

(No Model.)

S. JENKINS.
HAIR SPRING STUD FOR WATCHES.

No. 409,789.

Patented Aug. 27, 1889.

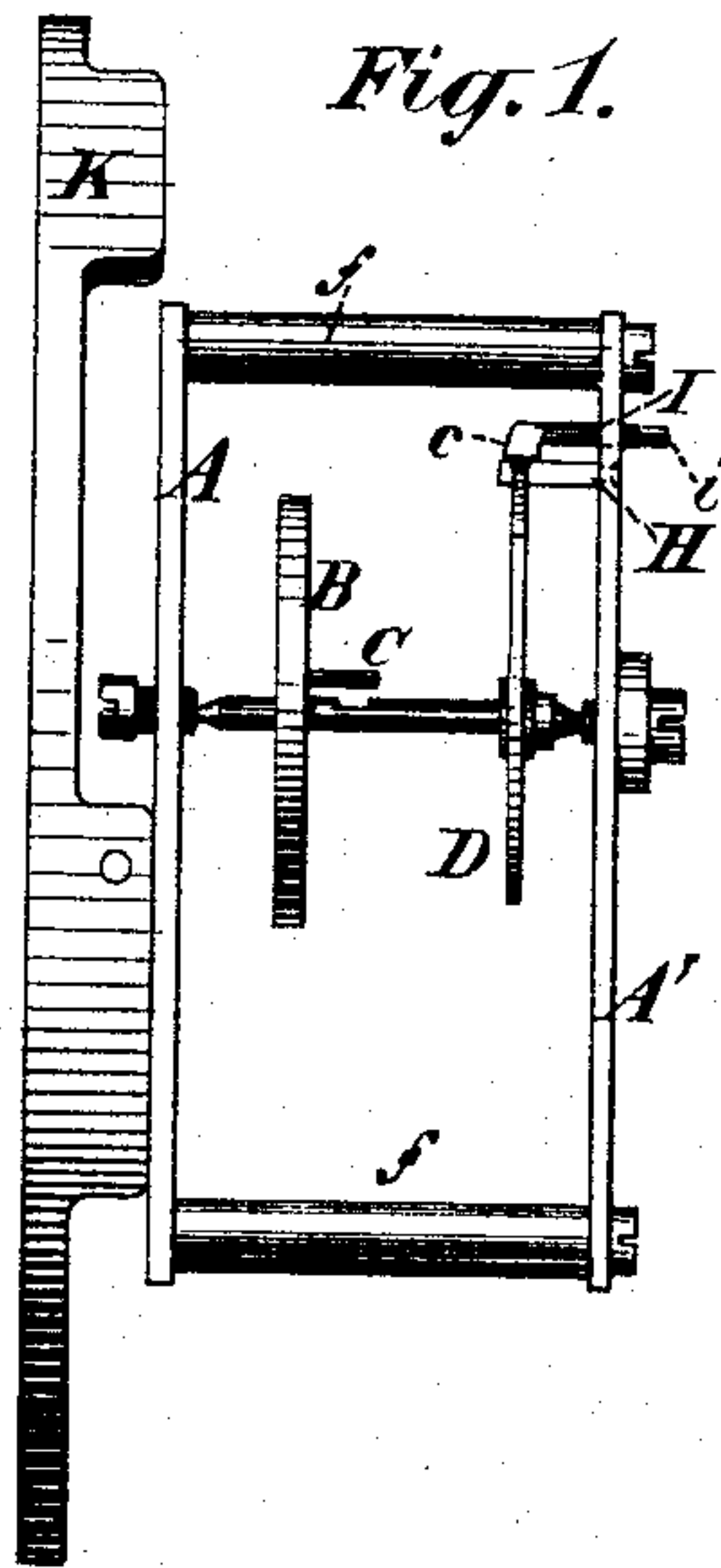


Fig. 2.

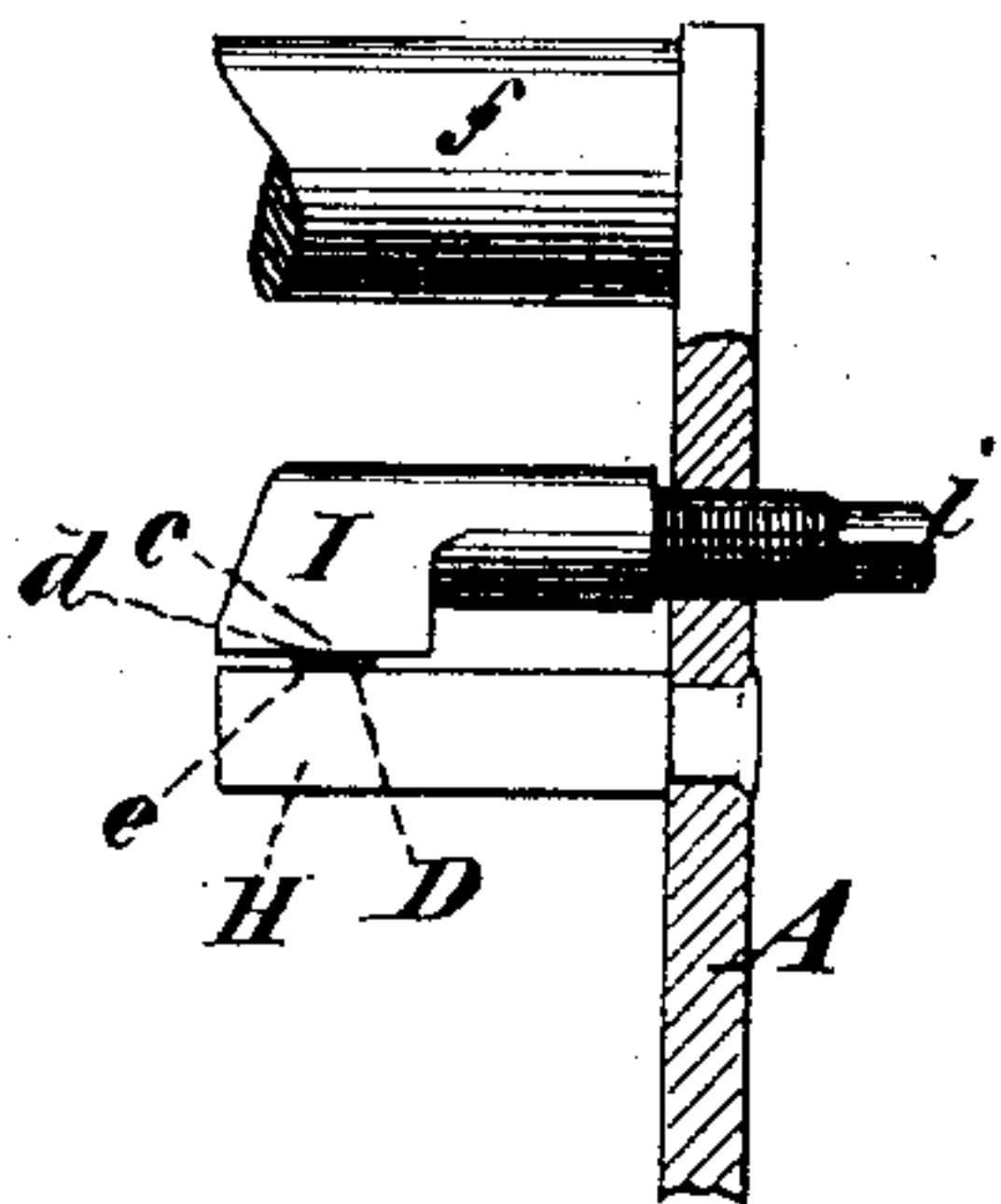
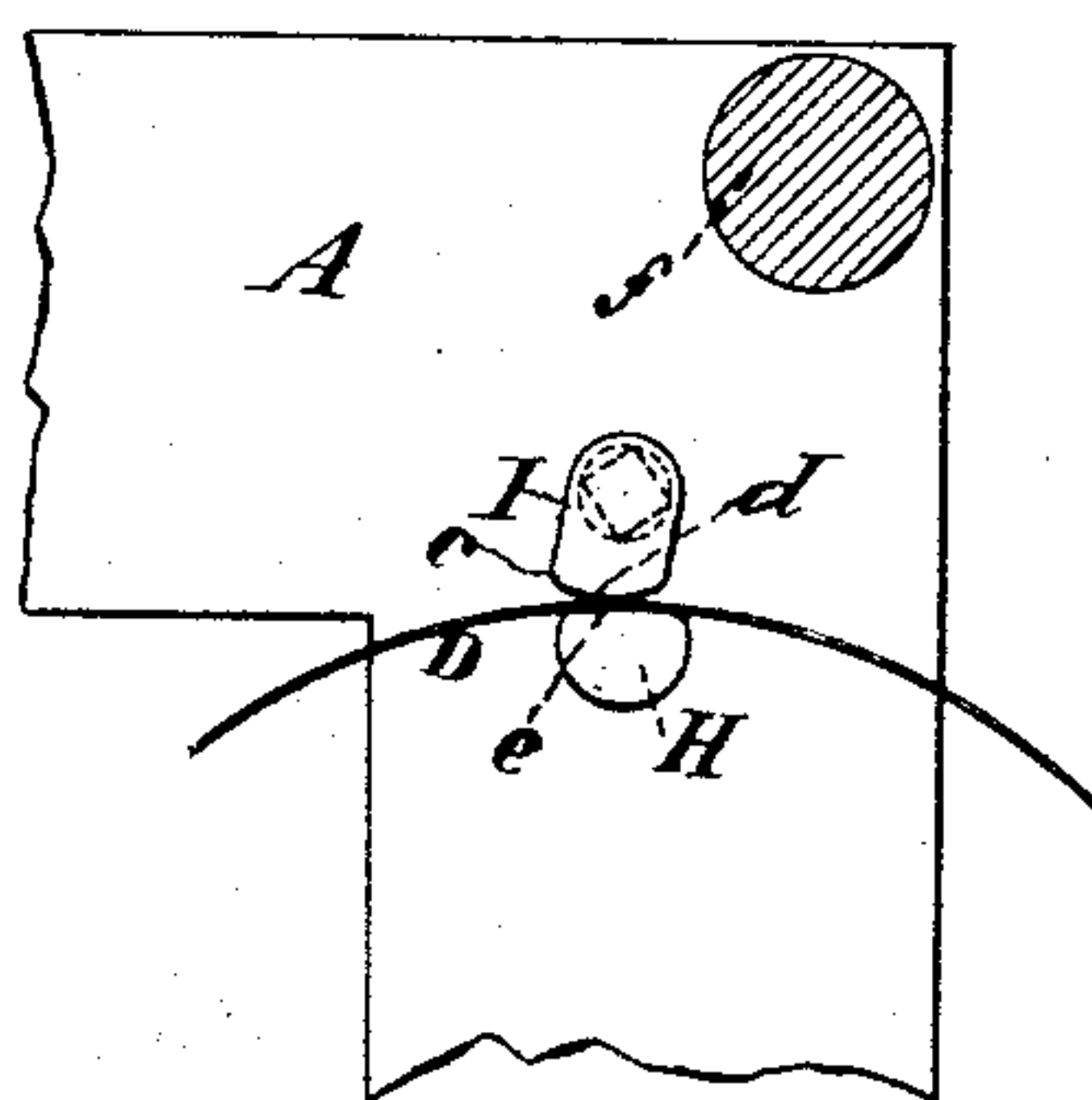


Fig. 3.



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HAIR-SPRING STUD FOR WATCHES.

SPECIFICATION forming part of Letters Patent No. 409,789, dated August 27, 1889.

Application filed June 8, 1888. Serial No. 276,463. (No model.)

To all whom it may concern:

Be it known that I, STEPHEN JENKINS, a citizen of the United States, residing in New York city, county and State of New York, have
5 invented certain new and useful Improvements in Marine-Clock Movements, of which the following is a specification.

This invention relates to means for fastening the outer or free end of the balance or
10 hair springs of marine-clock movements.

The object of my invention is to secure the free ends of the hair-springs of marine-clock movements in such manner that they may be easily got at by the clock-maker in case of re-
15 pairs and readily secured in place or released as occasion requires.

It further aims to dispense with all removable or loose parts which are liable to become lost.

20 My invention consists in the special construction and combination of parts herein-after described, whereby such fastening is attained in an exceedingly simple manner and by the use of the fewest possible elementary
25 parts.

Figure 1 of the accompanying drawings is a plan of the frame of a clock-movement with the balance-wheel, verge, and hair-spring. Fig. 2 is a fragmentary sectional view showing, on a larger scale, the spring-fastening illustrated in Fig. 1. Fig. 3 is a front view of the fastening on the same scale as Fig. 2.

Referring to the drawings, A designates the front plate and A' the back plate of a clock-
35 movement, the two being united, as usual, by posts *f f*, and the movement-frame being attached to a ring or other support K, all as usual. The balance-wheel B, verge C, and hair-spring D are shown in Fig. 1; but the
40 rest of the movement is omitted for the sake of clearness, since its construction does not differ from that ordinarily used in marine clocks, and is immaterial to my invention.

The fastening for the free end of the hair-spring D consists of a post H, fastened rigidly to the back plate A' by riveting, as shown in Fig. 2, or otherwise, and a rotative or oscillatory stud I, which has its shank screw-threaded and screwing into a socket in the
50 plate A', its extreme end *i* being squared or

flattened, in order that it may be grasped by a pair of nippers to turn it. This squared end protrudes beyond the rear of the back plate A', in order to be more readily accessible. The head of the stud I projects to one side at *c* 55 and terminates in the clamping-surface *d*, Fig. 2, which may be formed eccentrically, although this is not essential, as the elasticity of the post H and arm I is so great that their yielding would enable a concentric clamping-sur- 60 face to be used.

The end of the spring is inserted between the post H and the head *c* of the stud I, when the latter is turned away from the post, so as to leave an open space between, and the stud 65 I is then turned to bring its head *c* against the post H, until by the wedging action of the curved clamping-surface *d* the spring is tightly pinched between them. It will thus be seen that this construction constitutes a 70 very simple and efficient fastening for the ends of hair-springs for clocks, and that it possesses the practical advantages of being readily accessible and easily operated by a suitable tool. 75

I am aware that the free ends of the hair-springs of watch-movements have been secured to hair-spring studs by being wedged against the rigid stud by the eccentric-head of a fastening-screw, such stud being se- 80 cured to the bridge of the movement by a screw-fastening; but such a construction is not adapted to the exigencies of clock-movements.

I claim as my invention the following de- 85 fined novel combinations of parts, substantially as hereinbefore specified, viz:

1. A fastening for the springs of clock-movements, consisting in the combination, with the back plate A', having the post H se- 90 cured rigidly thereto, of the stud I, having rotative bearings in said back plate and formed with the clamping-head *c*, projecting to one side and at sufficient distance from the back-plate to impart elasticity to the clamping- 95 fastening, whereby the free end of the spring is clamped between said post and head by a turning movement of the stud, and is held with a yielding pressure.

2. A fastening for the springs of clock- 100

movements, consisting in the combination,
with the back-plate A', having the post H se-
cured rigidly thereto, of the stud I, having ro-
tary bearings in said back plate and formed
5 with the clamping-head c, projecting to one
side, and with the squared end i, protruding
to the rear of the back plate, by which to turn
said stud.

In witness whereof I have hereunto signed
my name in the presence of two subscribing 10
witnesses.

STEPHEN JENKINS.

Witnesses:

CHAS. K. FRASER,
JNO. E. GAVIN.