```
fpf-all-join-decl  THM

⊢  ∀A:Type, eq:EqDecider(A), P:(A→Type→Prop), f,g:x:A fp-> Type.
|  ∀y∈dom(f). w=f(y) ⇒  P(y,w)
|  ⇒
|  ∀y∈dom(g). w=g(y) ⇒  P(y,w)
|  ⇒
|  ∀y∈dom(f ⊕ g). w=f ⊕ g(y) ⇒  P(y,w)
| by UnivCD THEN Unfold `fpf-all` 0
|    THEN
|    RWO
|    Thm* ∀eq:EqDecider(A), f,g:a:A fp-> Top, x:A.
|         x ∈ dom(f ⊕ g) ⟺ x ∈ dom(f) ∨ x ∈ dom(g)
|    {fpf_DASH_join_DASH_dom2}
|    -1
|    THEN
|    RWO
|    Thm* ∀eq:EqDecider(A), f:a:A fp-> Top, g:Top, x:A.
|         f ⊕ g(x) ∼ if x ∈ dom(f)→ f(x) else g(x) fi
|    {fpf_DASH_join_DASH_ap_DASH_sq}
|    0
|    THEN
|    SplitOnConclITE
|    THEN
|    All (Unfold `fpf-all`)
|    THEN
|    BackThruSomeHyp
|
1. A : Type
2. eq : EqDecider(A)
3. P : A→Type→Prop
4. f : x:A fp-> Type
5. g : x:A fp-> Type
6. ∀y:A. y ∈ dom(f) ⇒ P(y,f(y))
7. ∀y:A. y ∈ dom(g) ⇒ P(y,g(y))
8. y : A
9. y ∈ dom(f) ∨ y ∈ dom(g)
10. ¬y ∈ dom(f)
⊢  y ∈ dom(g)  by SplitOrHyps
END
```