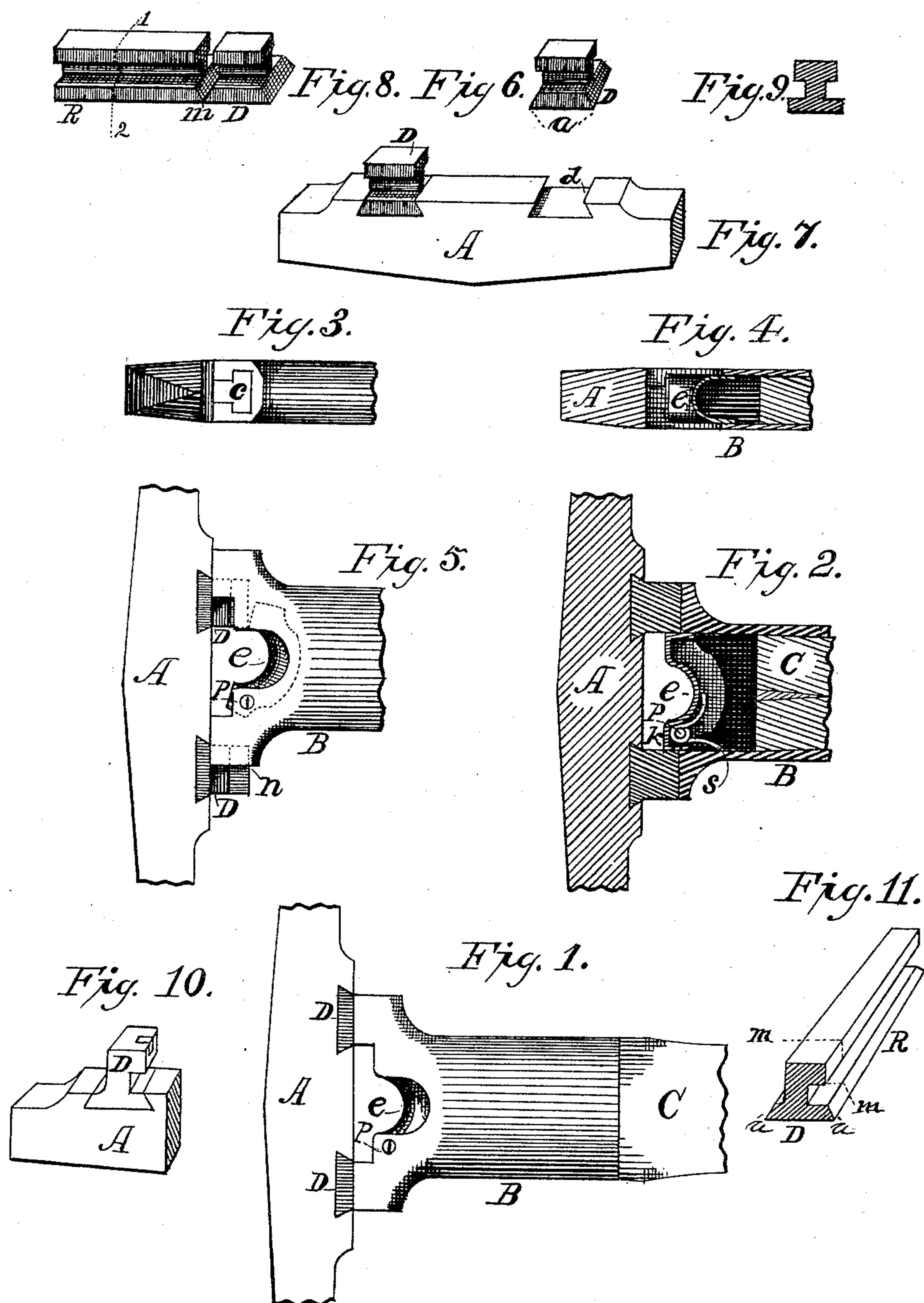


(No Model.)

A. E. FRANCIS.  
PICK.

No. 461,881.

Patented Oct. 27, 1891.



Witnesses.  
J. S. Francis.  
W. M. Francis

Inventor.  
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# UNITED STATES PATENT OFFICE.

ALLAN E. FRANCIS, OF CLEVELAND, OHIO.

## PICK.

SPECIFICATION forming part of Letters Patent No. 461,881, dated October 27, 1891.

Application filed December 8, 1890. Serial No. 373,856. (No model.)

*To all whom it may concern:*

Be it known that I, ALLAN E. FRANCIS, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented a new and useful Pick, of which the following is a specification.

My invention relates to picks such as are used in mines for loosening and breaking up coal and ores and as a useful tool elsewhere in loosening clay, earth, stone, &c.; and it consists of improvements on inventions for which applications for United States patents were filed October 11, 1890, Serial No. 367,884, and October 27, 1890, Serial No. 369,336.

The objects of my improvements are, first, to provide lugs for securing the pick-head to the socket, made of strong and practically non-corrodible metal, preferably of aluminum or its alloys. Lugs formed of iron and being a part of the pick-head, as those shown by the drawings in above-named applications and reproduced here, are not only liable to become too rough for use by being badly corroded when left in damp places, but when formed with the grain of the iron are apt to be weakened by flaws and if broken render the head useless. To obviate these difficulties the lug hereinafter described is supposed complete. Second, to provide a more useful latch for locking the pick-head to the socket than that shown in application above named and numbered 369,336, which requires a longer socket than that shown to get sufficient length of sliding surface to allow the latch to act freely without catching at the ends and becoming wedged in its bearings. It is thought that this difficulty is fully overcome by the latch and its bearing shown and described in these presents.

In the accompanying drawings, Figure 1 is a side elevation of a pick with head in vertical position, the point and handle being cut away to allow larger scale, showing the above-mentioned lugs and latch in their respective places. Fig. 2 is a sectional view of Fig. 1

cut longitudinally and vertically on the median line. Fig. 3 is a side elevation with head in horizontal position. Fig. 4 is a sectional view of Fig. 3, cutting it in halves at right angles to Fig. 2. Fig. 5 shows mode of detaching the head from the socket, (seen started at *n*,) the broken lines showing position of latch *e* with reference to the lugs in the operation. Figs. 6, 7, and 10 are perspective views showing improved lugs and mode of attaching same to head. Figs. 8 and 11 show rolled bars of metal and way of forming lugs therefrom. Fig. 9 is a section of R, Fig. 8, on line 1 and 2.

D shows a lug made by rolling suitable metal into bars R, with tongue formed to fit grooves in socket. From these bars the lugs are milled or cut, as shown at *m*, the dovetail being rolled or milled, as shown at *a*. Head A being counter-milled at *d*, lug D is driven into cavity *d* with force enough to hold it permanently. The new form of latch is shown by *e*, and *p* its bearing. Latch *e* is hinged at *p*, its free end swinging to clear lug in act of detaching the pick-head, as shown by broken lines in Fig. 5. When released, latch *e* is thrown back into position by spring S against stop formed by edge of socket-lugs at *k*, thus forming a latch with free action.

What I do claim as my invention, and desire to secure by Letters Patent, is—

A pick-head provided with two dovetailed lugs made and inserted substantially as shown, having tongues for corresponding grooves in the socket, and a socket provided with grooves for the tongues on the lugs so attached, the socket when engaged with the lugs being locked in position by the latch *e*, hinged at *p*, and engaging with lugs D and the sides of the socket, as set forth.

ALLAN E. FRANCIS.

Witnesses:

JENNY L. FRANCIS,  
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