Description of Krupp's Great Iron Works.

From a Small Beginning They Have Be- sufficient heating, the furnace-doors are pose. come the Most Important in Europe.

One of the largest iron and steel manufacturing establishments in the world is that founded by the late Alfred Krupp, the famous German cannon-founder, whose name is so well known in connection with modern improvements in artillery. His principal works are situated at Essen, in Prussia, in the midst of a district productive of both iron and coal. The town of Essen, which at the beginning of the present century contained less than four thousand inhabitants, has become an important industrial centre, with a population of seventy thousand persons, this increase being chiefly due to the growth of the ironworks, and the consequent demand for labour. In the vicinity of the town, numerous coal and iron mines, many of which are owned by the Krupp firm, are in active working, and furnish employment to the large population of the surrounding district. Much of the output of iron ore and coal from these mines is destined for consumption in the Krupp works within the town. Those works had their origin in a

SMALL IRON FORGE,

established at Essen in the year 1810 by Krupp. The elder Krupp was not prosper-1848 he found there, as he himself has desthan fortnne. Krupp's subsequent career affords a re-

markable instance of success attained, despite adverse circumstances, by sheer force of ability and energy, in building up a colossal manufacturing business from a humble beginning. At the present time, Krupp's works within the town of Essen occupy more than five hundred acres, half of which area is under cover. A census taken in September, 1881, showed that the number of individuals in his employ was then 19,605, and the members of their families 45,776-there being thus

A TOTAL OF 65 381 PERSONS

maintained by his works. Of the army workers, 11,211 were employed at the works in Essen, the remainder being occupied in the many iron and coal mines of the vicinity, or at the branch-works at Sayn and Neuwied; or in the iron mines at Bilbao, in Spain, which produce the best ores. Krupp's Essen works there are eighty-two steam-hammers, ranging in weight from fifty tons down to four hundred pounds. There are 1553 large ovens, 439 steam-boilers, 480 steam-engines-repretwenty-one rolling trains; the daily concubic metres. The electric light has been introduced, and the work ceases entirely only on Sunday and two or three holidays. Connected with the Essen works are fortytwo miles of railway, employing twentyeight locomotives and 883 vehicles. There is a fine chemical laboratory: a photographic and lithographic Atelier; a printing-office, with steam and hand presses; and a bookbinding room.

ment is devoted to the production of arti-

INTENDED FOR PEACEFUL USES.

The various parts of steam-engines, both stationary and locomotive; iron axles, bridges, rails, wheel-tires, switches, springs, shafts for steamers, mint-dies, rudders, and parts of all varieties of iron machinery, are prepared here for manufacturers. The production is, in Dominie Sampson's phrase, "prodigious." In one day the works can turn out 2700 rails, 350 wheel-tires, 150 axles 180 railway-wheels, 10000 railway-wedges, 1500 bomb-shells. In a month they can produce 250 field-pieces, thirty 5.7-inch cannon; fifteen 9.33-inch cannon, eight 11-inch cannon, one 14-inch gun, the weight of the lastnamed being over fifty tons, and its length twenty-eight feet seven inches. Alfred Krupp devoted much attention to

the production of steel of the finest quality, and was the first manufacturer who succeeded in casting steel in large masses. In 1862 he exhibited in London an ingot of finest crucible steel weighing twenty-one tons. Its dimensions were nine feet high by forty-four inches diameter. The uniformity of quality of this mass of metal was proved by the fact that when broken across it

SHOWED NO SEAM OR FLAW,

seventy-five tons weight if required. Such ica. ingots are formed from the contents of a great number of small crucibles, each containing from fifty to one hundred pounds of the metal. The recent developments of the manufacture of steel by the open-hearth process have removed all difficulty in procuring the metal, and of a tensile strength the square inch. Crucible steel, however, though more expensive, still holds its place as the best and most reliable that can be produced; and nothing else is ever used in the fected methods in use at the Essen works, such steel can be made of a tensile strength of nearly forty tons to the square inch, and best steel are red hematite and spathic ore, ture of plumbago and fireclay, shaped by a mould into a cylindrical jar some eighteen inches in height, and baked in a kiln. When in use, they are filled with

SMALL BARS OF PUDDLED METAL,

opened simultaneously at a given signal, and the attendant workmen draw out the | manufacture have been on crucibles with long tongs, and rapidly empty them into the pits prepared for the recep tion of the metal. The empty crucibles when cooled are examined, and if found unbroken, are used again; but if damaged, as is usually the case, are ground up, to be utilised in making new ones.

The production of steel by this method furnishes employment for eight or nine hundred men daily in the Krupp works. The Bessemer process for converting iron and steel is also largely used there in making steel for certain purposes. All material used in the different classes of manufactures is subjected at every stage to

EXTREME AND EXACT TESTS;

the standards being fixed with reference to the purpose to which the metal is to be applied, and any material that proves faulty when suitably tested is rigorously reject-

The guns originally munufactured by the Krupp firm were formed from solid ingots has made guns of one hundred and nineteen as she went into the kitchen. "I forgot it, vessels, the Britannic and Germanic, of fashioned as in the case of cast-iron smoothbore cannon. With the development of the power of artillery, the greater strain Frederick Krupp, the father of Alfred caused by the increased powder-charges and by the adoption of rifling-involving enous; and a lawsuit in which he became in- hanced friction between the projectile and volved, and which lasted for ten years the bore-had the result of demonstrating made at Elswick Amongst the class though finally decided in his favour, reduc- the weakness inherent in the construction | monster cannon, one of the most powerful ed him nearly to bankruptcy. He died in of a gun thus made entirely from one solid is Krupp's seventy-one-ton gun. This, like 1826, in impoverished circumstances, leav- forging, and that plan was eventually dis- all others of his make, is a breech-loader. ing a widow and three sons, the eldest of carded. Artillerists have learnt that the Its dimensions are-length, thirty-two feet whom was Alfred, aged fourteen. The strain produced by an explosive force oper- nine inches; diameter at breech end, five business was continued by the widow, who ating in the interior of a carnon is not feet six inches; length of bore, twentymanaged, though with difficulty, to procure felt equally throughout the thick- eight feet seven inches; diameter of a good education for her sons. When the ness of the metal from the bore bore, 15.75 inches; diameter of powereldest, Alfred, took control of the works in to the exterior, but varies inverse- chamber 17.32 inches. The internal tube is ly as the square of the distance of each of two parts, exactly joined; and over this cribed, 'three workmen, and more debts portion of the metal from the seat of are four cylinders, shrunk on, and a ring effort. For example, in a gun cast solid, if 'around the breech. Its rifling has a uniform two points be taken, one at a distance of one 'twist of one in forty-five. It cannot posinch from the bore, and the other four inches sibly be fired until the breech is perfectly from the bore, the metal at the former point | closed. Its maximum charge is four hundred and eighty-five pounds of powder, and a will during the explosion be strained chilled iron shell of seventeen hundred and

SIXTEEN TIMES AS MUCH

as that at the distance of four inches. The greater the thickness of the material, the greater will be the inequality between the strains acting at the points respectively nearly nearest to and furthest from the interior. The metal nearest the seat of explosion may thus be strained beyond its tensile strength, while that more remote is in imperfect accord with it. In such a case, disruption of the metal at the inner surface ensues, and extends successively through the whole thickness to the exterior, thus entailing the destruction of the gun.

This source of weakness is guarded against by the construction of what is termed the built-up gun, in which the several parts tend to mutual sup-

port. This gun consists of an inner tube, families. encircled and compressed by a long "Jacksenting together 18,500 horse-power—and et" or cylinder, which is shrunk around the pitals, bathing establishments, a gymnasium, breech portion with the initial tension due an unsectarian free school, and six industrial sumption of coal and coke being 31000 tons to contraction in cooling. Over the Jacket schools—one for adults, two for females. by 1648 furnaces. The average daily con- and along the chase, other hoops or cylinders In the case of the industrial schools, the sumption of water, which is brought from are shrunk on successively, in layers, with fees are about two shillings monthly, but the river Ruhr by an aqueduct, is 24,700 sufficient tension to compress the parts en- the poorest are admitted free. A Sick Reclosed. The number and strength of these lief and Pensions Fund has been instituted hoops are proportionate to the known strain and every foreman and workman is obliged that the bore of the gun will have to sus- to be a member. The entrance fee is half a tain. The tension at which each part is day's pay, the annual payment being proporshrunk on, is the greater as the part is tioned to the wages of the individual memfarther removed from the inner tube; the ber; but half of each person's contribution jacket, for example, being shrunk on at less is paid by the firm. There are three large tension than the outer hoops. The inner surgeries; and skilful physicians and surgeons, tube, on receiving the expansive force of one of whom is an oculist, are employed at the explosion, is prevented by the comprest fixed salaries. For a small additional fee Though, in the popular mind, the name of sion of the jacket from being forced up to its each member can also secure free medical Krupp is usually associated with the manu- elastic limit; and the jacket in its turn is aid for his wife and children. The advanfacture of instruments of destruction, yet similarly supported by the outer hoops; tages to members are two-thirds of the work done in his establish- and on the cessation of the external pressure the several parts

RESUME THEIR NORMAL POSITION.

Sir. W. Armstrong, and carried into effect lings monthly. for a series of years at Woolwich and at the metal. The want of homogeneity in this needing assistance to pay their premiums. gun was, however, a serious defect, and ul- An important institution in Essen is a timately led to its abolition. The difference in the elastic properties of the two metals caused a separation, after repeated discharges, between the steel tube and its jacket, with the result that the tube cracked from want of support. Both at Woolwich and at Elswick, therefore the wrought-iron gun has given place to the homogeneous steel built-up gun, which is also the form of coneven when examined with a lens. The firm struction adopted by the chief powers of can now make such homogeneous blocks of Europe and by the United States of Amer-

The failure of some of his solid-cast guns led Krupp, about 1865, to the adoption of

THE BUILT-UP PRINCIPLE. With few exceptions, the inner tube of Krupp gun is forged out of a single ingot, it, and is preserved with the greatest care. and in every case without any weld. The so high as thirty-three to thirty-seven tons to ingot destined to form the tube has first to tributed among his workmen, each copy undergo a prolonged forging under the bearing the following inscription, dated steam-hammers, by which the utmost condensation of its particles is effected. It is then rough-bored and turned, and subseconstruction of a Krupp gun. By the per-quently carefully tempered in oil, whereby may ever know such struggles as have been its elasticity and tensile strength are much required for the establishment of these works. increased. It is afterwards fine-bored and rifled, and its powder-chamber hollowed out. of marvellous uniformity of quality. The ores used in the Krupp works for making the than the rest of the bore, this having been fully—rewarded the exertions, fidelity, and covers its body entirely, even down to the found an improvement. The grooves of perseverance of the past. May this example tips of its huge claws. with a certain proportion of ferro-manganese, the rifling are generally shallow, and encourage others who are in difficulties ! The crucibles employed are formed of a mix. they widen towards the breech, so May it increase respect for small houses, George Bancroft, the distinguished histhat the leaden coat of the project and sympathy for the larger sorrows they torian, has come to his ninetieth birthday tile is compressed gradually and with too often contain. The object of labour with a gradual loss of physical strength and the least friction. The jacket and should be the common weal. If work bring powers of memory, but still a remarkably hoops of steel are forged and rolled, with- blessing, then is labour prayer. May well preserved body and mind for one so old. out weld, and after being turned and temper- every one in our community, from the He continues his reading and interest in ed, are heated and shrunk around the tube highest to the lowest, thoughtfully and wise leading events of the day, and is not in any

are elevated three or four feet above the sion exerts the utmost strain. The complet- Krupp died 14th July, 1887. ground-level. In the earthen floor of the im- ed gun is mounted on its appropriate carmense room containing the furnaces are riage and having been thoroughly proved two lines of pits, one set to receive the mol- and tested and fitted with the proper sights, ten metal, the other intended for the red is ready for service. The testing range is at hot crucibles when emptied of their con- | Meppen, where a level plain several miles tents. When the crucibles have undergone in extent affords a suitable site for the pur-

For many years all guns of the Krupp

THE BREECH-LOADING SYSTEM and he has devoted much time and ingenuity that newspaper story. I expect it'll go its history since 1875. We have chosen that to perfecting the breech arrangements. The subject of recoil has also largely occupied his attention. In the larger Krupp guns the force of recoil is absorbed by two cylinders, filled with glycerine and fitted pistons perforated at the edges. The pistons are driven by the shock of the recoil against the glycerine, which is forced through the perforations. In England a similar arrrangement of cylinders, containing water as the resisting medium, has been found effective; and in America, petroleum is employed for the same purpose. The advantages of the use of glycerine are that in again. case of a leak it would escape too slowly to lose its effect at once, and it is also more elastic than water, and is less liable to become frozen.

are equal to the production of guns of any size that can conceivably be required. He tons weight, and is said to be now making dear." one of one hundred and forty tons. The portentous development of the size and He hadn't called her "dear" for about eleven of Berlin, a vessel slightly larger and somepower of modern ordnance is exemplified by years. these guns, and the Armstrong guns of

ONE HUNDRED AND ELEVEN TONS

Krupp did much to promote the welfare and comfort of his workpeople. For their accommodation, he erected around Essen

eight pounds.

FOUR THOUSAND FAMILY DWELLINGS,

in which more then sixteen thousand persons reside. The dwellings are in suites of three or four comfortable rooms, with good water-arrangements; and attached to each building is a garden, large enough for the children toplay in. There are one hundred and fifty dwellings of a better kind for offi cials in the service of the firm. Boardinghouses have also been built for the use of unmarried labourers, of whom two thousand are thus accommodated. Several churches, Protestantand Catholic have also been erected for the use of his workmen and their

There have also been provided two hos-

FREE MEDICAL OR SURGICAL TREATMENT

funeral expenses at death, pensions to men business to attend to at your office there This system of construction originated in who have been permanently disabled by in- will be plenty time for you to go do it first steel guns on this principle were those to widows of members, and temporary supdesigned by Captain Blakely and Mr. J. Va. port to men who are certified by two of the vasseur, of the London Ordnance Works. physicans as unable to work. The highest hen!" shouted Mr. Diltz, beside himself At the Exhibition of 1862, a Blakely 8.5-inch | pension to men is five pounds monthly, the | with rage. gun, on the built-up system, composed average being about two pounds sixteen wholly of steel, was a feature of interest in | shillings monthly. The average pension to the Ordnance section. The plan devised by | widows is about one pound fourteen shil-

The firm have made special arrangements Armstrong works at Elswick, consisted in with a number of life-insurance companies his office, muttering excitedly to himself time she improved on herself, and when at enclosing a tube of steel within a jacket of whereby the workmen can, if they choose, wrought-iron, formed by coiling a red-hot bar | insure their lives at low rates. They have round a mandrel. The jacket was shrunk formed a Life insurance Union, and endowed along. on with initial tension, and was fortified in it with a reserve fund of three thousand a similar manner by outer hoops of the same pounds, from which aid is given to members

GREAT CENTRAL SUPPLY STORE,

established and owned by the firm, where arcicles of every description-bread, meat, and other provisions, clothing, furniture, &c .- are sold on a rigidly cash system at cost price. Connected with the Central Store are twenty-seven branch shops, in positions convenient for the workpeople, placing the advantages of the system within the easy reach of all.

The original name, "Frederick Krupp. has been retained through all vicissitudes of fortune as the business title of the firm. The small dwelling in which Alfred Krupp was born is still standing, in the midst of the huge workshops that have grown up around At his expense, photographs of it were dis-Essen, February, 1873: "Fifty years ago this primitive dwelling was the abode of my parents. I hope that no one of our labourers Twenty-five years ago that

SUCCESS WAS STILL DOUBTFUL mixed with fragments of marble brought in their several positions, the greatest ly strive to secure and build his prosperity sense "on the shelf.

from Villmar, on the Lahn. They are then strength and thickness being of course given on this principle! When that is done, then shovelied into large furnaces, whose floors to the breech end, where the force of explo- will my greatest desire be realised." Alfred

Courting His Wife.

" I'll do it !" Polhemus Diltz laid down the paper he was reading, put his nose-glasses back in his pocket, took his hat and overcoat down from their hook and started home.

"I'll do it !" he repeated to himself as he pretty tough," he reflected, throwing away year for a beginning because we have been his cigar and wiping his mouth carefully as able to complete a table of record voyages he approached his home. "I've been a good since that date, but in a future article we deal of a rhinoceros about the house, and it's may give some account of the struggles bea hard thing to break off old habits all at tween the Collins and Cunard liners, who once, but I'm going to give it a trial if it fought as keenly for the "blue ribbon of the takes the hide off.

Mr. Diltz entered the house, hung his hat adays. and overcoat in the hall instead of throwing them down in a heap on the sofa in his usual put on his best necktie, combed his hair

are you, dear ?"

The resources of Krupp's establishment chocolate I told you not to forget when you accommodation and speed. At this time, went down-town this morning ?"

it. What are you up to now?" movement on the part of Mr. Diltz.

good."

the matter for a little while. "Mary Jane," he said, "my dear-"

"What are you all slicked up for anynow? Going anywhere?"

"No, love. I expect to spend the rest of the day at home. I came an hour or two earlier, thinking——" "I wish you had brought that chocolate

That's what I wish." "Darling," said Mr. Diltz, "I-that's no

house? What are you snooping around out here for anyhow, with your hair all plastered down and that smirk on your face?" "My dearest Mary Jane, I-"

trying to work now?"

to get along with?"

"Not at all, Mary Jane; not at all. I gether more comfortably, you know, if the vibration caused by modern high speeds. er-if we'd quit this quarreling and be

"Who says we act like cats and dogs, I'd like to know? Look here, Polhemus! You've been drinking." "It's a blamed l-now, Mary Jane, don't

you give way to that temper of yours !" "Who started this fuss?" "You did."

"1 didn't. You did yourself." " I didn't!"

"You did !"

"You know better."

"Tell your wife she lies, do you? Well, any help on this chicken."

"Dad-swizzle its everlasting gol-dinged

carcass !" He went out of the kitchen, slamming

idea of courting his wife, but he has register- hours and the westward by ten hours. She ed a castiron vow never to undertake the was the first to cross in under seven days, a job again when she is antagonizing a chicken.

A Big Owl.

neighborhood of Stainburn Moor, about two concerned about a strange tird. The genit was an eagle. On various occasions sportsmen and others have tried to get within range of the huge bird, but this was not accomplished until the other evening, when William Bacon, gamekeeper to Mr. Gordon gunshot and fired. A few stray pellets ed. struck the wing of the bird and broke it, and after a desperate attempt to keep flying the creature fell to the ground.

The gamekeeper's retriever rushed up to the quarry. With one blow of its immense claw, the bird split open the dog's nose and severely lacerated the side of its head. The dog, however, stuck to the bird till the keeper arrived. After a severe struggle the the bird yielded, and it can now be seen alive at the keeper's house. It has turned out to be a monster moss owl. It measures 3 feet 6 inches from tip to tip of the wings; head, body and legs are in proportion. Its

FAST ATLANTIC PASSAGES

Increase in Speed in the Last Sixteen Years.

The Era Opened by the Britannie, Germanic, and City of Berlin-the Feats

Accomplished by the Alaska. At the opening of a new passenger season walked along. "I'll court my wife as if she | the history of the "Atlantic record" becomes were a girl again, the way the fellow did in a matter of interest, and we propose to trace

Atlantic" as the modern greyhounds do now-

Beginning, then, in 1875, we find that the task set before the shipowners and shipfashion. Then he went on tip-toe upstairs, builders of that date who desired to attempt a record was a comparatively easy one. carefully and came softly down the stairs Sixteen years ago something just under eight days on a westward voyage would be suffi-"Mary Jane!" he called out. "Where cient to do this, and up to that date vessels of under 4,000 tons gross register and of "Out here," answered a voice in the kit- 3,000 indicated horse power had done everychen. "Did you bring that package of thing that was required both in point of however, a distinct step forward was made. "Why no," said Mr. Diltz, regretfully, The White Star line brought out two new 5,000 tons each and of about 5,000 horse Mrs. Diltz looked at him suspiciously. power, while the Inman Line had the City what more powerful. During her first nine "You forgot it? Humph! I just expected voyages the Britannic was handicapped by an experimental device for raising and This query, somewhat sharply uttered, lowering her screw, which eventually provwas prompted by an unexpected forward ed a failure and had to be taken out. As long as this remained she was a comparative "Don't you see I'm cleaning this chick- failure in point of speed. The Germanic, en?" she exclaimed. "Look out! You'll however, reduced the westward passage to make me cut myself. I'm working at the under eight days in July, 1875, and on her gizzard. A man has no business poking fifth voyage the City of Berlin lowered the round in the kitchen when he can't do any record both ways ; on her outward voyage she took the substantial time of 5 hours 5 Mr. Diltz stepped back. He had intended | minutes from the Germanic's performance. to kiss his wife, but concluded to postpone | The latter responded in the following February by reducing the eastward passage by 12 minutes, and then the Britannic, fresh from her alterations, brought the eastward passage, in December, 1876, to 7 days 12 hours and 41 minutes, and then westward to 7 days 10 hours 53 minutes in August,

These performances of the Britannic marked the crest of a wave, and nothing approached them until the racers, built in the way to go to work at a chicken gizzard. Let famous Fairfield yard of Messrs. John Elder & Co., appeared on the scene. In 1879 the "Maybe you know more about this kind | Arizona, the first of these ships, appeared. of work than I do. Maybe I haven't cleaned | She was only slightly larger than the Brihundreds of chickens since I've been keeping tannic, being 5,147 tons gross register, against 5,004, but she indicated 6,630 horse power on her trial, whereas the older boat's horse power was not quite an indicated horse power to a ton gross register. On her first "Polhemus," broke in his wife, laying voyage the Arizona gave proof of her mettle down the portion of the fowl's anatomy she | by lowering the westward record nearly four had been dissecting and looking at him hours, and before she was outrun by her keenly, "What on earth is the object of | newersister the Alaska she had reduced the this palavering? What new dodge are you outward passage to 7days 7 hours 48 minutes, and the home ward to 7 days 7 hours 36 "Why, Mary Jane, I've made up my minutes. It must be noted also that in the mind to try to get along with you in a Arizona the principle of three cranks set at angles of 120 degrees was introduced, a prin-"To get along with me? What do you ciple adopted in all later vessels both by her mean? Do you tell me to my face I'm hard own and other builders, and one which has largely conduced both to the wear of the engines and to the comfort of passengers, was only going to say that we might live to- owing to the extent to which it has reduced

But the year 1881 was remarkable not sociable, you know, as we used to be. only for the appearance of the Alaska. It There's no need of us acting like cats and was the year which saw the first voyages of the two large vessels the Servia and the City of Rome. Though these two vessels never have the opportunity of making record voyages, thanks to the alacrity with which the Alaska cut, if the expression be allowed, the ground from under their feet, they were in many respects most noteworthy vessels. The City of Rome, of 8,415 tons gross, was the largest vessel engaged in the Atlantic trade until the introduction of the recent twin-screw vessels, while the Servia, herself of no mean size, being 7,392 tons gross, was the first mail steamer in the New York trade in case of need, payment from the fund of it isn't the first time. If you have any to be built of steel. This year also saw the inauguration of the North German Lloyd express service from Bremen, via South-England, and is now in general use. The juries while engaged in the works, pensions before supper. I'll get along. I don't need ampton to New-York, the Elbe, built also at Fairfield, making her maiden voyage in "Diddledy dad-swing the dag-gone old June, 1881, but beyond mentioning the fact to show how universally ship builders and owners were on the alert in that year, we cannot now refer to any but the fastest vessels of their time.

The Alaska began gradually. She broke the door behind him, and in less than a the homeward record by less than an hour quarter of a minute was on his way back to on her third eastward voyage, but time after and crushing the inoffensive sidewalk hard last a fleeter vessel-though built by the beneath his vindictive heel as he strode same builders for her own owners-displaced her from the foremost position, she had Mr. Diltz has not entirely given up the reduced the eastward voyage by thirteen feat which she first accomplished in 1882. In the case of the Alaska, however, the cost of speed began to tell. She was 6,932 tons For over a fortnight people living in the gross register. She had no trial trip, but her estimated horse power is 11,000, about 1.58 miles from Workington, have been much indicated horse power to each ton gross, against 1 indicated horse power to each tor eral impression of all who saw it was that gross in the Britannic, while her consumption is said to be 253 tons per diem, against 96 tons in the Britannic. The speed of the Alaska was about 174 knots, against a fraction under 16 knots in the Britannic, so that it became apparent as long ago as 1882 at what Falcon of Stainburn, managed to get within a cost these higher speeds were to be obtain-

The Ballad of the Bowmen.

What of the bow? The bow was made in England Of true wood, of yew wood The wood of English bows So men who are free Love the old yew-tree And the land where the yew-tree grows.

What of the cord ? The cord was made in England : A rough cord, a tough cord, A cord that bowmen love; So we'll drain our jacks To the English flax And the land where the hemp was wove.

What of the shaft? The shaft was cut in England: A long shaft, a strong shaft, Barbed and trim and true ; So we'll drink all together And the land where the gray goose flew.

What of the men?
The men were bred in England: The bowmen—the yeomen— Here s to you—and to you!

And the land where the true hearts dwell.