(Model.)

F. SHARP.

FLUE PLUGGING DEVICE.

No. 278,612. Patented May 29, 1883.

Fig. 4.

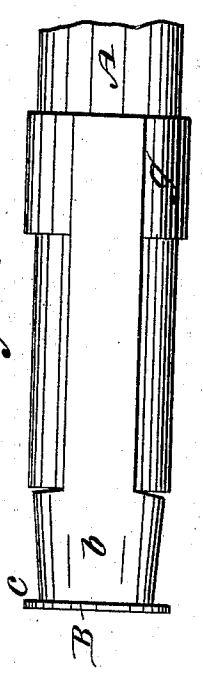


Fig. 1.

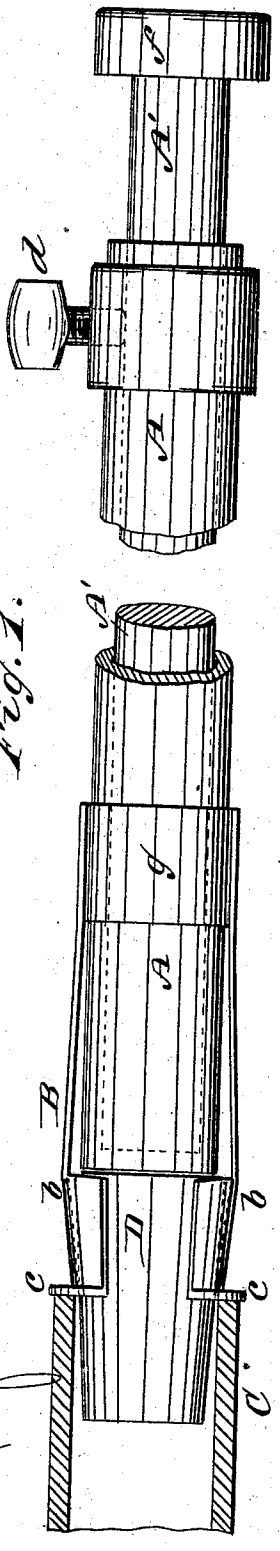


Fig. 2.

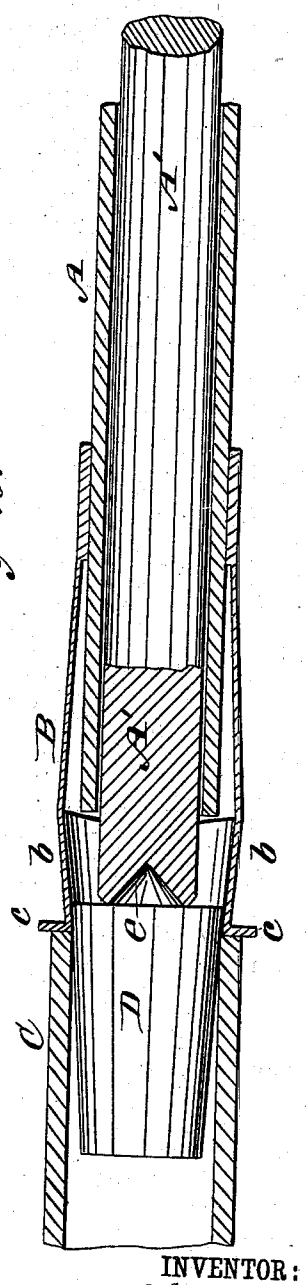
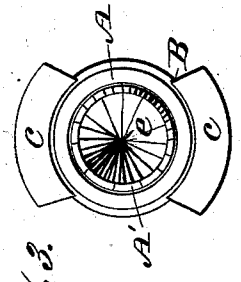


Fig. 3.



WITNESSES:

Chas. G. Hoskin

C. Sedgwick

INVENTOR:

F. Sharp

BY Munn & Co

ATTORNEYS.

N. PETERS. Photo-Lithographer, Washington, D. C.

UNITED STATES PATENT OFFICE.

FRANK SHARP, OF LOS ANGELES, CALIFORNIA.

FLUE-PLUGGING DEVICE.

SPECIFICATION forming part of Letters Patent No. 278,612, dated May 29, 1883.

Application filed March 8, 1883. (Model.)

To all whom it may concern:

Be it known that I, FRANK SHARP, of Los Angeles, in the county of Los Angeles and State of California, have invented a new and useful Improvement in Flue-Plugging Devices, of which the following is a full, clear, and exact description.

The object of this invention is to produce an improved implement or device for plugging the flues of locomotive-engine and other boilers when said flues burst or are ruptured, and while the boilers are at work or in use. An ordinary device used for this purpose consists of a round bar having a rigid socket at its one end for holding the plug to be inserted in the ruptured tube, while the opposite end of the bar is struck to drive the plug home into said tube. This causes the plug to be tightened also in the socket of the bar, so that when the bar is attempted to be removed from the plug the two usually come out together, and, if striking the plug with the bar that has nothing to guide it, the adjoining flue is apt to be struck, which sometimes causes leakage and serious damage.

My invention consists in a plugging device of novel construction in various respects, including an extension-handle, whereby the implement may be lengthened or shortened, as required, and said extension portion made to drive the plug into the ruptured flue, and whereby the implement is made to firmly hold and drive different-sized plugs; also, the plug may be readily fitted to its holder, and only the plug which is required to be inserted can be struck by the driver, and the implement is easily detached from the plug after insertion, substantially as hereinafter described.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 represents a broken longitudinal view of a flue-plugging device, with a plug as held by it and in position for being inserted within a boiler-flue, which is shown in section. Fig. 2 is a mainly sectional longitudinal view of the same in part. Fig. 3 is a front end view of the implement, and Fig. 4 a side view of the front portion of the same.

A in the drawings is a tubular guide or stock, on the front portion of which is fitted a spring-clamp or plug-holder, B, having side jaws, *b b*, which project in front of the forward end of said guide and have flanges *c c*, that prevent the clamp from entering the flue C and getting wedged between the plug D and inside of the flue. The hollow guide or stock A forms only one portion of what is usually termed the "handle" of the implement.

In the ordinary plugging-bar, what is called the "handle" is generally too short, inasmuch as it gives the operator but little to hold on to when the plug is in proximity to the flue, the usual distance the bar is required to be projected in a locomotive-boiler being from six to nine feet, and the handle of the bar is limited in length to admit of its being carried crosswise on the back end of the tender of the engine without projecting over the sides thereof, that exposes it to striking close-passing trains on side tracks. This difficulty is entirely overcome in my improvement by making the handle an extension one—that is, by fitting the tubular portion or guide A with a driver, A′, which is capable of being slid in or out, or of being extended or contracted, and which may be firmly held in position by a thumb-screw, *d*, near the outer end of the hollow portion of the handle A. In this way, or by this construction, a long working bar or handle may be obtained, and yet the same be contracted within a short length or compass when required, and a good substantial handle, of any desired length, is or may be produced to project the plug into the flue, after which the thumb-screw *d* is loosened and the operator slides the driving-bar A to strike and force the plug D to its place in the flue C. The hollow stock portion A of the handle also acts as a guide and causes the plug to be struck fair and square by the driver A′. Said driver or driving-bar A′ should be tipped with steel for a certain distance at its forward end and said end cupped, as at *e*, and tempered to keep it from burring up, and so that it will slide freely through the tubular or guiding portion A² of the handle. By the cup *e*, in the front end of the driving-bar A′, said bar is kept from glancing from the plug when being driven at an angle. The driving-bar A′ is constructed at its outer end with a swell or head, *f*, so that when working the implement at an angle said driving-bar will have additional weight, and the implement may either be worked as a whole by tightening the bar A′ through the screw

d in a fixed position, or said screw be loosened and the driving-bar be slid or worked to reach where the whole instrument cannot.

The spring-clamp B, which will fit different-sized plugs, is formed or provided with a sleeve, *g*, by which it is secured onto the guide A, and the spring-jaws *b b*, which are to be made of spring-steel and are concave at their outer ends to hold the plug, are attached to said sleeve. Said spring-clamp not only firmly holds the plug, but, after insertion of the plug, admits of the implement being readily drawn back or removed without carrying the plug along with it, and without straining on the flue-sheet.

The thumb-screw *d* serves to hold the driving-bar in place both when the implement is in use and when it is not in use; or it may be loosened, as hereinbefore described, when using the instrument.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. In a device for plugging boiler-flues, the combination of a tubular stock or guide having an attached plug holder or clamp, a driving-bar fitted to work longitudinally within said guide, and means of securing the bar to the hollow guide, substantially as specified.

2. The combination of the tubular guide A, the spring-clamp or plug-holder B, and the driving-bar A′, with the thumb-screw *d*, essentially as shown and described.

3. The spring-clamp or plug-holder B, constructed with separated elastic jaws *b b*, having outer end flanges, *c c*, in combination with the tubular guide or stock A and driving-bar A′, substantially as specified.

4. In a plugging device for boiler-flues, the driving-bar A′, having a cup, *e*, at its forward end, in combination with the tubular guide or stock A, having an attached plug holder or clamp, essentially as described.

5. In a plugging device for boiler-flues, the combination of the tubular guide or stock A, the spring plug-holding clamp B, the cupped driving-bar A′, and the thumb-screw *d*, substantially as specified.

FRANK SHARP.

Witnesses:
JOHN D. MURPHY,
CHARLES S. SELLS.