messages.

King of the wireless in the navy is the great station at Radio, Va.—its twin wireless towers within sight of the navy department—that flashes its messages to ships 3,000 miles out at sea. Night is more favorable for wireless than daytime, for then messages are sometimes sent double the distance. The distance varies with conditions, some of which the experts cannot explain, but the power of the instrument and the height of the mast or tower supporting the aerials are great helps for distance.

With all this wealth of talk by flag and light, by wireless and rocket, by whistle and semaphore, the ships are not content. They must have signals beneath the sea for use in thick

weather and at night, and so we have submarine bells in lightships and other aids to navigation. Ships love to sight these aids in clear weather to check up their positions, but at night they may be a source of danger and the warning of the submarine bell is welcome. The sending set of the submarine bell is an ordinary bell, smaller than a ship's bell, which is kept ringing by electricity. On the passing ship is the receiving set of two small iron tanks filled with water, one on each side of the ship below the water line. In each is a microphone, electrically connected with an indicator box in the ship's pilot house. The bell sound coming through the water passes through the skin of the ship, enters the water in the iron tank and is picked up by the microphone. It then enters the indicator box, which has two telephone receivers. Switches in the indicator box allow the operator to listen to the sound picked up by the port and starboard microphones. By the loudness of the tone the operator can tell on which side of the ship the warning bell is ringing. When the ship is swung in that direction, and when the sound is heard equally on both sides, he knows that the ship is pointing toward the bell.

The making of expert signalmen begins at the naval training stations in the selection of keen and alert boys for the signal squad. Each ship has its signal officer, signal chief, quartermaster and quartermasters and signalmen. A flagship carries a squad of twenty-odd, and night and day a relief is stationed on the bridge.

ALASKA IS OPEN TO ATTACK

Ports of Northern Territory Are Without Defenses Which Could Be Supplied at a Very Small Cost

While preparedness for possible military assaults upon the territory of the United States proper is engaging so much attention, it is noted that the ports of Alaska are without defense of any kind. A cruiser belonging to a hostile power could land marines without opposition at any town on the Alaskan coast, burn it, and destroy a commerce between Alaska and the States which exceeded \$110,000,000 in 1916, and which at present promises to exceed that figure each succeeding year for an indefinite time to come.

This utter lack of defense is in the face of the fact that Alaskan ports, almost without exception, could be made impregnable at a minimum cost as military and naval expenditures run ordinarily. This is especially true of Seward and Anchorage, the two water terminals of the government's system of railroads, points at which an assault at present would completely paralyze and largely destroy the chief industries of Alaska. Moreover, a small force of invaders could not only take the terminals without opposition, but could quickly trench themselves so that their subsequent dislodgement could be effected only at a staggering cost in men and means.

Seward, the headquarters of railroad activities, is located on Resurrection bay, a deep sheet of water far beyond gunshot from the open sea, and reached by a narrow winding channel between lofty elevations, veritable Gibaltars, on either side. A few guns commanding the channel could make

the place impregnable to the combined fleets of the world. Also, to get within gunshot of Anchorage, the big coal terminal, a warship would first have to pass within easy range of Fire Island, a point lending itself to easy defense, almost as readily as the Resurrection bay entrance. With Seward and Anchorage properly defended, the government railroads and the great Matanuska coal fields would be safe. A direct attack on these great properties by landing in bays on either side of the railroad would be impossible because of intervening impassable glaciers, while a flank attack could only be made after crossing mountain ranges which would make Hannibal's descent upon Rome seem easy and inconsequential by comparison.

War and the Circus.

War does not disturb established institutions. Here is a circus and menagerie in England, whose doors, its proprietors say, have "remained open since the year 1842," but are now to be closed for the duration of the war in order that the men employed do their part in work for national purposes. A part of the famous peahen horses are to be sold, too, presumably so that they may do their bit for England—a short and painful bit, as the horse records show, if they find their way to the front—while the tigers and bears are to be laid away in comfortable storage for better days.—Hartford Courant.

Youthful Critic.

Dennis and Doris went to the theater for the first time. The play was a serious drama and they didn't enjoy it much. Just as the heroine of the play was getting seriously ill Doris who was sleeping, dozed off to sleep. Presently awaking with a start, she punched Dennis and said in a loud whisper: "Den, is she dead yet?" "No," was the weary reply, "but I wish she was." And the rest of the audience wondered what that section laughed at the most fearful part.

A Bull Movement.

Mrs. Meekton—I am sorry you are ill, Henry, and I hope you'll soon be yourself again.

Mr. Meekton—Myself again? Say, Henrietta, inasmuch as hopes do not transfer any majority stock in matrimony, couldn't you see your way clear to hope a little bit stronger?—Judge.

Sauerkraut Out of Turnips.

According to the Medizinische Klinik, they are making very good sauerkraut in Germany out of white turnips, instead of cabbage.

TWO WOMEN AND PETER

By DOROTHY DOUGLAS.

Peter Morrow tossed his sister's letter irritably on the table. "It's a bit of a bore—sister expecting us to have this chum of hers down to recuperate. Some anemic society moth who'll turn up her whitewashed nose at us and our country ways. Nellie will kick up a row, too, I suppose."

Nellie was Peter's betrothed and lived on the next farm. "My dear Peter," his mother remonstrated gently, "we may be all wrong about Miss Pattison. Bertha is not the kind to make friends of a snob. I would feel badly to think I had refused to have the girl down to restore her health."

Peter's gloomy eyes turned suddenly affectionate. "You're right, little mother," he said; "you make me ashamed of myself. We'll have Miss Pattison down for a few weeks. You love to make Long Island roses grow in pale cheeks with your milk and eggs."

Mrs. Morrow sent a kindly invitation to Lydia Jane Pattison via her daughter. On the day of the girl's arrival Peter drove to the station to meet her. The train had pulled in when he drew rein.

"This is really good of you, Mr. Morrow," said a soft voice at his elbow. She had recognized the bronze giant from Bertha's description.

He turned to meet the pale, smiling face of Lydia Pattison. It was not a pretty face, but it was distinguished and earnest. He led the way toward the trap. It was not until she stood quietly beside him and smiled up into his face that Peter realized she wanted assistance.

"My stiff knee," she said deprecatingly, "makes lots of trouble for the other folks. I am not very agile."

"I'm so sorry," Peter said with quick emotion. "I had not observed your lameness." He lifted her bodily into the trap and tucked her comfortably in. "Not nervous about driving, are you? This animal is a bit frisky for want of work."

"No, I am not a bit nervous," she answered. "I've been through so many big dangers and seen so much heart-rending agony that a bolting horse and a few broken bones would seem mere bagatelle."

"One would almost think you had been on the firing line," Peter said. "I have," she replied tersely.

"You?" Peter jerked about. "Just returned ten days ago. I volunteered in one of the relief ships that went to Belgium. I've been constantly about the trenches and hospitals until my health gave out. It's some home for a rest."

"But—your injury—lameness. Did it not happen there?"

"Oh, dear no," Lydia smiled. "I've had my affliction since childhood. My dear father spent thousands trying to cure me, but I'm intended to go through life maimed. It's the law of compensation. I have had everything I want in life, being an only child, except physical perfection. However," she went on softly, "I feel thrice blessed since seeing the tortured bodies and devastated homes that it has been my lot to see."

Two weeks at Shady Grove farm, under its strenuous and inspiring influence of Lydia Jane Pattison, worked a wonderful change. Also it had brought about a change in Nellie Baker.

"I wish Lydia Jane Pattison had stayed where she belonged!" she said to Peter. "She's done nothing but upset our peace and comfort. Advanced theories are all nonsense. We were all quite contented with our own mode of existence."

"That's just it. We've simply existed. I'm nothing but a great, pampered, shirking brute! I've never lifted my hand to help a fellow creature. I wanted to punch my own head through the mirror this morning!"

Nellie stared open-eyed at the display of energy in her erstwhile phlegmatic lover.

"If you mention that woman's name again to me I'll—I'll scream! It's Miss Pattison this and Miss Pattison that. I'm sick of her very name."

Nellie flounced up, flung Peter's lovey ring on the floor and with flaming cheeks turned on her heel and left the astonished Peter gazing after her.

"Talk about feline claws," he muttered, and left the ring where it had fallen.

He sat for quite ten minutes thinking very hard. It was not so much of Nellie he was thinking as of his mother and one other woman. It was the other woman who stepped softly over the threshold while Peter was still thinking.

"Mr. Morrow," she said, while the ever-ready smile struggled for its accustomed place on her lips. "I have told your dear mother that my rest is over and I am going back to the firing line. I want to leave tonight—at five—if you will drive me to the station. Will you—mind?"

Peter looked up slowly. Lydia's eyes turned swiftly away, but Peter saw the queer little lines about her mouth.

"Lydia," he said softly while his big arms opened wide that she might enter them, "I am free to tell you I love you. Come."

Mrs. Morrow, passing the window a moment later, smiled happily.

"My boy has found his proper mate," she commented softly.

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Quick Foot-Work.

Flatbush—If you see a device to be attached to the foot of ladders to keep them from moving is designed from a mule's foot.

Benshurst—A mule's foot! Say, did you ever know of anything that could move quicker than a mule's foot?

Details Wanted.

Tufton—If you ever call me a liar again I'll shoot you like a dog. Bluffton—Oh, you will, eh? By the way, how does a dog shoot?

DADDY'S EVENING FAIRY TALE

By MARY GRAHAM BONNER

ZOO ANIMALS.

"The Animals in the Zoo were talking to Daddy," said Daddy, "just the other day, and were having a very fine talk."

"Well," said Nick the Rhinoceros, "I am famous for my running. How I can run!" And he looked very proud as he said that.

"Ah! but I can out and perform tricks, and the Keeper loves me," said Jack, the Hippopotamus.

"It's nothing to have the Keeper love you," said Nick.

"Oh, Daddy?" interrupted Nick, "was the Rhinoceros really named Nick?"

"Yes, indeed," said Daddy. "Don't you think that Mr. Rhinoceros can have your name, too?"

"Oh, no," laughed Nick; "but it's funny, that's all, to hear of a Rhinoceros named Nick."

"Maybe Daddy will tell of a Lioness named Nancy, next," chimed in Nancy. "No, not this time," said Daddy.

"And why isn't it an honor to have the Keeper like me?" asked Jack, the Hippopotamus.

"He only likes you because you like him. It's just tit-for-tat—and absolutely no honor at all. He'd like me if I talked more pleasantly with him, or if I seemed to be very friendly. I won't, for I consider myself above him. Of course I'm not cross to him. That would be beneath my dignity also."

"We are so sweet and lovely and have such gentle dispositions," the Beers were saying.

"Yes, the Keeper loves us and he takes such good care of us that we cannot help but love him, too."

"Now Dick, the Rocky Mountain Sheep, loves this time of year—the cooler the better. Sometimes he plays a game with the Visitors who come to look at him. He stays so still and quiet that they think he is a statue and not alive at all. Then suddenly he will move, and they will shriek:

"Why, that animal is alive!"

"Then how Dick will laugh!" "Well, you see," said Dick, "I have a very fine trick to perform."

"But the Hyena in his cage was laughing for all he was worth."

"I am the finest of all the Animals," he said. "My laugh is so unusual."

"We are thankful for that," said the Zebras. "If all Animals had laughs like yours how extremely awful it would be!"

"That depends entirely on one's opinion," said the Hyena proudly.

"The Bears boasted and bragged. The Snakes, the Seals and the Monkeys were the talking."

"Of course the Lions and Tigers were having their chats, and all the Animals were praising themselves up."

"The Keeper, who seemed to understand a great deal of Animal language, said to himself:

"It is just as well the Animals like themselves. People who don't like themselves are pretty discontented and cross. Now, my Animals are almost always pleasant and cheerful."

"The Keeper went on talking to himself, just as the Animals were talking to each other. And as they were deciding that they were pretty nice, so he was deciding the same."

"It's a cold night," he said, "and it is going to grow colder. So I think I will have to give them an extra supper."

"They certainly did have a wonderful supper in the Zoo, and how happy all the Animals were. When they went to bed that night they all had fine dreams of the meals served in Zooland."

"Let's go to the Zoo some day soon," said Nancy. "We haven't been for ever and ever so long. Some of the Animals we have almost forgotten, and we want to see our old friends, too."

"Yes," said Nick, "and I'd like to see the Rhinoceros named Nick!"

"We'll go soon," said Daddy, "and now off to bed to dream of our trip."

An Ear for Music.

A little girl five years old was on her way to the beach for the first time. Her numberless questions as to the ocean, the fish, ships, sailors, etc., had embarrassed her mother, and amused the passengers. The train finally neared the wharf where were to take a steamer, and as she glided along very near the shore for a short distance we could plainly hear the swish, swish of the waves. The little girl turned from the window with a beaming face.

"Listen!" she exclaimed. "I think I hear the fishes!"—Christian Herald.

Inconsiderate.

A more kind-hearted and ingenious soul never lived than Aunt Betty, but she was a poor housekeeper. On one occasion a neighbor who had run in for a "backdoor" call was horrified to see a mouse run across Aunt Betty's kitchen floor. "Why on earth don't you set a trap, Betty?" she asked. "Well," replied Aunt Betty, "I did have a trap set. But land! It was such a fuss! Those mice kept getting into it!"—Youth's Companion.

High Heels.

The wearing of high-heeled shoes leads to a shortening of the tendo Achillis and contraction of the gastrocnemius. Consequently, when we attempt to persuade women to wear sensible shoes, they meet us with the declaration that low-heeled shoes make them tired and miserable, which is true, because of the shortened tendon. The girl who, from the outset, wears sensible shoes, will never acquire a shortened tendon.—Medical Times.

School Children, By Means of Gardens On Vacant Lots, Can Cut Living Cost

By PROF. P. P. CLAXTON, United States Commissioner of Education



"High cost of living" is on the lips of all people in all cities, towns and suburban communities and manufacturing and mining villages in the United States. For the high cost of living there are many causes. Two of these are the unusual lack of food and the fact that most of the food is consumed far from the place of production, which makes the consumer pay the cost of storage and transportation, and the profits of the middlemen, many of whom, in times like these, take advantage of the wants of the people to make their larger than they should.

Is there a remedy? There is a partial remedy at least, but not in investigations or legislation. This remedy is so simple and so handy that, as is so frequently the case, it is overlooked. In the cities, towns, suburban communities and manufacturing and mining villages of the United States there are approximately 6,000,000 boys and girls between the ages of nine and sixteen. Most of them are idle more than half of the year. They are in school less than 1,000 hours a year, allowing ten hours a day for sleep, are out of school more than 4,000 working hours, more than an average of nine hours a day, not counting Sunday days.

For 4,000,000 of these there is access to back yards, side yards, front yards and vacant lots, which might be cultivated as small gardens for the growth of vegetables and small fruits. Many live where space could be easily had for chickens, ducks or pigeons. And there are not fewer than 6,000,000 older boys and girls and adult men and women for whom an hour or two of work each day in a garden would be the best form of recreation and rest from the routine of their daily labor in office or shop or mill or mine, and who might easily find the time for it.

With some intelligent direction, these school children and older boys and girls and men and women might easily produce on the available land an average of \$75 each in vegetables and fruits for their own tables or for sale in their immediate neighborhood, fresh and crisp through all the growing months and wholesomely canned and preserved for use in winter. This would add \$750,000,000 worth to the best form of food supply of the country without cost of transportation or storage and without profits of middlemen. The estimate is very conservative, as has been shown by many experiments.

Scandinavian Population Big Factor In Progress of Northwestern States

By GOV. J. A. A. BURNQUIST of Minnesota

The people of Scandinavian birth or descent in Minnesota and other Northwestern states are one of the greatest factors in the progress of the section of the United States. They were pioneers in the settlement of the West and they are doing pioneer work in all progressive legislation.

The Scandinavian population to America in large numbers after the close of our Civil war. The majority of the immigrants came to the states in the middle West. They came partly because they thought their opportunities for material advancement were better here than in the old country, but more because they liked the liberty afforded here, because it gave them better opportunities for education and a greater participation in the government.

From the beginning they have taken an active interest in local, state and national government. Wherever they have settled they have quickly established schools and churches. They have given liberal support to our public schools and universities, and in addition have established many academies and colleges of their own.

As voters the Scandinavians in the Northwest have been intelligent and progressive. They have taken the lead in many of the movements which have resulted in reform legislation.

Many progressive measures would have been delayed or have failed entirely had they not had the support of the Scandinavian voters.

Our Scandinavian population is not only interested in making good laws, but in their enforcement. In administrative offices, both state and local, they have usually shown themselves trustworthy and efficient, and in the various communities they have always given their support to officials who endeavor to do right and they have been quick to condemn those who are lax in their duties.

"Hiring and Firing" Causes National Loss of Millions of Dollars Annually

By LOUIS A. COOLIDGE, Chairman of Welfare Department of National Civic Federation

"Hiring and firing" causes a national waste of many millions of dollars a year.

That the problem is now more acute than ever is partly due to the high wages paid by the munition plants, which draw thousands from their regular occupations, thus greatly shortening the supply of labor available to meet the rapidly increasing demand of the ordinary industries. High pay also has permitted many men to take their wives out of the factories, and, in addition, large numbers have been enabled to marry, thus further depleting the ranks of the woman workers.

Another peculiar circumstance is that many workers, especially women, now getting much higher pay, cannot be induced to work full time since they can earn sufficient for their wants by working only part time.

The case of a dye plant in which 1,945 people were hired during the year to keep up a force of about six hundred may be cited.

Formerly the proportion of illiterates among the men in this plant was about 1 per cent; now it is 11½ per cent.

An investigation of twelve typical factories in six different states showed that resignations and hasty dismissals had required the engagement of more than twenty-two thousand new employees within the year and caused a net waste in money of more than \$800,000.

When you consider that it costs anywhere from fifty to two hundred dollars to break in a new man; when you count the damage to tools, machinery and materials, and the slower production of beginners, it should be easy to imagine the millions of dollars lost every year from unnecessary "hiring and firing."

When a man gets in a bunch of fellows and says: "My wife never asks me where I have been when I come home late at night," you may know that either he is a liar or he has no wife.

The minister who preached on the text, "Blessed Are the Uses of Poverty," may be able to comfort the old women, but he is not apt to evoke many amens from the girls.

A deaf and dumb man in the French army has been awarded a number of valor badges, which shows that speech isn't always necessary to greatness.

GOLD STAMPEDE BLOWS UP

Harmon T. Smith of Orofino, Idaho, had a gold rush started the other day that might have rivalled the stampede of 1862 if it had been alive. But on close investigation it blew up, says the Spokane Chronicle.

Smith found a gold nugget the size of a pea in the craw of one of his chickens. Other birds of the same flock were killed. A panning of their interiors revealed several nuggets. Ex-

A Stalled Idealist.

"Pa, what is an idealist?" "An idealist, my boy, is a man who sits in the car longing for the asphalt pavement, while his friends and neighbors are wallowing around in the mud making strenuous efforts to get him out of the ditch."

The Rate.

"I wonder what interest your dog is taking in this cat chase?" "I guess his interest in it is about one burr scent."

pert mining men were advised of the discovery and after a quiet search reported they were unable to find any indications of gold deposits.

It then developed that Smith had been feeding his chickens from sacks which previously were used for shipping gold ore from the Elk City district and tiny nuggets had escaped the vigilance of the men who emptied the ore shipments.

Scared Away.

"My boy was contemplating matrimony, but I frightened him out of it."

"How?" "I told him matrimony was just a synonym of hard work, and you know, he has never looked favorably on anything that resembles toil."

The Excuse.

"They were a long time putting up that monument to the departed." "Still, isn't it an appropriate action to pay a tardy tribute to a late friend?"

A Bull Movement.

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