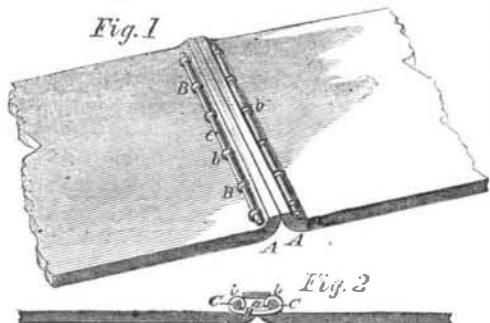


BLAKE'S IMPROVED BELT-FASTENER.

The field for invention is being constantly enlarged, not only by the increased demand for machinery resulting from the growth of the country in population and wealth, but also from the fact that all this increase in machinery makes improvements in articles of general use in machines of greater value. This is strikingly shown in a simple little incident of mechanical operations—the fastening together of the ends of belts. Notwithstanding all the inventions which have been made in this department, a belt-fastener that should be decidedly superior to all others would yield, even now, as great a fortune as any one need to wish; and the very one illustrated in the annexed cut is, for ought we know to the contrary, one of this character.



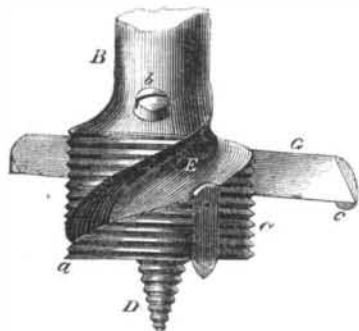
This invention is so simple and so clearly shown in the engraving as hardly to require any description. A series of slits are made through the two pieces, A A, of the belt to be joined near their ends, and rods, B B, of small wire, with loops, *b b*, at their ends, are passed through these slits. The wire rods, C C, being run through these loops, complete the joint. The following advantages for these fasteners are claimed by the inventor, G. W. Blake:—“1. They can and will be afforded to those wishing to use them at less cost than the lacing, and can be applied to the splicing of belts in much less time than by lacing. 2. As they do not come in contact with the pulley, they will last to an indefinite time, and do not make a noise in passing over the iron pulley. 3. They are not liable to injure the hands of the workman in shipping them upon the cone pulleys used in machinery. 4. One inch in width of belt, with three links and one rod of No. 15 wire gage, will sustain more than 400 lbs., while 30 to 40 lbs. per inch are as much as is usually subjected; this fact shows that the joints are strong.”

The patent for the invention was procured, through the Scientific American Patent Agency, April 24, 1860, and any further information in relation to it may be obtained by addressing L. W. Blake & Sons, at East Pepperell, Mass.

BLAKE'S PATENT AUGER.

The annexed cut represents an improved auger invented by James Blake, particularly adapted to boring large sized holes.

Upon the spindle, B, of the auger is made the enlarged head, C, terminating in the screw-point, D. Through this enlarged head is made the spiral groove, E, ending in the radial cutting edge, *a*. A sharp cutter, *f*, is secured to the periphery of the enlarged head, and screw-



threads are cut in its surface. In a triangular slot in the head, C, is secured, by a set screw, the knife, G, which has a horizontal edge, and carries at its end the enlargement, *c*, which is ground to a vertical edge.

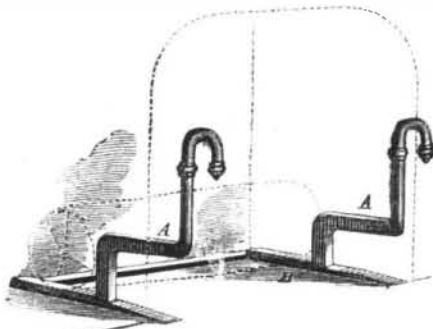
As the auger enters the wood, it cuts first a hole of the size of the enlarged head, C, passing the chips up through the spiral groove, E. When the knife, G, reaches the wood it cuts a hole, the radius of which is equal to the distance of the lip, *c*, from the center of

the auger. As this difference may be varied by sliding the knife, G, in its slot, the size of the hole may be regulated at pleasure. The thread on the head, C, draws the auger inward and feeds it to its work, and this head holds the auger securely in the center of the hole—both important features in this invention. Several knives, G, of different lengths may be provided for each auger, and thus it may be adapted to cutting holes of any size through a wide range.

The patent for this invention was granted, through the Scientific American Patent Agency, April 17, 1860, and any further information in relation to it may be obtained by addressing L. W. Blake & Sons, at East Pepperell, Mass.

IMPROVED ANDIRON.

The blessings of advancing civilization are almost all purchased at the expense of considerable sacrifices; the great law of compensation everywhere manifesting its presence. The neat, combined and brilliant gaslight has been declared, by an eminent oculist, as the most powerful cause of diseases of the eye; the abundant supply of that most necessary element, water, in its course through the lead pipes which conduct it to our dwellings, washes off particles of metal which, slowly accumulating in the system, produce a frightful train of maladies—colic, paralysis, neuralgia—which are embraced in the general term of “lead poison.” So numerous are the evils and annoyances resulting from the “conveniences” of modern luxury, that there was a universal assent to the position assumed by a popular preacher who described a first-class house as eminently “a means of grace.” Of all modern inventions, the one which is attended with the greatest drawbacks is the stove. The man who can command the good, old-fashioned sparkling fire of oak or hickory wood, blazing in the open fire-place, filling the room



with its cheerful light, pervading with health every fiber of his frame and planting roses in the cheeks of his daughters, may well dispense with all the luxuries of civic life, and has no occasion to envy the citizen whose lungs are filled with the foul air of a stove or furnace, and whose sallow complexion and unhealthy appearance tells the sure story of inward disease of stomach or liver. We envy those sections of the country in which andirons are in such general use that improvements in them are deemed worth patenting.

In the plan illustrated in the annexed cut, the andirons, A A, are welded to the rectangular bar, B, which rests upon the hearth, making the whole in one piece. The ends of the bar, which project forward, are flattened, as shown, so as to be out of the way as much as possible. Any desired modifications of the form, either of the andirons or base, may be made to suit the taste or convenience of those who use them; the patent being for the general plan here shown.

The inventor says:—“The advantages of this improvement, over all others, I claim to be the following: 1. There is no front foot or feet to them, which adds to their appearance, as I conceive, and the front is more easily kept clean and polished. 2. There being no feet to obstruct, the heat from the fire is thrown out in every direction. 3. By this arrangement the irons are always in place, and are not falling over while the process of building a fire is going on, as the old-arranged irons are apt to do; for, of themselves, these stand very firm and steady, and then the “back-log” lying on the bottom plate holds them still more secure. 4. There is no obstruction to the free use of the broom, and the hearth around the fire can be kept very neat. 5. The ashes can be removed from the fire-place without removing the irons. 6. The cost is less, perhaps, than on any of the old plans, requiring less brass and less work to make the front, and no more to construct the other part.”

The patent for this invention was procured (through the Scientific American Patent Agency), on March 27, 1860; and further information in relation to it may be obtained by addressing the inventor, John B. Logan, at Blountsville, Tenn.

AN INVENTOR'S EXPERIENCE IN PROCURING AN ENGLISH PATENT.

Dickens, in his own peculiar way, thus relates the “circumlocution” experience of an inventor in attempting to procure an English patent:—“When the Christmas holidays were over, I went up to London by the parliamentary train, and hired a lodging for one week from Thomas Joy. He informed me that the first step to be taken in patenting the invention was to prepare a petition unto Queen Victoria. A declaration before a Master in Chancery was to be added to it. These we likewise drew up. After a deal of trouble I found out a Master in Southampton Buildings, Chancery Lane, nigh Temple Bar, where I made the declaration, and paid eighteenpence. I was told to take the declaration and petition to the Home Office, in Whitehall, where I left it to be signed by the Home Secretary (after I had found the office out), and where I paid two pound two, and sixpence. In six days he signed it, and I was told to take it to the Attorney-General's chambers, and leave it there for a report. I did so, and paid four pound, four. Note:—Nobody (all through) over-thankful for their money, but all uncivil.

“My lodging at Thomas Joy's was now hired for another week, whereof five days were gone. The Attorney-General made what they called a ‘Report-of-course’ (my invention being unopposed) and I was sent back with it to the Home Office. They made a Copy of it, which was called ‘a Warrant.’ For this warrant, I paid seven pound, thirteen, and six. It was sent to the Queen, to sign. The Queen sent it back, signed. The Home Secretary signed it again. The gentleman threw it at me when I called, and said, ‘Now take it to the Patent Office in Lincoln's Inn.’ I was then in my third week at Thomas Joy's, living very sparing, on account of fees. I found myself losing heart.

“At the Patent Office in Lincoln's Inn, they made ‘a draft of the Queen's bill,’ of my invention, and ‘a docket of the bill.’ I paid five pound, ten and six, for this. They ‘engrossed two copies of the bill; one for the Signet Office and one for the Privy-Seal Office.’ I paid one pound, seven and six, for this. Stamp duty, over and above, three pound. The Engrossing Clerk of the same office engrossed the Queen's bill for signature. I paid him one pound, one. Stamp duty again, one pound, ten. I was next to take the Queen's bill to the Attorney-General, and get it signed again. I took it and paid five pound more. I fetched it away, and took it to the Home Secretary again. He sent it to the Queen again. She signed it again. I paid seven pound, thirteen, six, and more, for this. I had been over a month at Thomas Joy's. I was quite wore out—patience and pocket.

“But I had'nigh done yet. The Queen's bill was to be took to the Signet Office in Somerset House, Strand—were the stamp shop is. The Clerk of the Signet, made ‘a Signet bill for the Lord Keeper of the Privy Seal.’ I paid him four pound, seven. The Clerk of the Lord Keeper of the Privy Seal made ‘a Privy-Seal bill for the Lord Chancellor.’ I paid him four pound, two. The Privy-Seal bill was handed over to the Clerk of the Patents, who engrossed the aforesaid. I paid him five pound, seventeen and eight; at the same time I paid Stamp duty for the Patent, in one lump, thirty pound. I next paid for ‘boxes for the Patent,’ nine and sixpence. Note:—Thomas Joy would have made the same, at a profit, for eighteenpence. I next paid ‘fees to the Deputy, the Lord Chancellor's Pursuivant,’ two pound, two. I next paid ‘fees to the Clerk of the Hanaper,’ seven pound, thirteen. I next paid ‘fees to the Deputy Clerk of the Hanaper,’ ten shillings. I next paid to the Lord Chancellor again, one pound, eleven, and six. Last of all, I paid ‘fees to the Deputy Sealer, and Deputy Chaff-wax,’ ten shillings and sixpence. I had lodged at Thomas Joy's for over six weeks, and the unopposed Patent for my invention, for England, had cost me ninety-six pound, seven, and eight pence. In addition to this expense I say nothing about being tired of my life while I was patenting my invention.”