

FRIEDRICH YAESCHE'S IMPROVED BRAKE FOR BENDING SHEET METAL.

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PATENTED AUG 15 1871

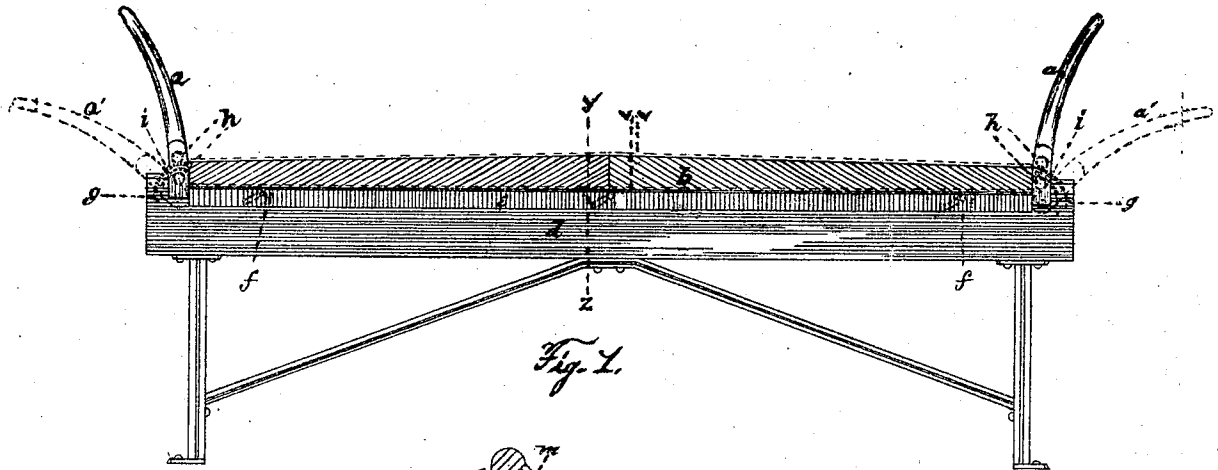


Fig. 1.

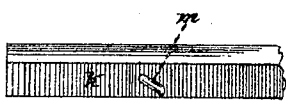


Fig. 8.

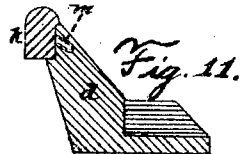


Fig. 11.



Fig. 9.



Fig. 10.

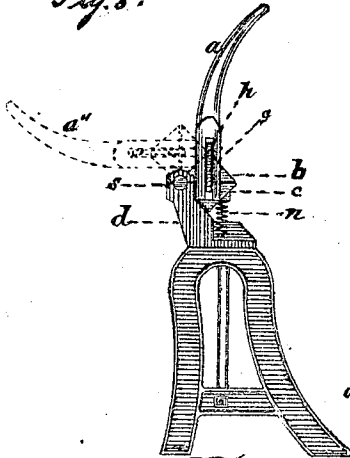


Fig. 2.

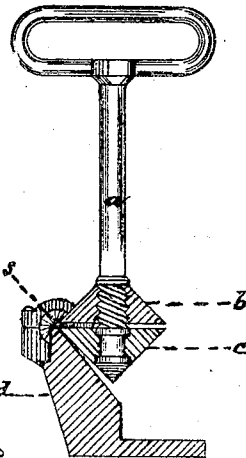


Fig. 5.

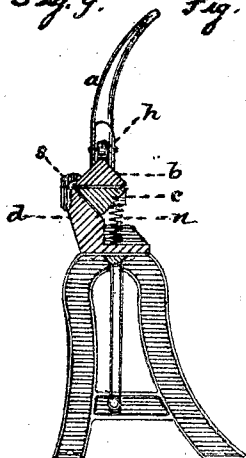


Fig. 3.

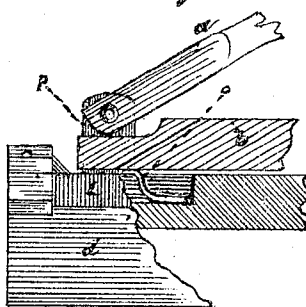


Fig. 6.

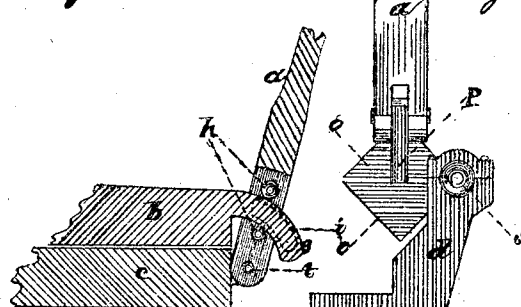


Fig. 7.

Fig. 4.

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UNITED STATES PATENT OFFICE.

FRIEDRICH YAESCHÉ, OF SPRINGFIELD, MASSACHUSETTS.

IMPROVEMENT IN BRAKES FOR BENDING SHEET METAL.

Specification forming part of Letters Patent No. 118,090, dated August 15, 1871.

To all whom it may concern:

Be it known that I, FRIEDRICH YAESCHÉ, of Springfield, Hampden county, Massachusetts, have invented an Improved Brake for Bending Sheet Metal, to be used more particularly in the manufacture of cornices, window-caps, moldings, and the like, of which the following is a specification:

My invention consists in combining the folding levers, clamp, a set of double-acting bars, and brake-beam, in such a manner that a sheet of metal may be clamped and bent or folded by consecutive motions of the same levers, and the shock of the falling clamp and folding bar mitigated or destroyed; the object thereof being to facilitate and expedite such operations.

In the accompanying drawing making a part of this specification, Figure 1 is a front elevation of my improved brake; Fig. 2, an end elevation thereof; Fig. 3, a vertical cross-section thereof through line *yz*; Fig. 4, a vertical longitudinal section of a detached portion thereof, showing the structural connection of the folding levers, clamp, and brake-beam. Figs. 5, 6, and 7 are, respectively, a vertical cross-section, a detached sectional side elevation, and an end elevation of alternative methods of constructing my improved brake as I have contemplated the same. Fig. 8 is a side elevation of a portion of a "former;" Figs. 9 and 10, cross-sections of different sizes of the same; and Fig. 11, a cross-section of the brake-beam and former adjusted thereto.

The parts marked *a a* are the double-acting levers. *b* is the clamp; *c*, the folding bar; *d*, the brake-beam; *e*, a notch or recess; and *f f*, holes along the upper face of such beam. *g g* are the cams; *h h*, the friction-rollers; *i i*, the retaining-springs; and *n*, the spring-rest or cushion. *k* is the former; and *m*, its retaining-pin. The levers *a a* are hinged, at *t*, Fig. 4, to the bar *c*. Bar *c* is hinged, at *s s*, to beam *d*. On bar *c* rests the clamp *b*, provided with cams or curved projections *g g*. Cams *g g* pass through slots and between the friction-rollers *h h* in levers *a a*. Cams *g g* being eccentric as to the hinge or pivot *t* of levers *a a*, depression of such levers laterally (as at *a' a'*, Fig. 1) raises or separates clamp *b* from bar *c*, as indicated by dotted lines *v v*, while the elevation of such levers restores clamp *b* to its former position; and, bar *c* being hinged to beam *d*, the levers, clamp, and bar

may all be tilted or rocked forward, as indicated by dotted lines *u u'*, Fig. 2. The springs *i i* are made fast to the levers *a a*, and, bearing on cams *g g*, retain such levers at any desired point of lateral depression. The spring-rests or cushions *n* are arranged beneath the folding bar or some part thereof, their use being to preserve the machine by receiving the weight and mitigating the shock of the clamp and folding bar as they fall back after having been tilted forward. The upper adjacent corners of bar *c* and beam *d* should be concentric, or as nearly so as possible, with hinges *s s*.

In practical operation, levers *a a* are depressed laterally and clamp *b* raised. A sheet of metal is then properly inserted and clamped by elevating such levers. The folding bar and clamp are tilted forward by the same levers, and the sheet is thereby bent or folded against beam *d*. If a curved or round molding is desired, the sheet is first bent angularly and the folding bar allowed to fall back. The former *k* is then affixed to beam *d*, recess *e* and holes *f f* being provided therefor, and the sheet bent or folded over such former by hand, a mallet and outside former being used, if necessary.

In the alternative methods under which I have contemplated constructing my brake, Fig. 5 represents the double-acting lever *a* as turning in bar *c* and operating on clamp *b* by means of screw *w*, the same as do cams *g g*. Fig. 6 represents the clamp *b* and bar *c* as separated by a spring, *v*, which, in combination with arm *p* and cam-lever *a*, perform the same office as do cams *g g* and levers *a a*. In Fig. 7 the folding bar *c* is arranged above the clamp, the latter falling of its own gravity, except when raised by the cam-lever *a*, the whole operating substantially the same as do levers *a a* and cams *g g*, Fig. 1.

I prefer to make the clamp, folding bar, and brake-beam of iron, but any suitable material may be used.

What I claim as my invention is—

The double-acting levers *a a*, in combination with the clamp *b*, folding bar *c*, brake-beam *d* provided with recess *e*, and spring-cushion *n*, all constructed, arranged, and operating substantially as and for the purpose specified.

Witnesses: FRIEDRICH YAESCHÉ.

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